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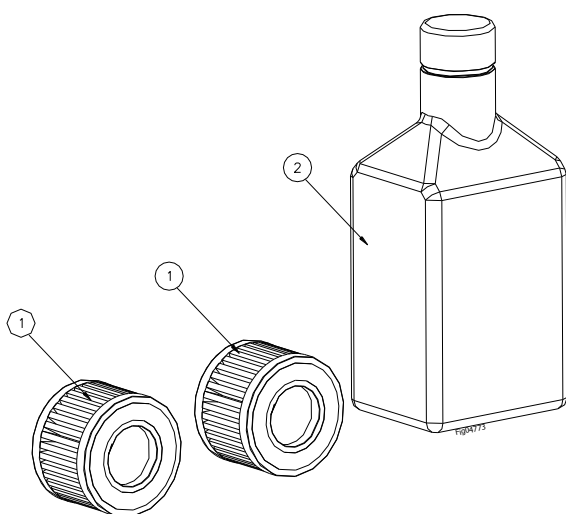
KIT NUMBER: 45933 & 45934
SERIAL NUMBER: _____

Owner's Manual

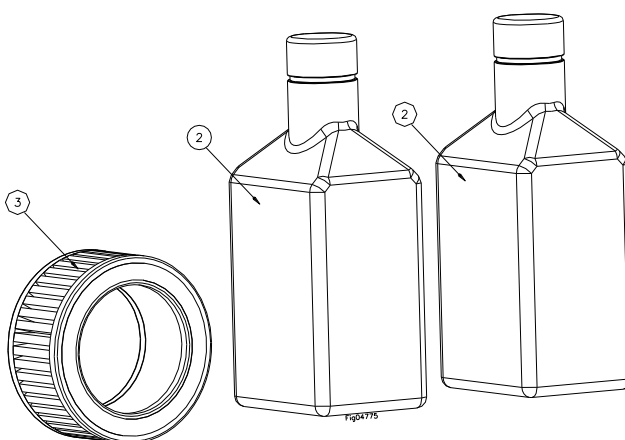
Instructions for Proper Use of Air Compressor Startup Kits

KIT PART#	USE ON NorthStar ITEMS:
45933	459212, 459222, 459392, 459232, 25653, 25654

KIT PART#	USE ON NorthStar ITEMS:
45934	459382, 459242



REF	PART#	DESCRIPTION	QTY
1	789355	Air Filter Element	2
2	789528	Pump Oil	1



REF	PART#	DESCRIPTION	QTY
3	789376	Air Filter Element	1
2	789528	Pump Oil	2

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

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Initial Set-Up

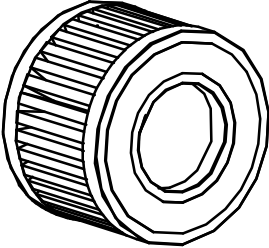
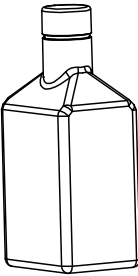
Inspect & Unpack

Upon receiving your item check for missing or damaged parts.

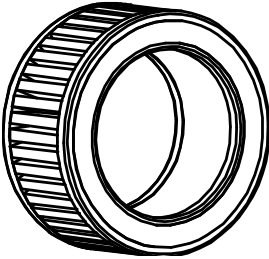
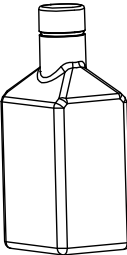
See below for a diagram of the startup kits' components.

- For *missing* components, contact Product Support at 1-800-270-0810.
- For *damaged* components, contact the freight company that delivered the unit and file a claim.
- If complete, fill out product serial number information. See "*Limited Warranty*" section of this manual.

Kit# 45933

Air Filter Element	Pump Oil
	
Part# 789355 Qty: 2	Part# 789528 Qty: 1

Kit# 45934

Air Filter Element	Pump Oil
	
Part# 789376 Qty: 1	Part# 789528 Qty: 2

Maintenance & Repair



WARNING: Maintenance hazards

ALWAYS shut off the engine, disconnect the spark plug wire from spark plug (power cord on electric motors) and release air pressure from the receiver tank before cleaning, adjusting, or servicing the compressor. Make sure all guards and shields are replaced before re-starting.

