CE

PL3000

PORTABLE LATHE

OPERATING MANUAL

ORIGINAL INSTRUCTIONS

PL3000 Portable Lathe Machine shown

CLIMAX
Portable Machining & Welding Systems

PN: 31041 April 2019 Revision 4

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- Your name
- Shipping address
- Telephone number
- Machine model
- Serial number (if applicable)
- Date of purchase

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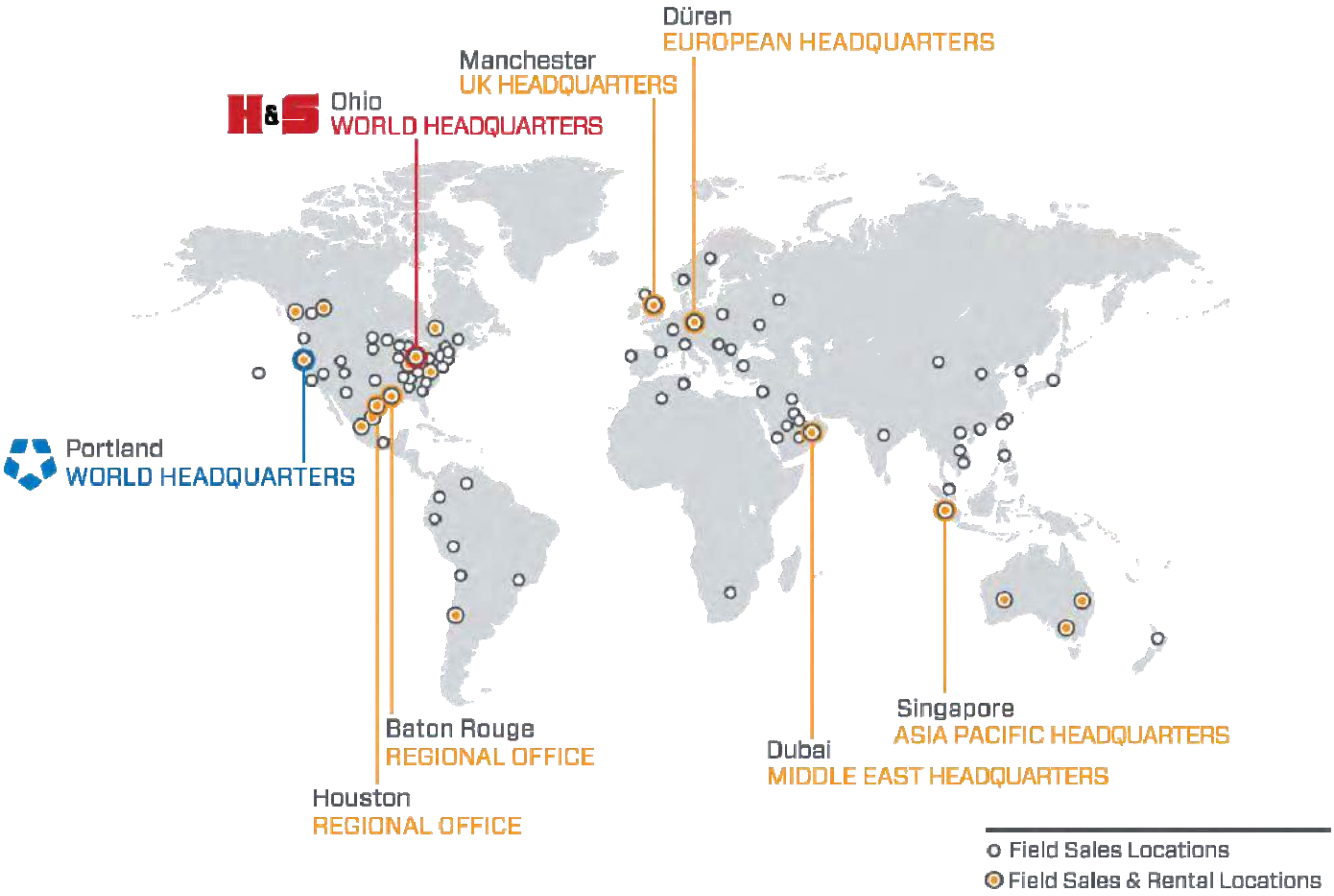
CLIMAX WORLDWIDE LOCATIONS



LIMITED WARRANTY

CLIMAX Portable Machine Tools, Inc. (hereafter referred to as “CLIMAX”) warrants that all new machines are free from defects in materials and workmanship. This warranty is available to the original purchaser for a period of one year after delivery. If the original purchaser finds any defect in materials or workmanship within the warranty period, the original purchaser should contact its factory representative and return the entire machine, shipping prepaid, to the factory. CLIMAX will, at its option, either repair or replace the defective machine at no charge and will return the machine with shipping prepaid.

CLIMAX warrants that all parts are free from defects in materials and workmanship, and that all labor has been performed properly. This warranty is available to the customer purchasing parts or labor for a period of 90 days after delivery of the part or repaired machine or 180 days on used machines and components. If the customer purchasing parts or labor finds any defect in materials or workmanship within the warranty period, the purchaser should contact its factory representative and return the part or repaired machine, shipping pre- paid, to the factory. CLIMAX will, at its option, either repair or replace the defective part and/ or correct any defect in the labor performed, both at no charge, and return the part or repaired machine shipping prepaid.

These warranties do not apply to the following:

- Damage after the date of shipment not caused by defects in materials or workmanship
- Damage caused by improper or inadequate machine maintenance
- Damage caused by unauthorized machine modification or repair
- Damage caused by machine abuse
- Damage caused by using the machine beyond its rated capacity

All other warranties, express or implied, including without limitation the warranties of merchantability and fitness for a particular purpose are disclaimed and excluded.

Terms of sale

Be sure to review the terms of sale which appear on the reverse side of your invoice. These terms control and limit your rights with respect to the goods purchased from CLIMAX.

About this manual

CLIMAX provides the contents of this manual in good faith as a guideline to the operator. CLIMAX cannot guarantee that the information contained in this manual is correct for applications other than the application described in this manual. Product specifications are subject to change without notice.

CE DATA

Recommended air pressure:	90 psi **(DO NOT EXCEED 120 psi)**
Noise level:	84 dB(A) – Hearing protection required
Sound Power Level:	93.3 dB(A) (Pneumatic)
Operator Sound Pressure Level:	87.3 dB(A) (Pneumatic)
Bystander Sound Pressure Level:	86.9 dB(A) (Pneumatic)

P/N 59035

Climax Portable Machine Tools, Inc. Effective Date: June 6, 2011

Declaration of Conformity

CE

CLIMAX® Portable Machine Tools, Inc.

