# **Owner's Manual**

# M109271D

ITEM NUMBER: 109271, 109281, 109291, 109273, 109274, 109283, 109284, 109293, 109294

SERIAL NUMBER:

Instructions for Assembly, Testing, Operation, Servicing, and Storage

Water Pump: Outdoor agricultural product used for general purpose water pumping, field irrigation and trash applications. \*\*

#### WARNING

READ and UNDERSTAND the <u>Owner's Manual</u> completely before using this water pump. Assemble, test, and use only in accordance with the Owner's Manual instructions.
WEAR personal protective gear when filling, using, cleaning, and servicing the water pump.
DO NOT START water pump until ready to spray in order to avoid unintentional spray release.
Improper use of the water pump could result in serious injury or illness to the operator or nearby persons/animals, or could cause damage to the environment.

\*\* This water pump is recommended for use in spraying non-flammable liquids such as water. Solids capacity will depend on model.

> Any Questions, Comments, Problems, or Parts Orders Call Product Support 1-800-270-0810

# Hazard Signal Word Definitions

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.	
	DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.	
	WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.	
	CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.	
CAUTION	CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.	53

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### **About Your Water Pump**

#### About Your Water Pump

This water pump is a machine designed for outdoor, agricultural, general purpose water pumping, field irrigation and trash pumping applications.

This water pump is capable of handling suspended soft solids, up to a capacity determined by the model.

- Up to 5/16" solids (Model #109271, 109273, & 109274).
- Up to 3/4" solids (Model #109281, 109283, & 109284).
- Up to 1-1/4" solids (Model #109291, 109293, & 109294).

The technical specifications for your water pump are provided in the "Specifications" section of this manual.

Follow all safety precautions presented throughout this manual. A summary of important safety information can be found at the end of the manual.

# Contact Product Support at 1-800-270-0810 for any questions about the appropriate use of this water pump and/or optional accessories.

#### Warranty Registration:

Please fill in the warranty registration information and have it on hand when you call in on a warranty claim.

### Attention: All Rental Companies and Private Owners who loan this equipment to others!

All persons to whom you rent/loan this water pump must have access to and read this manual. Keep this owner's manual with the water pump at all times and advise all persons who will operate the machine to read it. You must also provide personal instruction on how to safely operate the water pump and be available to answer any questions a renter/borrower might have.

### **Summary of Important Safety Information**

#### A WARNING

Read and understand this owner's manual completely before using the water pump.

Improper use of the water pump could result in serious injury or illness for the operator or nearby persons/animals, or cause damage to the environment.

LISTED BELOW is a summary of safety information of particular importance. See individual sections of this owner's manual for more details.

#### ----- DURING ASSEMBLY -----

- **CHECK and TEST completed assembly** as directed in this manual. Serious injury could result from water leaks if water pump is improperly assembled.
- DO NOT MODIFY water pump design.

#### ----- DURING OPERATION ------

- **INSPECT and PREPARE water pump before each use** as directed in this manual.
- DO NOT USE flammable or corrosive chemicals in the water pump.
- **FOLLOW INSTRUCTIONS for SAFELY FUELING the engine.** Gasoline is flammable and can explode. Always use caution when handling gasoline.
- DO NOT START water pump until ready to spray in order to avoid unintentional release.
- **SEE Troubleshooting section of this manual before attempting any repairs**. Wear personal protective equipment and follow safety instructions.

#### ----- DURING STORAGE / TROUBLESHOOTING -----

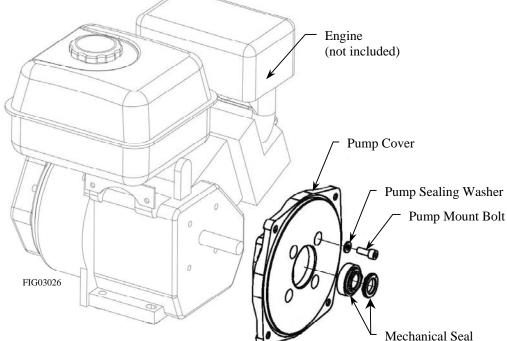
- PREPARE THE WATER PUMP FOR STORAGE according to the instructions in this manual.
- SELECT a well-ventilated STORAGE AREA away from sources of heat, flame, or sparks. Gasoline vapors can ignite and cause a fire.
- **READ and FOLLOW the safety rules for troubleshooting / servicing** the water pump to avoid accidental exposure to chemical.