Maintenance Schedule Summary

Item	Frequency
Inspect safety/relief valves	Weekly
Check oil level	Weekly
Inspect air filter	- Weekly - Replace every 12 months or 1000 hours of use
Inspect for air leaks	Monthly
Engine maintenance (If applicable)	See engine Owner's Manual - Change oil: after first 20 hours of use - Every 100 hours of use after that
Change pump oil/ Clean magnetic drain plug	- After first 50 hours of use - Every 3 months or 500 hours of use - When using oil provided in NorthStar Start-up Kit: Every 6 months or 1000 hours of use
Inspect & drain receiver tank	Daily
Check drive belt tension and alignment	Monthly
Inspect & clean spark arrestor (if equipped)	See manufacturer's instructions
Dust/debris removal	Monthly

See detailed instructions for each maintenance item below.

Detailed Instructions – Maintenance & Repair

NOTICE

Dispose of used motor and pump oil in a manner that is compatible with the environment and in accordance with local, state, and federal laws and regulations.

- Take used oil in a sealed container to your local recycling center or service station for reclamation.
- Do not throw it in the trash, pour it on the ground, or pour it down a drain.

No modifications. Never modify or alter the compressor in any way. Modifications can create serious safety hazards and will also void the warranty.

Inspect Safety/Relief Valve

This valve should be inspected on a weekly basis if used regularly or the first time it is being used after a prolonged period of storage. The safety valve automatically releases air if the tank pressure exceeds the preset maximum.

- Check the safety/relief valve by pulling the rings.

- Replace safety/relief valve that do not operate freely.



WARNING: Safety/Relief valve hazards

If the safety/relief valve does not work properly, over-pressurization may occur causing air tank rupture or explosion. Occasionally pull the ring on the safety valve to make sure the safety valve operates freely. If the valve is stuck or does not operate smoothly, it must be replaced with a valve having the same pressure rating.

Inspect Air Filter

Inspect the compressor's air filter element on a weekly basis if used regularly or the first time it is being used after a prolonged period of no use. A dirty air filter will not allow the air compressor to operate at full capacity.

- Clean air filter when necessary.
- Every 12 months or 1000 hours, replace the air filter element.

Change Air Filter Element

The compressor's air filter element should be changed every 12 months or after 1000 hours of use.

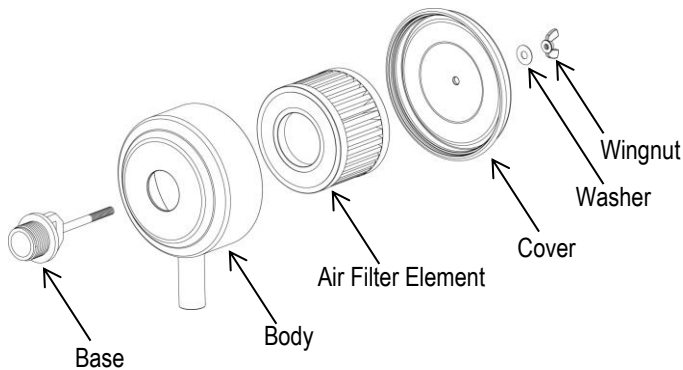


Figure 1

1. Unscrew wingnut and washer used to hold cover in place.
2. Remove cover and withdraw air filter element.
3. Replace new air filter element and cover, securing it with washer and wingnut that were removed previously.

Note: Keep the air filter clean. Do not operate with the air filter removed.

Inspect Compressor for Air Leaks

Inspect system for air leaks on a monthly basis, or again, at the first use after a prolonged period of storage.

- Squirt soapy water around joints during compressor operation and watch for bubbles. Developing bubbles indicate a leak is present.
- Tighten fittings if necessary.

Engine Maintenance

Perform engine maintenance as specified in the engine Owner's Manual. Items include:

- Change oil after the first 20 operating hours, and at least every 100 operating hours thereafter and oil filter, as directed in engine Owner's Manual.

WARNING: Burn hazard

Never open oil port while engine is running. Hot oil can spray over face and body.

- Air filter check/replacement
- Spark plug cleaning/replacement
- Fuel filter check/replacement
- Fuel tank cleaning

Change Pump Oil

Northern Tool recommends using synthetic oil after the first 50 hour break in period. See "Maintenance

Schedule Summary" for recommended frequency of oil changes. See "Appendix A: Lubricants" for suitable alternatives.