Manufacturer Address:
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Climax GmbH
Am Langen Graben 8
52353 Düren / Germany
Tel.: (+49)(0) - 2421 / 9177 - 0

Climax GmbH is authorized to compile a technical file for this product.

We hereby declare that the machinery described:

Make:	Portable Lathe
Models:	PL2000, PL3000, PL4000
Serial Numbers:	11016661 - 15128700

Is in compliance with the following directives:

2006/42/EC - Machinery

Compliance with the relevant EHSR of the above directives is by application of the following referenced harmonized standards:

EN 349, EN 982 + A1, EN 983 + A1, EN 3744, EN 11201, EN 12100-1, EN 12100-2, EN 13128 + A2, EN 13732-1, EN 13849-1, EN 14121-1, EN 60204-1, EN 55011, EN 55022, EN 61000-4-3, EN 61000-4-6

VP - Operations
Climax Portable Machine Tools, Inc.
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Signed in Newberg, Oregon 97132-8210 USA on: 6/6/2011
DATE

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INTRODUCTION

How to use this manual

This manual describes information necessary for the setup, operation, maintenance, storage, shipping, and decommissioning of the PL3000.

The first page of each chapter includes a summary of the chapter contents to help you locate specific information. The appendices contain supplemental product information to aid in setup, operation, and maintenance tasks.

Read this entire manual to familiarize yourself with the PL3000 before attempting to set it up or operate it.

Labeling Guidelines

The purpose of product safety signs and labels is to increase the level of awareness to possible dangers.

Safety alert symbols indicate **DANGER**, **WARNING** or **CAUTION**. These symbols may be used in conjunction with other symbols or pictographs. Failure to obey safety warnings can result in serious injury. Always follow safety precautions to reduce the risk of hazards and serious injury:

	**DANGER** **Indicates a hazardous situation that could be fatal or cause serious injury.**
	**WARNING** **Indicates a potentially hazardous situation that could be fatal or cause serious injury.**
	**CAUTION** **Indicates a potentially hazardous situation that could result in minor to moderate injury, damage to the machine or interruption of an important process.**
	**IMPORTANT** **Provides critical information for the completion of a task. There is no associated hazard to people or the machine.**
	**NOTE** **Provides important information regarding the machine.**

Safety Guidelines

The primary challenge for most on-site maintenance is that repairs are often done under difficult conditions.

CLIMAX leads the way in promoting the safe use of portable machine tools. Safety is a joint effort. As the operator of this machine, you are expected to do your part by closely examining the job site and following the operating procedures outlined in this manual, your own company rules, and local regulations.

WARNING

For maximum safety and performance, read and understand the entire manual and all other related safety instructions before using this equipment. Failure to follow the instructions and guidelines in this manual could cause personal injury, fatalities or property damage.

QUALIFIED PERSONNEL

Before operating this machine, you must receive training specific to this machine from a qualified trainer. If you are not familiar with the proper and safe operation, do not use the machine.

OBEY WARNING LABELS

Obey all warnings and warning labels. Failure to follow instructions or heed warnings could result in injury, or even be fatal. Proper care is your responsibility. Contact CLIMAX immediately for replacement of damaged or lost manuals or safety decals.

INTENDED USE

Only use the machine according to the instructions in this operating manual. Do not use this machine for any purpose other than the intended use as described in this manual. When using the tools, machine, accessories and/or tool bits, you must determine the proper working conditions and the work to be performed.

STAY CLEAR OF MOVING PARTS

Keep clear of the machine during operation. Never lean toward or reach into the machine to remove chips or to adjust the machine while it is running. Keep bystanders away while operating this machinery.

ROTATING MACHINERY

Rotating machinery can seriously injure an operator. Lock out all power sources before you interact with the machine.

KEEP YOUR WORK AREA CLEAN AND TIDY

Keep all cords and hoses away from moving parts during operation. Do not clutter the area around the machine. Keep the work area clean and well lit.

AMBIENT LIGHTING

Do not operate this machine in ambient lighting that is less than normal intensity.

SECURE LOOSE CLOTHING AND LONG HAIR

Rotating machinery can seriously injure an operator as well as others close by. Don’t wear loose fitting clothing or jewelry. Tie back long hair or wear a hat.

HAZARDOUS ENVIRONMENTS

Do not use the machine in a hazardous environment, such as near explosive chemicals, flammable liquids, gasses, toxic fumes, or inappropriate radiation hazards.

HOSES, PENDANT AND ELECTRICAL CABLES

Do not abuse the pendant cable as this can damage the cable and pedant. Never use the cord for carrying, pulling or unplugging. Remove any and all kinks before straightening the cable. Keep cords and hoses away from heat, oil, sharp edges or moving parts. Plugs must match the outlet. Never modify the plugs in any way. Do not use an adapter plug with grounded power tools. Do not expose the machine to rain or wet conditions. Always examine hoses and cables for damage before use. Be cautious and never drop electrical equipment, this will damage the components.

REPETITIVE MOTION

Individuals can be susceptible to disorders of the hands and arms when exposed to tasks that involve highly repetitive motions and/or vibration.

STAY ALERT

Stay alert, watch what you are doing and use common sense when operating machinery. Do not operate machinery while you are tired or under the influence of drugs, alcohol or medical.

Safety Practices

All aspects of the machine have been designed with safety in mind. Rotating parts are not always shielded by machine components or by the work-piece. Do not force the machine.

PERSONAL PROTECTIVE EQUIPMENT

Eye and hearing protection must be worn while using the machine. These safety items do not impose constraints to the safe operation of the machine.

OPERATING CONDITIONS

Do not operate the machine if it is not mounted to the workpiece as described in this manual.

TOOLING

The machine is provided with all the tools for the setup and operation of the machine. Remove all adjustment tools before starting the machine.

LIFTING

Most of the machine components are heavy and must be moved or lifted with approved rigging and practices. CLIMAX accepts no responsibility for the selection of lifting equipment. Always follow your plant's procedures for lifting heavy objects. Do not lift heavy objects by yourself as serious injury can result.

CUTTING TOOLS AND FLUIDS

There are no cutting or cooling fluids supplied with this machine. Keep cutting tools sharp and clean.

CONTROLS

The machine controls are designed to withstand the rigors of normal use and external factors. The on-off switches are clearly visible and identifiable. If hydraulic power supply failure occurs, be sure to turn off the supply before leaving the machine.