### Assembly

Refer to "Specifications" section of this manual for engine requirements for your specific pump.

#### **<u>Step 1</u>**: Attach pump cover to engine.

Using the four (4) supplied pump mount bolts and four (4) supplied pump sealing washers, fasten the pump cover to the engine. Ensure the mechanical seal is securely installed in the pump cover.



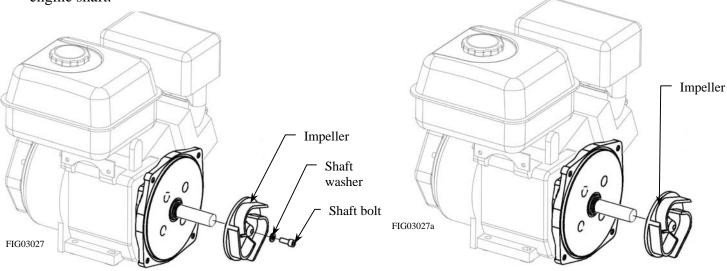
#### **<u>Step 2</u>**: Attach Impeller to engine shaft.

#### Item #'s 109271, 109281, 109291

Ensuring the key inside the impeller is aligned with the engine keyway, use the shaft washer and shaft bolt to attach the impeller to the engine shaft.

# Item #'s 109273, 109274, 109283, 109284, 109293, 109294

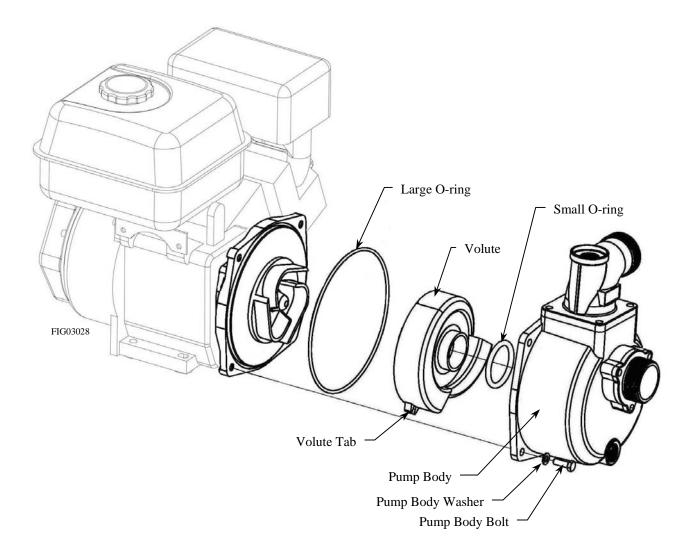
Screw impeller clockwise until hand tight onto engine shaft.



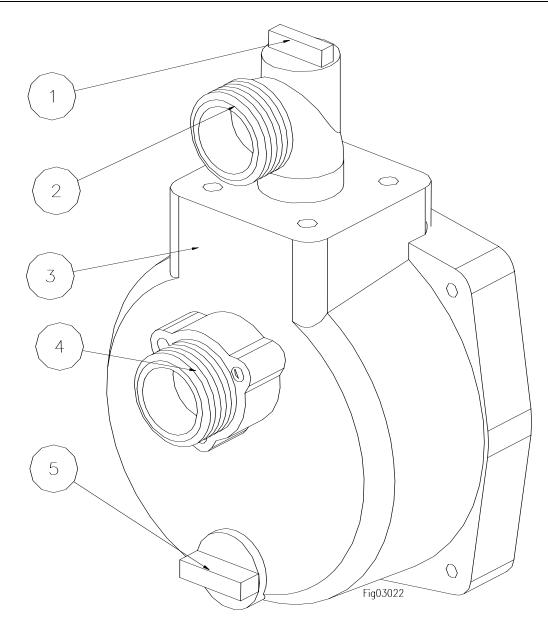
### Assembly

#### **<u>Step 3</u>**: Insert O-rings, volute and pump body.

Insert the large o-ring onto the pump cover, and the small o-ring onto the volute. Place the volute inside the pump body while aligning the tabs on the volute with the pump body. Place the pump body onto the pump cover and secure with the pump body bolts and pump body washers.



# Machine Components



- 1. **Prime Port:** Fill the priming port to prime the pump.
- 2. **Discharge Fitting:** Connect the discharge hose to the discharge fitting.
- 3. **Pump Casing:** Contains the water in the pump.
- 4. Suction Fitting: Connect the suction hose to the suction fitting.
- 5. **Drain Port:** Drain the liquid in the pump through the drain port.