1. Remove the oil fill and drain plugs. Collect the oil in a suitable container.
2. Clean and replace the oil drain plug and refill compressor crankcase with clean oil.
3. Replace the oil fill plug.
4. Start the unit and run for several minutes. Shut the air compressor down and check the oil level. If necessary, add more oil. (Figure 2)

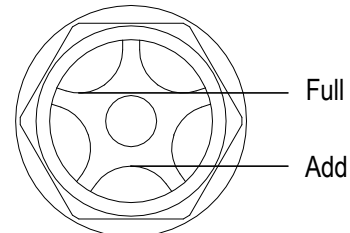


Figure 2

Drain Receiver Tank and Inspect Tank

Drain water from the receiver tank daily. Water left in the tank can cause the tank to weaken and corrode, increasing the risk of tank rupture.

Northern Tool recommends a tank inspection after every 2 years of service. See "*Inspection of Unfired Pressure Vessels*," volumes 2-9, August 2001, Bill McStaw (available on-line at NTIS)."

WARNING: Air tank hazards

Failure to replace a rusted air receiver tank could result in tank rupture or explosion, which could cause substantial property damage, severe personal injury, or death. Never modify or repair a tank. Obtain replacement from service center.

Check Drive Belt for Tension and Alignment

CAUTION: Pulley/sheave hazard

Improper pulley/sheave alignment and belt tension can result in motor overload, excessive vibration, and premature belt and/or bearing failure. To prevent this from happening, check the pulley/sheave alignment and belt tension on a regular basis.

Belts will stretch from normal use. When properly adjusted, a 5 lb. force applied to the belt between the engine pulley and the pump will deflect the belt about $\frac{1}{2}$ ".

To align and adjust drive belt tension:

1. Remove the belt guard cover.

2. Loosen the four fasteners holding the engine/motor to the compressor.
3. Shift the engine/motor in the proper direction. The belt must be properly aligned when adjustment is made.
4. To align belt, lay a straight edge against the face of the flywheel touching the rim at two places. (Figure 3)

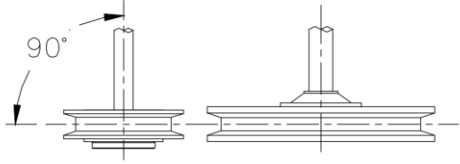


Figure 3

5. Adjust flywheel or engine pulley so that the belt runs parallel to the straight edge.
6. If necessary, use a gear puller to move the pulley on the motor shaft. Tighten set screw after pulley is positioned.
7. Check for proper belt tension. (Figure 4)

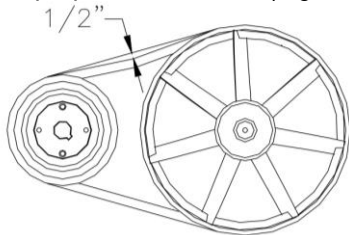


Figure 4

8. Tighten the four fasteners holding the engine to the top plate while tension and alignment is maintained.
9. Attach the belt guard cover.

Inspect & Clean Spark Arrestor (if equipped)

Equip engine with spark arrestor if machine will be used near any ignitable forest, brush, or grassy land. (See engine Owner's Manual provided to determine if the engine is already equipped.) Make sure you comply with applicable local, state, and federal codes.

If the engine is equipped with a spark arrestor, clean and inspect it regularly following manufacturer's service instructions. Replace if damaged.

Keep Compressor Clean

Do not allow air intakes to become blocked. If dust or debris accumulates in the compressor, clean the compressor with a damp cloth or soft bristle brush.

Note: Do not spray compressor with a garden hose or pressure washer. Water may enter the compressor and cause damage to the engine and pump.

IMPORTANT

If a part needs replacement, only use parts that meet the manufacturer's part number specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the compressor. Major service, including installation or replacement of parts, should be made by a qualified electrical service technician.

Contact NorthStar Product Support at 1-800-270-0810

For any questions, problems, or parts orders.

Appendix A: Lubricants and Compatibility

The following table lists materials that are suitable or not recommended for use with synthetic oil. As some oil escapes into the compressed air, all components that come into contact with the air (i.e., piping, filters, hoses, tools, etc) must be compatible with synthetic oil.