DANGER ZONE

The operator and other persons can be anywhere in the vicinity of the machine. The operator must ensure there are no other persons in danger from the machine.

METAL FRAGMENT HAZARD

The machine produces metallic fragments during normal operation. You should wear eye protection at all times when working with the machine. Only remove fragments with a brush after the machine has stopped completely.

HAZARDOUS ENVIRONMENTS

Do not use the machine in a hazardous environment, such as near explosive chemicals, toxic fumes, or a radiation hazard.

RADIATION HAZARDS

There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gasses or dust.

ADJUSTMENTS AND MAINTENANCE

All adjustments, lubrication and maintenance should be done with the machine stopped, and locked out from all power sources. The shut-off valves should be locked and tagged out before performing any maintenance. Do not operate the machine if moving parts are misaligned, binding or broken. If the machine or parts are damaged, have the machine repaired before use.

WARNING LABELS

Warning labels are already attached to your machine. Contact CLIMAX immediately if replacements are required.

MAINTENANCE

Be sure the machine components are free of debris and properly lubricated prior to use. Have your machine serviced by a qualified repair person using only identical replacement parts

NOISE LEVEL

84 dB(A) – Hearing Protection is required

STORED ENERGY

Hydraulic fluids could still be under pressure! Make sure the HPU is shut off and locked out properly.

MSDS

Material Data Safety Sheets are included in the maintenance manual.

UNINTENTIONAL STARTING

Prevent unintentional starting. The machine must be properly locked out and/or shut down before maintenance.

OPERATING CONDITIONS

Do not operate this machine in inclement weather or provide adequate cover to keep the machine from exposure to the elements.

Risk Assessment and Hazard Mitigation

Machine Tools are specifically designed to perform precise material-removal operations.

Stationary Machine Tools include lathes and milling machines and are typically found in a machine shop. They are mounted in a fixed location during operation and are considered to be a complete, self-contained machine. Stationary Machine Tools achieve the rigidity needed to accomplish material-removal operations from the structure that is an integral part of the machine tool.

In contrast, Portable Machine Tools are designed for on-site machining applications. They typically attach directly to the workpiece itself, or to an adjacent structure, and achieve their rigidity from the structure to which it is attached. The design intent is that the Portable Machine Tool and the structure to which it is attached become one complete machine during the material-removal process.

To achieve the intended results and to promote safety, the operator must under- stand and follow the design intent, set-up, and operation practices that are unique to Portable Machine Tools.

The operator must perform an overall review and on-site risk assessment of the intended application. Due to the unique nature of portable machining applications, identifying one or more hazards that must be addressed is typical.

When performing the on-site risk assessment, it is important to consider the Portable Machine Tool and the workpiece as a whole.

Risk Assessment Checklist

The following checklist is not intended to be an all-inclusive list of things to watch out for when setting up and operating this Portable Machine Tool. However, these checklists are typical of the types of risks the assembler and operator should consider. Use these checklists as part of your risk assessment:

TABLE 1-1. RISK ASSESSMENT CHECKLIST BEFORE SET-UP

	Before set-up
☐	I took note of all the warning labels on the machine.
☐	I removed or mitigated all identified risks (such as tripping, cutting, crushing, entanglement, shearing, or falling objects).
☐	I considered the need for personnel safety guarding and installed any necessary guards.
☐	I read the machine assembly instructions.
☐	I created a lift plan, including identifying the proper rigging, for each of the setup lifts required during the setup of the support structure and machine.
☐	I located the fall paths involved in lifting and rigging operations. I have taken pre- cautions to keep workers away from the identified fall path.
☐	I considered how this machine operates and identified the best placement for the controls, cabling, and the operator.
☐	I evaluated and mitigated any other potential risks specific to my work area.

TABLE 1-2. RISK ASSESSMENT CHECKLIST AFTER SET-UP

	After set-up
☐	I checked that the machine is safely installed and the potential fall path is clear. If the machine is installed at an elevated position, I checked that the machine is safeguarded against falling.
☐	I identified all possible pinch points, such as those caused by rotating parts, and informed the affected personnel.
☐	I planned for containment of any chips or swarf produced by the machine.
☐	I followed the required maintenance with the recommended lubricants.
☐	I checked that all affected personnel have the recommended personal protective equipment, as well as any site-required or regulatory equipment.
☐	I checked that all affected personnel understand and are clear of the danger zone.
☐	I evaluated and mitigated any other potential risks specific to my work area.

Labels on the Machine

P/N 29152

P/N 34736

P/N 29154

P/N 55547

Machine Lock-Out

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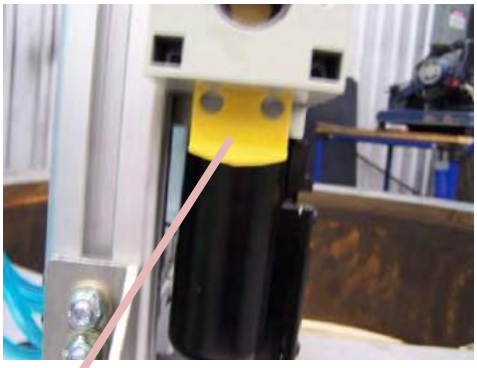
<tr><td>  </td><td>  </td></tr>
<tr><td>Air shutoff in the operating position (UP)</td><td>To lockout the machine, Push down on the lockout and insert locks into the openings at the bottom of the air shutoff on the air intake side of the pneumatic conditioning unit.</td></tr>
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OVERVIEW

The Model PL3000 Portable Lathe mounts to the end of the shaft. With a choice of electric or pneumatic power, its compact size and light weight makes it an ideal tool for on-site maintenance. The machine will turn 8" to 11.25" (203.2 - 286 mm) diameter shafts. With optional tool holders, the machine can turn shafts as small as 4" (101.6 mm) in diameter. In standard configuration, the Model PL3000 has a reach of 16" (406.4 mm) and with a tool bar extension, a reach of up to 22" (558.8 mm).

Model PL3000 consists of:

- Main body assembly
- Mounting flange assembly
- Turning bar assembly
- Electric motor assembly (electric model only)
- Electric planetary housing assembly (electric model only)
- Air motor assembly (air model only)
- Pneumatic planetary housing assembly (air model only)
- Pneumatic conditioning unit (air model only)
- Tool kit

Electric lathe description

The electric PL3000 Portable Lathe has a 0.66 hp (0.49 kW) electric motor. The motor may be either 120 volt (350 no-load rpm) or 230 volt (350 no-load rpm). Check the serial number plate on the motor to find the voltage. The motor operates on 50 or 60 cycle AC current. A speed control adjusts the motor speed. The control runs the motor at 0-70% of the maximum rpm.