## **Operation – Preparing the Water Pump for Each Use**

#### **Step One:** Inspect/Repair

If the water pump has been used previously, it must be prepared BEFORE EACH SUBSEQUENT USE.

#### 

Read instructions below carefully for inspecting and preparing the water pump.

Damaged or clogged equipment could result in leaks or uncontrolled spray.

#### **Important safety rules:**

- **Turn off engine.** Turn off engine and remove spark plug cap before cleaning, inspecting, or servicing the water pump.
- **Guards / shields.** Make sure all guards and shields are replaced after servicing the water pump.
- **Replacement parts.** If a part needs replacement, only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the water pump.

1. Ensure water pump casing is empty	Ensure the water pump has been thoroughly flushed with fresh water and drained from prior use.	
2. Clean suction strainer	Clean the suction strainer of any material residue. It is important to clean the suction strainer of debris before each use, to ensure it is not clogged.	
3. Inspect & repair	Inspect and test the water pump thoroughly	
	a. Inspect fittings for cracks and leaks. Replace all damaged fittings with original Northern Tool + Equipment parts.	
	b. Check to be sure all nuts, bolts, and screws are tight.	
	c. Check oil level in engine. See engine owner's manual.	
	d. Check for fuel leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.	

# **Operation – Preparing the Water Pump for Each Use**

### Step Two: Fueling

WARNING			
	ammable and explosive. You can be burned or seriously injured when handling re when handling gasoline.		
1. Engine off / cool	<ul> <li>The engine must be off and allowed to cool at least two minutes before adding fuel.</li> <li>WARNING: A running engine is hot enough to ignite fuel. Never add fuel or remove gas cap if engine is running or still hot.</li> </ul>		
2. Outdoor location	Fill fuel tank outdoors – never indoors.		
	<b>WARNING:</b> Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.		
3. Check engine oil level	Check engine oil level as specified in the engine manual.		
4. Remove gas cap	Remove engine gas cap.		
5. Add gasoline	Add gasoline through fill opening from a UL-approved container. <u>Important Safety Instructions:</u>		
	• Use approved container. NEVER pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a UL approved fuel container to transfer gas to the engine.		
	• <b>Don't overfill</b> . DO NOT overfill the gas tank. Allow at least 1/2" of empty space below the fill neck to allow for fuel expansion.		
	• <b>Heat / flames / sparks</b> . Stay away from sources of heat, flame, or sparks while adding fuel.		
6. Spills / splashes	Clean up fuel spills /splashes immediately.		
	Move water pump away from spilled fuel on the ground.		
	1. Wipe fuel off engine and wait 5 minutes for excess fuel to evaporate before starting engine.		
	2. Gas soaked rags are flammable and should be disposed of properly.		
	3. If gasoline is spilled on your skin or clothes, change clothes and wash skin immediately.		
7. Replace gas cap	Replace gas cap securely before starting engine.		
8. Gasoline storage	Store gasoline in a cool, dry place in a UL approved, tightly sealed container.		

# **Operation – Preparing the Water Pump for Each Use**

#### **Step Three:** Attach a suction strainer

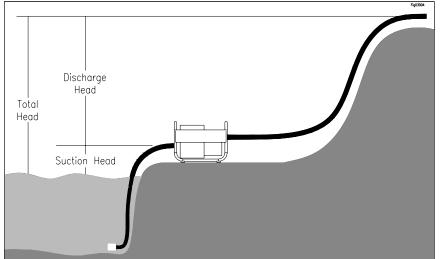
### **WARNING**

This pump is design to pump water only. Never use the water pump to pump flammable liquids.