Northern Tool recommends using synthetic oil after the first 50 hour break in period.

Suitable	Not Recommended
Viton®, Teflon®, Epoxy (Glass Filled), Oil Resistant Alkyd, Fluorosilicone, Fluorocarbon, Polysulfide, 2-Component Urethane, Nylon, Delrin®, Celcon®, High Nitrile Rubber (Buna N. NBR more than 36 Acrylonite), Polyurethane, Polyethylene, Epichlorohydrin, Polyacrylate, Melamine, Polypropylene, Baked Phenolics, Epoxy, Modified Alkyds	Neoprene, Natural Rubber, SBR Rubber, Acrylic Paint, Lacquer, Varnish, Polystyrene, PVC, ABS, Polycarbonate, Cellulose Acetate, Latex, EPR, Acrylics, Phenoxo, Polysulfones, Styrene Acrylonitile (San), Butyl
(® indicates trademark of DuPont Corporation)	

Alternate Lubricants

You may use a petroleum-based lubricant that is premium quality, does not contain detergents, contains only anti-rust, anti-oxidation, and anti-foam agents as additives, has a flashpoint of 440°F (227°C) or higher, and has an auto-ignition point of 650°F (343°C) or higher.

See the petroleum lubricant viscosity table below. The table is intended as a general guide only. Heavy-duty operating conditions require heavier viscosities.

Refer specific operating conditions to NorthStar Product Support at 1-800-270-0810.

Temperature around Compressor	Viscosity Grade	
	ISO	SAE
Below 40°F (4°C)	60	20
40°F to 80°F (4°C to 27°C)	100	30
80°F to 100°F (27°C to 38°C)	150	40

Limited Warranty

Dear Valued Customer:

The NorthStar Product you just purchased is built with the finest material and craftsmanship. Use this product properly and enjoy the benefits from its high performance. By purchasing a NorthStar product, you show a desire for quality and durability. Like all mechanical equipment, the air compressor you purchased requires a due amount of care. This startup kit will help you treat your air compressor like the high quality piece of machinery it is. Neglect and improper handling may impair its performance. Please thoroughly read the instructions and understand the operation before using your product. Always contact NorthStar Product Support at 1-800-270-0810 prior to having any service or warranty work performed, as some services performed by parties other than NorthStar approved service centers may void this warranty. This warranty is in lieu of any other warranty expressed or implied and NorthStar assumes no other responsibility or liability outside that expressed within this warranty.

Limited Warranty

Startup kit and NorthStar air compressor must be purchased coincidentally to receive extended limited warranty on pump.

NorthStar 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:

Pump Warranty			
Item #	When Purchased with NorthStar Air Compressor Item Number:	Consumer Warranty Period	Commercial Warranty Period
45933	459212, 459222, 459232, 459392, 25653, 25654	Extends limited warranty, on only the pump, to 5 years from date of original purchase	
45934	459242, 459382		

"Consumer use" means personal residential household use by a consumer. "Commercial use" means all other uses, including use for commercial, income producing or rental purposes or when purchased by a business.

This warranty applies to the original purchaser of the equipment (verification of purchase, in the form of a receipt, is the responsibility of the buyer), is non-transferable, and covers parts and labor. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. If a part is no longer available, the part may be replaced with a similar part of equal function. 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 NorthStar. NorthStar will not provide for replacement of complete products due to defective parts. Any costs incurred due to replacement or repair of items outside of a NorthStar approved facility is the responsibility of the buyer and not covered under warranty. Transportation costs to and from service center is the responsibility of the customer.

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 NorthStar in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer's specifications, damage to accessory parts such as starting batteries, damage related to rodent and/or insect infestation 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. Also, Outdoor Power Equipment needs periodic parts and service to perform well, and this warranty does not cover instances when normal use has exhausted the life of a component or the engine.

This warranty does not cover any personal injury or damage to surrounding property caused by failure of any part. Repair or replacement of parts does not extend the warranty period.

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

Customer Number: _____

Date of Purchase: _____

NorthStar Serial Number: _____

Item Number: _____

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Manufactured by
Northern Tool + Equipment Co., Ltd
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NorthernTool.com