Pneumatic lathe description

The pneumatic Portable Lathe has a 1.22 hp (.91 kW) air motor (60 rpm no-load). Operate the needle valve to adjust motor speed.

CAUTION

Recommended operating pressure is 90 psi (620 kPa). Do not exceed 120 PSI (827 KPA)!

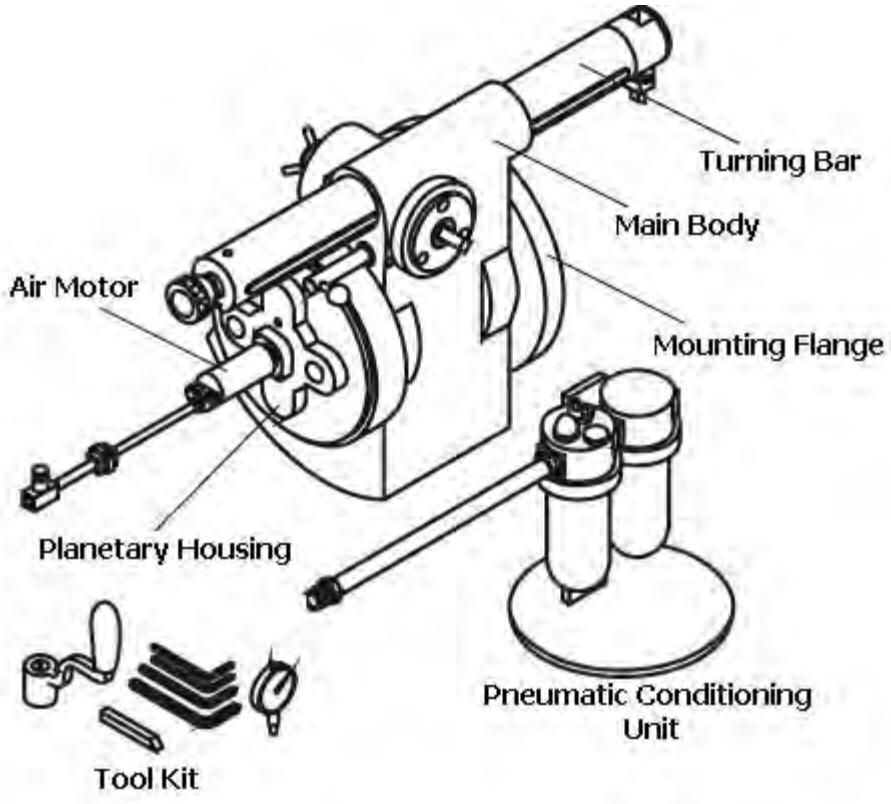


Figure 1 - Air powered PL3000 Portable Lathe

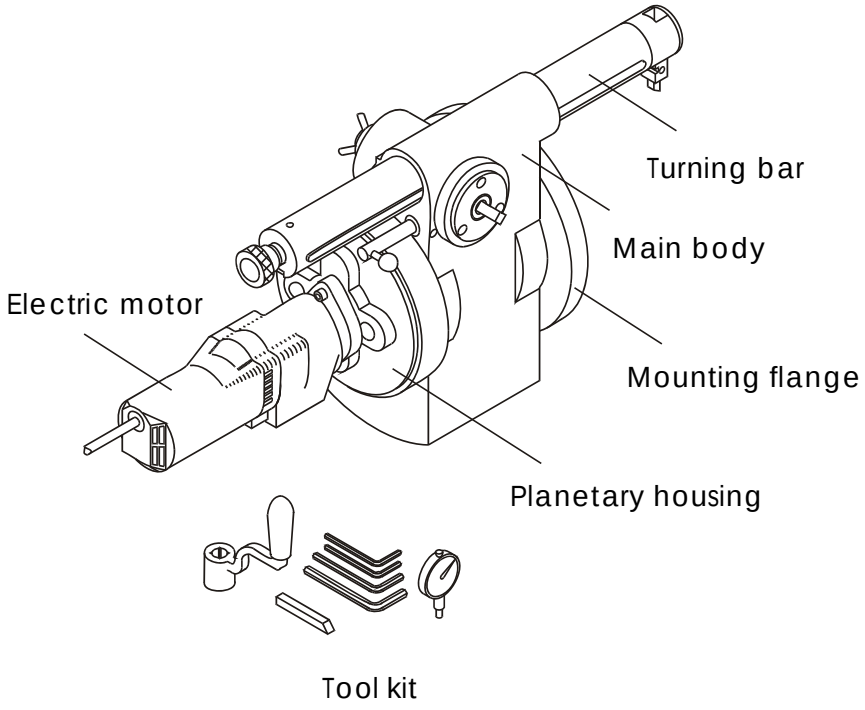
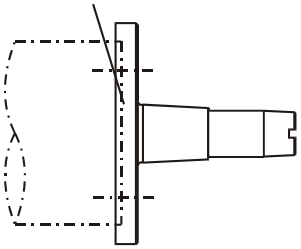


Figure 2 - Electric powered PL3000 Portable Lathe

SETUP

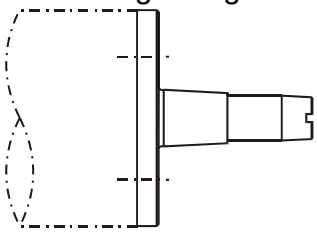
Machine setup

Counterbored mounting flange



When counterboring the mounting flange to fit over the shaft, use the short square head leveling screws.

End-mounted mounting flange



When mounting flush to the end of a shaft, use the long square head leveling screws.

WARNING

Avoid bodily injury from moving machinery! Turn off and disconnect all power cords and hoses before machine setup.

Preparing the mounting flange

Upon delivery, the tapered mounting flange normally is blank. If required, the flange can be machined to your specifications.

A pair of tapped jacking holes in the flange are used to move the machine from the flange. Two sets of four square-head leveling screws are included. These mount the flange to the work piece using mounting holes you must drill and tap in the flange.

When the mounting flange is to be mounted flat against the work piece, use the longer screws to level the machine. If the mounting flange will be counterbored to fit over the end of the work piece, use the shorter screws to level the machine.

1. If desired, counterbore the flange. Suggested diameter for the counterbore is about .100" (2.54 mm) larger than the diameter of the shaft and about 1/4" (6.35 mm) deep.
2. Drill clearance holes through the mounting flange to match the mounting holes in the shaft. You must supply your own mounting bolts. Drill and tap holes for the leveling screws near the mounting holes.
3. Clean the end of the shaft and the face of the mounting flange.
4. Loosely attach the flange to the end of the shaft. Snug up the mounting bolts. Do not tighten them.