1. Attach suction strainer	A suction strainer should be attached to the suction hose. A suction strainer has holes or slots small enough to prevent large debris from working through and damaging the pump.
2. Keep the strainer clean	<ul><li>Keep the strainer clean.</li><li>If possible, suspend the strainer to keep it from working into sediment.</li><li>-OR-</li><li>A) Prepare a bed of large stones on which the strainer will rest.</li><li>B) Tie the strainer inside a basket or pail.</li></ul>

#### **Step Four:** Place the water pump

1. Place the water pump near liquid surface	Place the water pump in a location as near to the liquid surface as possible, this will ensure proper pump suction. All hoses must be kept as straight as possible, avoid sharp bends.		
	NOTE: 23ft is the maximum height of suction head.		
2. Use flexible hose	Use at least 12" of flexible hose to make plumbing connections to the pump body. Rigid piping may put stresses on the pump, causing damage		
3. Place unit on secure footing	Always be sure the unit is on a secure footing. Keep the immediate pump area free of all unauthorized personnel. If the water pump is sitting beside a pit, be sure it is well anchored so that it does not fall in.		
4. Do not run the pump dry	Do not run the pump dry. Always fill the pump body with water before starting. It is not necessary to drain the pump body after each use, unless there is danger of freezing, settling of solids, or crystallization.		
5. Fill the pump with water	Fill the pump with water utilizing the priming port on the top of the pump. (The pump self primes only when it is first filled with priming water.) All hoses and pipe connections must be airtight.		



# **Operation – Using the Water Pump**

1. Review safety information	<b>Review the "Operation – Important Safety Information"</b> provided in this manual.		
2. Priming	Using the priming port on the top of the pump, completely fill the pump chamber with water before starting the engine.		
3. Engine operation	Heed the following safety rules with regard to running the water pump engine:		
precautions	• Hot muffler. If you are starting a warm engine, stay clear of muffler. It may still be hot enough to burn you.		
	• <b>Hot exhaust</b> . Hot exhaust fumes from engine can cause fire. Position muffler at least 7' from combustible objects during operation.		
	• <b>Fire extinguisher</b> . Have a Class B fire extinguisher available as a precautionary measure when operating the water pump engine in dry areas.		
	• <b>Carbon monoxide.</b> The running engine gives off carbon monoxide, a poisonous gas that can kill you. You CANNOT smell it, see it, or taste it. ONLY run the water pump engine OUTDOORS and away from air intakes. NEVER run the water pump engine inside homes, garages, sheds, or other semi-enclosed spaces. These spaces can trap poisonous gases, EVEN if you run a fan or open windows. If you start to feel sick, dizzy, or weak while using the water pump, shut off the engine and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.		
4. Start engine	Consult the engine Owner's Manual for starting the engine.		
5. Throttle control	When operating the water pump much higher than the water surface, you may need to speed up the engine, using the throttle. When the pump is near the water surface, a slower engine speed can be used. This will save engine fuel and life.		
	Consult the engine Owner's Manual for throttle location.		
6. Secure flexible hose	Never allow a vehicle to run over the flexible hose. This sudden shut off pressure can cause "hydraulic shock".		
	If your flexible hose must be laid across a high traffic area, it is advised to protect the flexible hose with planking.		
7. Keep pump from freezing	<b>Never allow water to freeze in the pump.</b> Freezing water can be extremely dangerous to the pump, always drain the water from the pump if freezing temperatures are a factor.		
8. Flush the pump	Flush the pump with fresh water after each use is advised. Some liquids being pumped may leave a solid or sticky residue. This may shorten the life of your pump.		

### Operate the water pump

### Storage

Prepare the water pump for end-of-season storage by running pure water through the system. This will flush out any contaminants and clean the water pump internals. After the water pump has been flushed with pure water, completely drain the water pump of all water to protect from freezing.

#### WARNING

Gasoline vapors can ignite and cause a fire. Select a well-ventilated storage area away from sources of heat, flame, or sparks.

### CAUTION

The water pump will be damaged if it freezes.

Protect the water pump from freezing during storage by following the instructions below.

#### **Preparing for storage:**

1. Pump pure water	Briefly run the water pump while pumping pure water.
2. Drain the water pump	Using the water pump drain plug, drain the water pump completely of water to prevent freezing.
3. Engine storage	<ul><li>Refer to the engine manual for proper engine storage instructions.</li><li>Always disable the engine for storage by unplugging the spark plug wire.</li></ul>
	<b>A</b> CAUTION: Gasoline will oxidize and deteriorate in storage. Old gasoline in the engine will cause hard starting and leave gum deposits that can clog the fuel system. Deterioration problems may occur within a few months, or even less if gasoline was not fresh when you filled the fuel tank.
	Short-Term Storage: Consider adding a fuel stabilizer to extend fuel storage life.
	<ul> <li>Long Term Storage: (between infrequent uses and at end of season)</li> <li>Drain the fuel tank and carburetor as instructed in the engine owner's manual.</li> <li>Important Safety Instructions:         <ul> <li>Always drain fuel from tank in outdoor, well-ventilated area.</li> <li>Stay away from sources of heat, flame, or sparks while handling fuel.</li> <li>Clean up fuel spills/splashes immediately.</li> </ul> </li> </ul>
4. Water pump	Store the water pump in a location away from corrosive material, sources of
storage location	<ul> <li>heat, open flames, sparks or pilot lights.</li> <li>WARNING: Never store water pump inside where there is a source of heat or an open flame, spark, or pilot light as on water heaters, space heaters, furnaces, clothes dryers, or other gas appliances EVEN IF the water pump's gas tank is empty.</li> </ul>
5. Gasoline storage	<ul> <li>Store gasoline in a cool, dry place in a UL approved, tightly sealed container.</li> <li>WARNING: Gasoline vapors can ignite if they collect inside an enclosure and an explosion can result.</li> </ul>