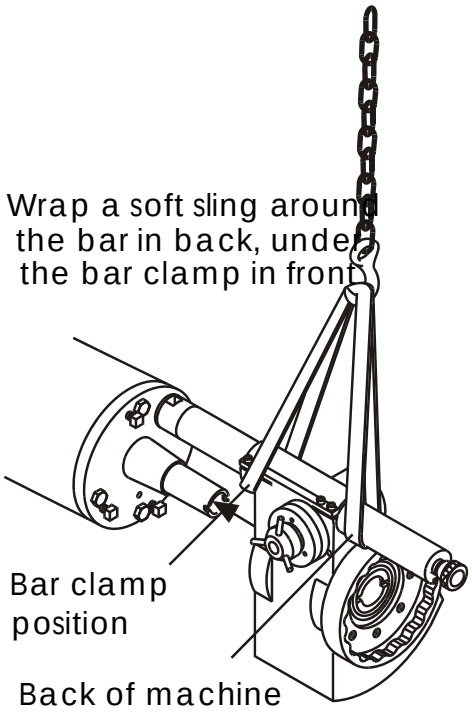
NOTE

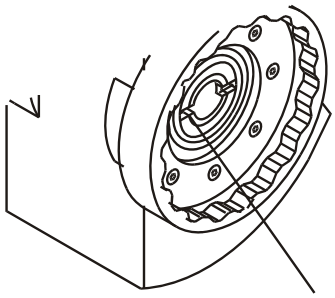
Dirt, burrs, and grease on either the end of the work piece or the face of the flange will prevent the flange from mounting properly.

Mounting the machine

	WARNING
	To avoid serious personal injury, keep clear of the hoist and the machine during setup.

1. Loop both ends of a lifting strap around the bar with the main body in between.





Mounting flange drive slots match up with the mounting hub inside the main body

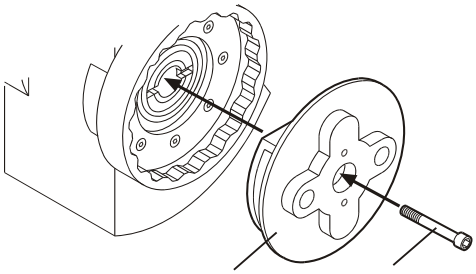
2. Using a hoist, lift the portable lathe up to the tapered mounting flange. Slide the machine loosely onto the tapered mounting flange.
3. Looking at the end of the tapered mounting flange from the back side of the machine, line up the slots on the mounting flange and the mounting hub.
4. Quickly push the main body snugly onto the mounting flange taper.
5. Check that the slots are still aligned. If not, the planetary housing keys will not lock into place.

	CAUTION
	To avoid machine damage, do not let the mounting hub collide into the mounting flange during assembly.

6. Pull the machine off the mounting flange, realign the slots and remount the machine.

Electric and pneumatic machines are each equipped with their own style of planetary housing. The air motor does not mount to the electric style machine; the electric motor does not mount to the air powered machine. Contact CLIMAX to acquire the applicable planetary housing.

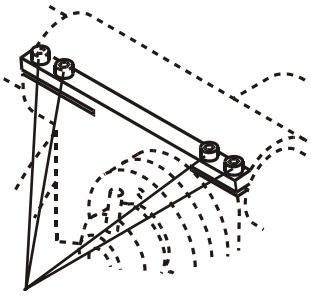
Align drive keys on planetary housing with drive key slots in the hub/mounting flange



Planetary housing Mounting screw

	NOTE
	The PL3000 Portable Lathe will not run if the planetary housing keys are not locked into the mounting slots.

7. Insert the planetary housing assembly into the internal ring gear of the main body. Be sure keys in the planetary housing lock into the slots in the mounting hub and mounting flange. It may be necessary to rotate the housing slightly to engage the gears before the housing will lock into the slots.
8. Lock the planetary housing in place by inserting and tightening one long socket-head cap screw located in the center.

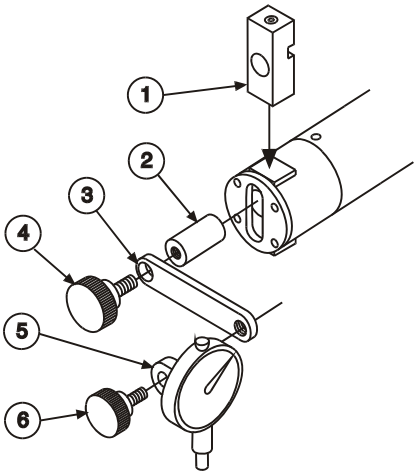


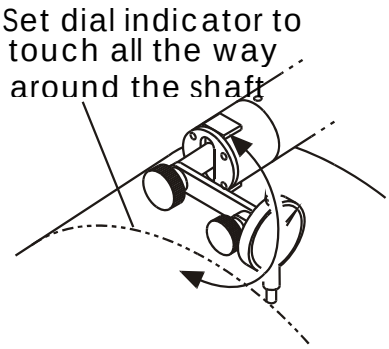
Do not loosen these four screws

	WARNING
	To avoid serious personal injury, the machine must be secured to the planetary housing with socket head cap screws before attempting to center or align the machine.

	NOTE
	The four turning bar clamp screws on top of the main body must NOT be adjusted. These screws are preset at the factory for proper bar alignment. Loosening these screws will cause the machine to cut a taper.

Centering the machine



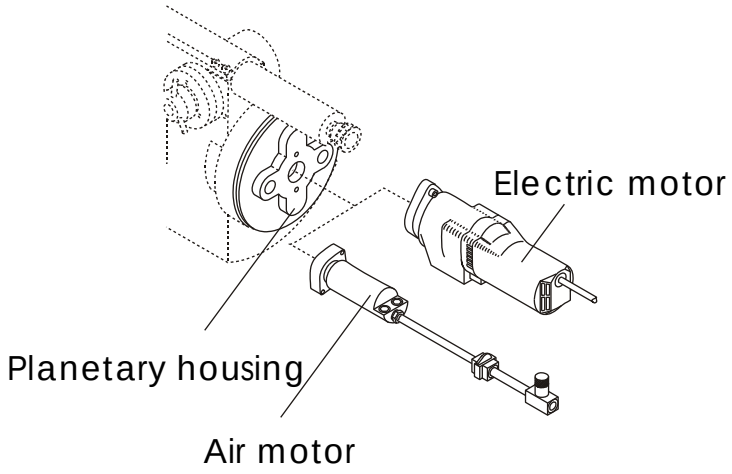


1. Crank the turning bar back until the tool head is as close as possible to the main body of the machine.
2. Attach the dial indicator assembly to the end of the turning bar (see dial indicator illustration at left).
3. Remove the cover plate from the depth adjustment housing.
4. Remove the tool holder.
5. Insert the dial indicator tool holder #1 into the slot in the depth adjustment housing. Be sure the rocker fits into the slot in the holder.
6. Replace the cover plate.
7. Slide the dial indicator stud #2 through the slot in the cover plate and into the holder #1.
8. Tighten the set screw in the bottom of the tool holder.
9. Use the large plastic knob #4 through the non-threaded end to attach the dial indicator holder #3 to the end of the stud #2.
10. Put the threaded part of the small knob #6 through the dial indicator #5 and screw it into the threaded end of the indicator holder #3.
11. Adjust the angle of the dial indicator so it will touch the shaft at all times when the machine is rotated around the shaft. Tighten both knobs.
12. Manually rotate the machine about the shaft. Using a soft mallet (rubber, plastic or leather), tap the tapered mounting flange until it is centered.
13. Crank the turning bar until the tool head and dial indicator are out as far as possible.
14. Manually rotate the machine about the shaft. Use the square headed leveling screws to center/level the machine to the shaft center.
15. Repeat the procedure with the dial indicator in several positions along the shaft until the machine is fully centered.

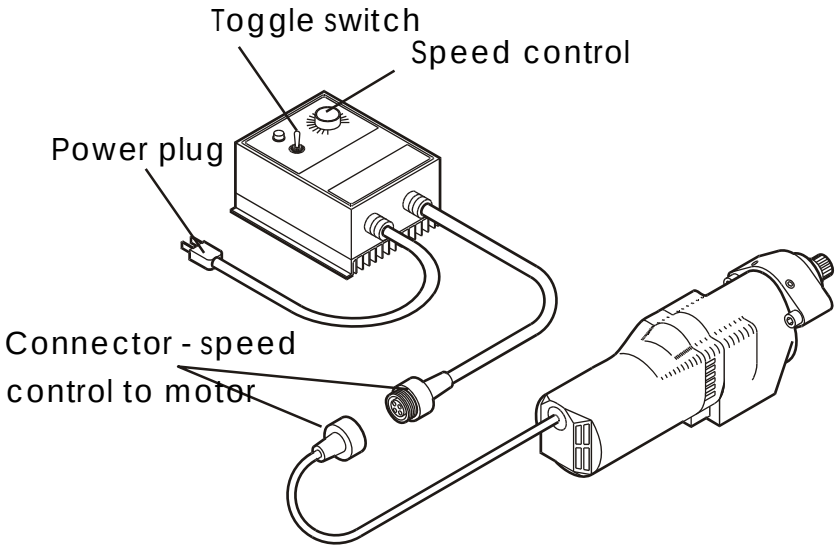
16. Tighten all mounting screws.
17. Remove the dial indicator assembly.

Motor mounting

1. Insert the motor assembly into the planetary gear housing. Be sure the pinion gear shaft and key engage with the planetary housing gears.
2. Tighten the two motor flange bolts.
3. The electric motor must be mounted to the planetary housing specific to the electric motor, and the air motor must be mounted to the air motor planetary housing specific to the air motor. The two cannot be interchanged.

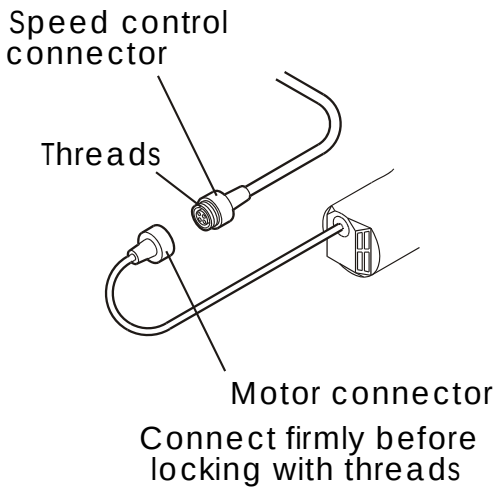


Power connection



Electric power connection

	WARNING
	To avoid serious personal injury from moving machinery, turn the motor OFF before plugging it in. Avoid explosions and electrical shock by not operating the machine in damp or explosive conditions.

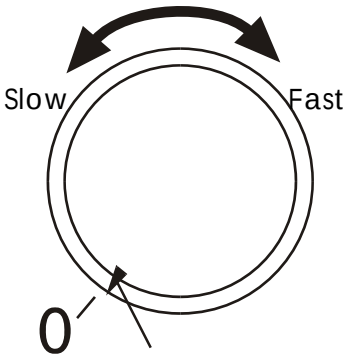


1. On the speed controller, make sure the toggle switch is in the OFF position.
2. Turn the variable speed controller counterclockwise all the way

	CAUTION
	To prevent damage, do not use the coupling threads to pull the connectors together. Engage the connectors firmly prior to screwing on the coupling.

3. Firmly push together the two connectors of the speed controller and the electric motor, then screw the coupling together. This is an all weather connector and will create a seal. Do not use the threads to pull the connectors together, or they will strip.
4. Plug the machine into a properly grounded outlet

Starting and stopping the electric machine



Turn knob past zero/detent to allow startup after loss of power

The electric powered machine is supplied with a safety device which protects against unintentional startup. If the speed controller loses input power at any time, a relay locks the machine out and you must manually reset it. The zero position on the dial has a detent “reset” position to make the startup sequence safer.

Do the following to start the machine:

1. Be sure the speed control is connected to the motor and to mains power. The green light should be off.
2. Turn the speed control knob to zero position past the detent.

	WARNING
	Rotating equipment can cause serious injury. Keep well clear while operating the machine.

3. Move the toggle switch to the ON position. The green light will come on.
4. Turn the speed control knob clockwise past the detent to start the machine. Continue turning the knob to increase the turning rpm, and turn it counterclockwise to slow it down.

To stop the machine, switch the toggle to the OFF position.

	WARNING
	Do not rely on the zero/detent to stop the machine. Zero/detent only stops power to the speed controller. Use the toggle switch to stop power to the machine.

Air power connection

The PL3000 Portable Lathe has a 1.22 hp (.91 kW) air motor. Adjust motor speed by opening or closing the needle valve.