# Troubleshooting

### WARNING

Before troubleshooting or attempting to service, read the following safety rules.

#### **Before attempting to service the water pump**:

1. Review troubleshooting table	<b>Review the Troubleshooting Table below for the type of problem you are</b> <b>experiencing.</b> However, DO NOT attempt to repair until the steps listed below are followed.		
2. Flush the pump	Pump pure water briefly to clean out the pump.		
3. Drain the water pump	<b>Drain the water pump completely of water</b> using the water pump drain plug, to prevent freezing.		
4. Disconnect power	Switch off the engine and unplug the spark plug wire.		
5. Perform repairs	Follow the directions provided in the troubleshooting table to repair the water pump.		

PROBLEM	CAUSE	SOLUTION
Pump doesn't revolve	1. Engine will not turn over	See engine owner's manual
rump doesn't levolve	2. Rusting/Sticking of impeller	Disassemble and clean
	1. Priming chamber not full enough	Add more water to priming chamber
	2. Air leaks on suction line joints	Check for loose screws or broken hoses
	3. Quick coupling gaskets worn	Replace gaskets
Pump fails to prime	4. Loose or broken hose clamps	Tighten or replace hose clamps
r unip faits to prime	5. Priming chamber is over heated	Pour cold water in chamber or let cool
	6. Engine speed is too slow	Increase engine speed
	7. Worn or broken volute or impeller	Replace worn or broken component
	8. Worn or broken mechanical seal	Replace mechanical seal
	1. Clogged suction hose	Clear obstruction
	2. Dirty suction strainer	Clear suction strainer
	3. Flow restriction due to hose kinks	Straighten suction and discharge hoses
	4. Suction lift too high	Move pump closer to water surface
Low capacity	5. Engine speed too low	Increase engine speed
	6. Worn or broken mechanical seal	Replace mechanical seal
	7. Reduced engine performance	See engine owner's manual
	8. Clogged impeller	Remove clog
	9. Worn impeller	Replace impeller

# Specifications

109271, 109273, & 109274 – 2" Semi-Trash		
Suction & Discharge Size		2" NPT
Maximum Flow		9510 GPH
Maximum Suction Head		23 FT
Maximum Total Head		95 FT
Maximum Pressure		43.5 PSI
Passable Soft Solid Size		5/16"
Mechanical Seal		Silicon Carbide
	109271	3/4" straight keyed shaft with 5/16-24" tapped hole
		on end and 2 7/16" length
Engine Shaft	109273	M14 - 1.5" threaded shaft with 5/16-24" tapped
Requirements		hole on end and 2 7/16" length
	109274	5/8"-18 threaded shaft with 5/16-24" tapped hole
		on end and 2 7/16" length
Engine Horsepower Required		4 Hp
Dry Weight		13 lbs

109281, 109283, & 109284 – 3" Semi-Trash		
Suction & Discharge Size		3" NPT
Maximum Flow		14,265 GPH
Maximum Suction Head		23 FT
Maximum Total Head		85 FT
Maximum Pressure		43.5 PSI
Passable Soft Solid Size		3/4"
Mechanical Seal		Silicon Carbide
	109281	3/4" straight keyed shaft with 5/16-24" tapped hole on end and 2 7/16" length
Engine Shaft Requirements	109283	M14 - 1.5" threaded shaft with 5/16-24" tapped hole on end and 2 7/16" length
	109284	5/8"-18 threaded shaft with 5/16-24" tapped hole on end and 2 7/16" length
Engine Horsepower Required		5.5 Hp
Dry Weight		16 lbs