The air filter and lubricator supplied with the machine must be used or the warranty is void. The lubricator should be set to deliver oil at a rate of 2-4 drops per minute.

CLIMAX cannot be held responsible for customer supplied air.

Ensure the incoming air supply is a constant 90 psi at 95 ft3/min (620 kPa at 2.7 m^3/min)

Fill the lubricator oil cup with air tool oil before using the machine.

Use high-quality oil with rust inhibitors and emulsifiers such as Marvel Air Tool Oil or Mobil DTE 24 Anti-Wear hydraulic oil. The lubricator should oil the air at a rate of 2-4 drops per minute.

Position the pneumatic control stand with the filter and pressure regulator in an easy to access location.

Clean all fittings before connecting them. Check all lines for damage before operating the machine. Repair or replace all damaged air lines and fittings.

Support the hoses so they will not get caught in the turning arm during operation

Connecting pneumatic power

CAUTION

Keep the air circuit controls locked out whenever a person is or can be in contact with the machine.

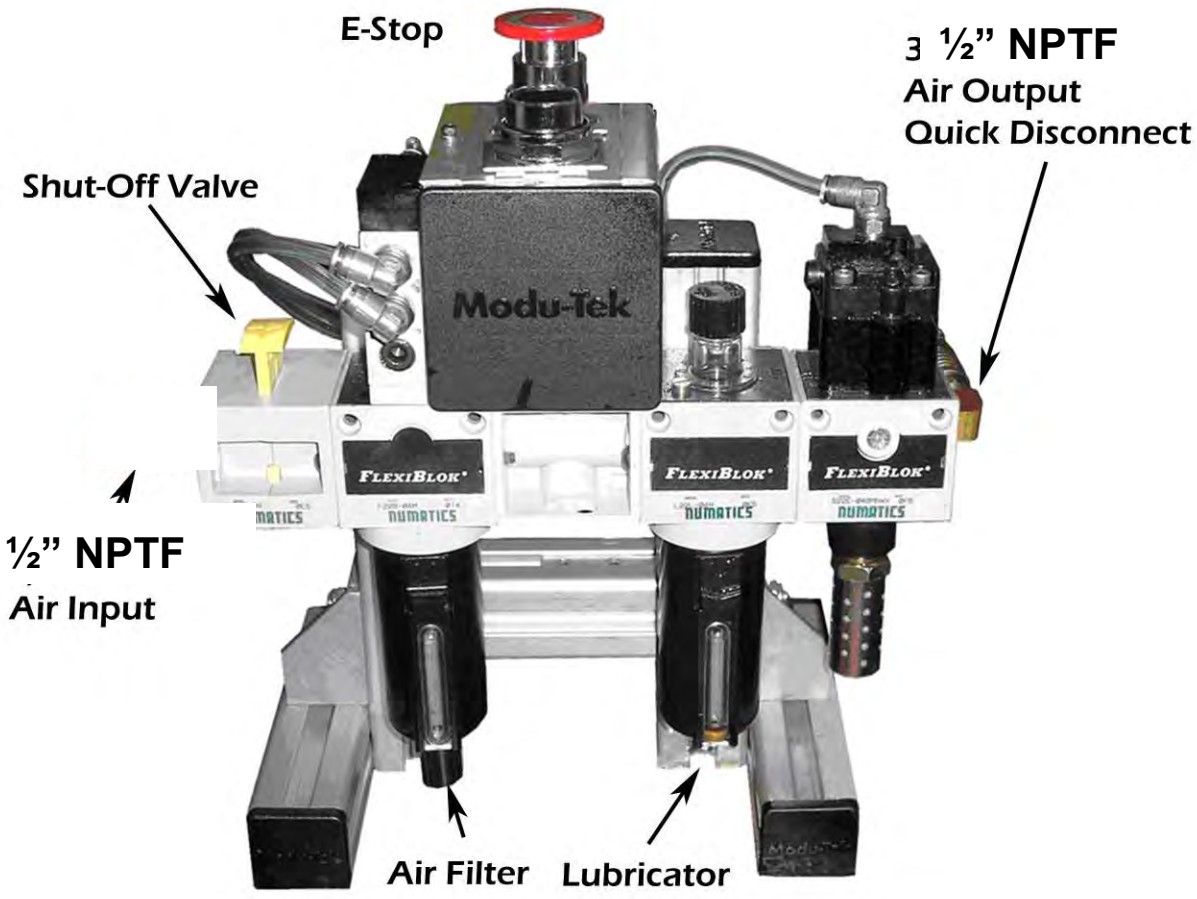
1. Check that the air supply line is adequate.
2. Close all ball valves.
3. Fill the air lubricator with air oil. Set the lubricator so it oils the air at a rate of 2-4 drops per minute

NOTE

Hydraulic fittings are used in the air circuit. Do not use hydraulic oil in the circuit.

4. Connect the quick disconnect fittings to the rotary union.
5. Connect the small air hose to the pneumatic feed box.
6. Connect the system to the incoming air supply.

Air Supply Box



Component function:

Start: When this button is pushed, the machine is enabled to run. An audible "pop" is associated with this action to indicate the start command is activated. The system will only start if a) a pressurized air supply is supplied, b) the lockout/tagout valve is open, c) the E-stop push button is in its extended position, and d) the start button is pushed.

When the system is started, the machine should run in response to the position of the speed control valve.

	WARNING
⚠	**Before starting machine operation, ensure no persons are in proximity to the machine. Failure to clear any and all personnel from the area around the machine can cause severe injury or death.**

Air filter: Check the filter regularly and drain accumulated condensation as required. At a minimum the filter should be drained once per shift.

Lubricator: Adjust the lubricator setting to provide a drip rate of approximately 1 drip for every 10 seconds. Check lubrication fluid level regularly and refill as required.

	**CAUTION**
	Failure to supply adequate air supply lubrication may result in premature wear and/or permanent damage to the air motors.

See the “Maintenance” chapter for information on maintaining your machine, including the air circuit system.

Adjusting the speed of the pneumatic motor

Adjust the speed of the air motors by resetting the ball valve.

	WARNING
	To prevent serious injury from moving machinery during setup or adjustment, use quick disconnects between the air supply line and the needle valve. Close and lock out all air valves before connecting the air supply line to the motor.

.

1. Push down and lock out the safety lockout valve. The valve is completely closed when the word CLOSED and the lockout hole is clearly seen underneath.
2. Screw the hose from the air lubricator into the safety lockout valve.
3. Screw a male quick disconnect fitting into the air filter port. Use a fitting that matches your shop air supply.