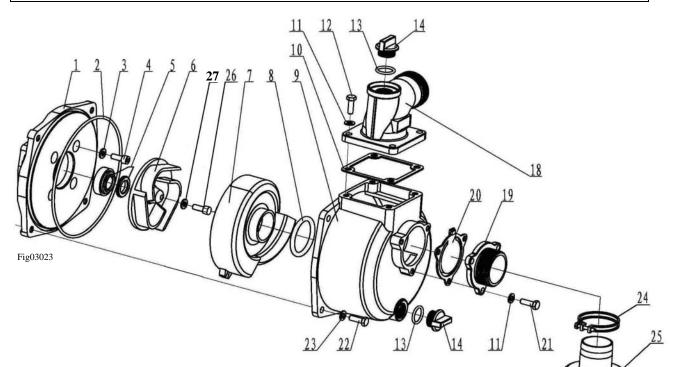
### **Specifications**

109291, 109293, & 109294 – 3" Full-Trash			
Suction & Discharge Size		3" NPT	
Maximum Flow		13,983 GPH	
Maximum Suction Head		23 FT	
Maximum Total Head		85 FT	
Maximum Pressure		36 PSI	
Passable Soft Solid Size		1-1/4"	
Mechanical Seal		Silicon Carbide	
Engine Shaft	109291	3/4" Straight Keyed Shaft with 5/16-24" tapped	
		hole on end and 2 7/16" length	
	109293	M14 - 1.5" threaded shaft with 5/16-24" tapped	
Requirements	10/2/0	hole on end and 2 7/16" length	
	109294	5/8"-18 threaded shaft with 5/16-24" tapped hole	
		on end and 2 7/16" length	
Engine Horsepower Required		5.5 Hp	
Dry Weight		43 lbs	

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

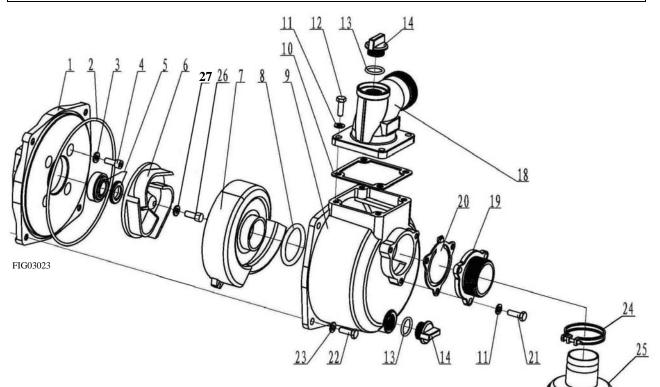
Any Questions, Comments, Problems or Parts Orders Call Product Support 1-800-270-0810

# 109271, 109273, & 109274 Pump Exploded View



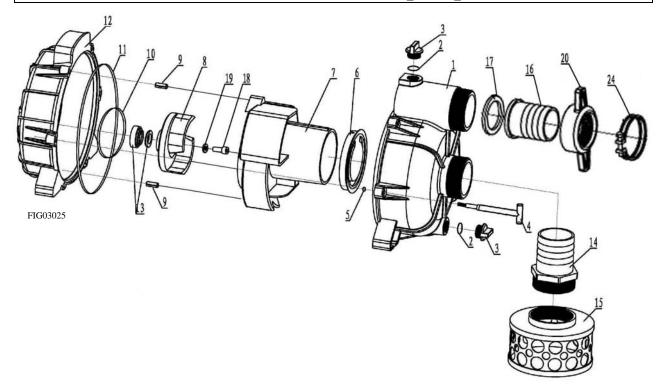
Item	Part #	Description	Qty.	Model
	781234			109271
1	781887	Pump Cover	1	109273
	781890			109274
2	781235	Large O-ring	1	All
3	781236	Sealing Washer	4	All
	781237			109271
4	781888	Mount Bolt	4	109273
	781891			109274
5	781238	Mechanical Seal	1	All
	781239			109271
6	781889	Impeller	1	109273
	781892			109274
7	781240	Volute	1	All
8	781241	Small O-ring	1	All
9	781242	Pump Body	1	All
10	781243	Outlet Seal	1	All
11	781244	Connection Washer	7	All
12	781245	Outlet Connection Bolt	4	All
13	781246	Plug O-ring	2	All
14	781247	Drain/Prime Plug	2	All
18	782566	Outlet Flange	1	All
19	782565	Inlet Flange	1	All
20	781250	Inlet Check Valve	1	All
21	781251	Inlet Connection Bolt	3	All
22	781252	Pump Body Bolt	4	All
23	781253	Pump Body Washer	4	All
24	781254	Inlet Hose Clamp	1	All
25	781255	Suction Strainer	1	All
26	781256	Shaft Bolt	1	109271
27	781236	Sealing Washer	1	109271

# 109281, 109283, & 109284 Pump Exploded View



Item	Part #	Description	Qty.	Model
	781257			109281
1	781893	Pump Cover	1	109283
	781896			109284
2	781258	Large O-ring	1	All
3	781259	Sealing Washer	4	All
	781260			109281
4	781894	Mount Bolt	4	109283
	781897			109284
5	781261	Mechanical Seal	1	All
	781262			109281
6	781895	Impeller	1	109283
	781898			109284
7	781263	Volute	1	All
8	781264	Small O-ring	1	All
9	781265	Pump Body	1	All
10	781266	Outlet Seal	1	All
11	781244	Connection Washer	7	All
12	781245	Outlet Connection Bolt	4	All
13	781267	Plug O-ring	2	All
14	781268	Drain/Prime Plug	2	All
18	782568	Outlet Flange	1	All
19	782567	Inlet Flange	1	All
20	781271	Inlet Check Valve	1	All
21	781272	Inlet Connection Bolt	3	All
22	781273	Pump Body Bolt	4	All
23	781274	Pump Body Washer	4	All
24	781275	Inlet Hose Clamp	3	All
25	781276	Suction Strainer	1	All
26	781256	Shaft Bolt	1	109281
27	781259	Sealing Washer	1	109281

# 109291, 109293, & 109294 Pump Exploded View



ltem	Part #	Description	Qty.	Model
	782569			109291
1	781899	Pump Body	1	109293
	781901			109294
2	781278	Plug O-ring	2	All
3	781279	Drain/Prime Plug	2	All
4	781280	T-Handle Bolt	6	All
5	781281	T-Handle O-ring	6	All
6	781282	Inlet Check Valve	1	All
7	781283	Volute	1	All
	781284			109291
8	781900	Impeller	1	109293
	781902			109294
9	781285	Column Pin	2	All
10	781286	Small O-ring	1	All
11	781287	Large O-ring	1	All
12	781288	Pump Cover	1	All
13	781289	Mechanical Seal	1	All
14	781290	Suction Hose Barb	1	All
15	781291	Suction Strainer	1	All
16	781292	Hose Barb Adaptor	2	All
17	781293	Large Sealing Washer	2	All
18	781294	Shaft Bolt	1	109291
19	781259	Sealing Washer	1	109291
20	781295	Spanner	2	All
24	781275	Hose Clamp	3	All

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### **Limited Warranty**

## **Limited Warranty**

Northern Tool + Equipment shall warranty any piece of equipment manufactured, or parts of equipment manufactured, to be free from defects in material or workmanship for a period of 90 days from the date of purchase by user. This warranty applies to the original purchaser of the equipment and is non transferable. Verification of purchase is the responsibility of the buyer. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of Northern Tool + Equipment.

**NOTE:** Some services performed by parties other than Northern Tool + Equipment may void warranty.

This warranty covers parts only. It will not provide for replacement of complete products due to defective parts. Components not manufactured by Northern Tool + Equipment are guaranteed by their manufacturer and can be serviced at factory-authorized locations near you. Any costs incurred due to replacement or repair of items outside of a Northern Tool + Equipment approved facility is the responsibility of the buyer and not covered under warranty. Northern Tool + Equipment can supply you with the service center location in your area.

This warranty specifically excludes the following; failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by Northern Tool + Equipment in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer's specifications, and damage caused by vandalism. Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use.

Warranty does not cover items subject to normal wear such as tires, receptacles or any part subject to direct physical contact by the public. This warranty does not cover any personal injury or damage to surrounding property caused by failure of any part.

This warranty is in lieu of any other warranty expressed or implied and Northern Tool + Equipment assumes no other responsibility or liability outside that expressed within this warranty.

Please fill in the following information and have it on hand when you call in on a warranty claim.

Customer Number:	
Date of Purchase:	
Northern Tool + Equipment Serial Number: _	

Item Number:



P.O. Box 1499 Burnsville, MN 55337-0499