	CAUTION
	Rotating machinery can cause serious injury. Keep the air supply disconnected until about to use the machine.

Starting and stopping air machine - US style

CAUTION

Using air that is not filtered or lubricated can damage the motor. When operating the machine, route the incoming air through the air filter and lubricator.

The PL3000 Portable Lathe is equipped with a needle valve and lockout valve assembly.

CAUTION

Use only nonrestrictive air line fittings. Ensure that the needle valve is extended far enough from the machine for safe adjustment while in motion.

To start the machine:

1. Push the lockout valve slide down until the word CLOSED and the lockout can be seen from the bottom of the valve. Be sure the slide is pushed all the way.
2. Turn the needle valve clockwise all the way. No colored bands will be visible when the valve is completely closed.

WARNING

To prevent serious injury from moving machinery, secure the machine to the work piece before connecting the air supply.

3. Connect the air supply line to air filter.
4. Push the emergency stop lever up until the word OPEN can be seen from the top of the valve. Be sure the lever is pushed all the way.
5. Slowly turn the needle valve counterclockwise until the machine is turning at the desired speed. The more colored bands you see, the faster the machine speed.

WARNING

In case of emergency, push the lockout valve slide down.

Stopping the machine:

1. Turn the needle valve clockwise all the way. No colored bands will be visible when the valve is completely closed.
2. Push the lockout valve slide down until the word CLOSED and the lockout can be seen from the bottom of the valve. Be sure the slide is pushed all the way. Lock out the machine with a padlock.
3. Disconnect the air supply line.

Starting and stopping air machine - CE compliant

The CE compliant portable lathe is equipped with a needle valve and emergency shutoff valve.

CAUTION

Use only nonrestrictive air line fittings.

To start the machine:

1. Be sure the flow control needle valve is connected to the air motor.
2. Turn the needle valve clockwise all the way. No colored bands will be visible when the valve is completely closed.
3. Connect the pneumatic conditioning unit to the valve assembly.
4. Connect the air supply line to the air filter.
5. Slowly turn the needle valve counterclockwise until the machine rotate at the desired speed. The more colored bands you see the faster the machine rotation.

WARNING

In case of emergency, push the lockout valve slide down.

To stop the machine:

1. Push down the shutoff knob to close the valve.
2. Turn the needle valve clockwise all the way. No colored bands will be visible when the valve is completely closed.
3. Lock out the machine.
4. Disconnect the air supply line.

	CAUTION
	To prevent damage to the machine, use only the filter and lubricator provided.

Axial feed

	WARNING
	To prevent personal injury from moving machinery, turn off and disconnect power before making machine adjustments.

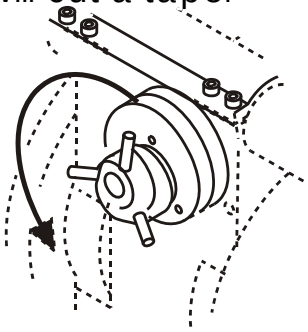
Manual axial feed

1. Loosen the feed locking hub to disengage automatic feed.

	NOTE
	The four turning bar clamp screws on top of the main body must NOT be adjusted. These screws are preset at the factory for proper bar alignment. Loosening these screws will cause the machine to cut a taper.

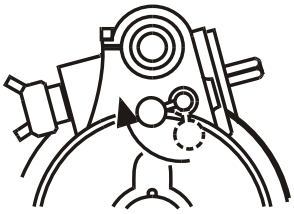
2. Using the crank handle, turn the gear shaft to feed the turning bar assembly along the shaft.

Do not loosen these screws or the machine will cut a taper



Turn locking hub counterclockwise to disengage auto feed

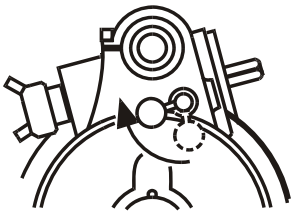
Automatic axial feed



Clockwise decreases the feed rate

The PL3000 Portable Lathe will automatically feed along the shaft at 0.003–0.011" (0.08–0.28 mm) per revolution. Automatic feed moves the tool bit away from the main body. Use the manual feed to advance the tool toward the main body.

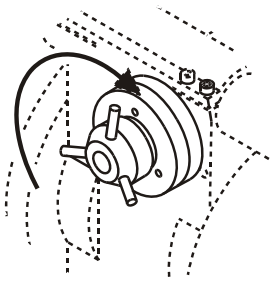
	WARNING
	To prevent serious bodily injury do not attempt to adjust the machine feed while the machine is running.



Clockwise decreases the feed rate

1. Remove the crank handle from the gear shaft.

2. Set the feed lever completely clockwise to feed the machine at the minimum 0.003" (0.08 mm) per revolution. Increase the feed rate by turning the feed lever to any of the seven detent positions. Turn the feed lever completely counterclockwise to feed at the maximum 0.011" (0.28 mm) per revolution.



Tap the feed hub clockwise to engage auto feed

3. Using a soft mallet (rubber, plastic, or leather), lightly tap the feed locking hub clockwise to engage the automatic feed.

	WARNING
	To prevent serious bodily injury from moving machinery, turn off and disconnect power before adjusting machine feeds.

NOTE

To maximize the pneumatic motor's performance, keep the air line pressure at 90 psi (620 kPa)

Start the machine and check the feed speed. Turn off the machine and readjust the feed lever, if necessary.

Setting the rotational speed

Rotational speed rate is variable up to 54 rpm.

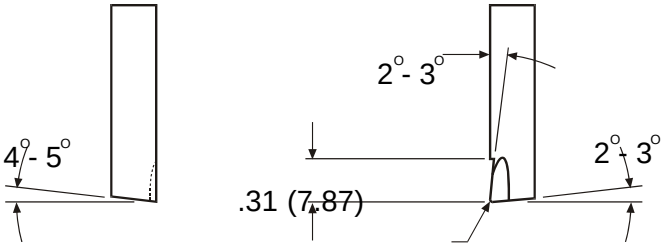
Electric speed adjustment

To adjust the speed on electric machines, slowly turn the speed control.

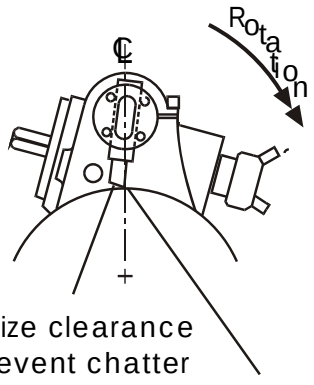
Pneumatic speed adjustment

To adjust the speed on pneumatic machines, slowly open or close the needle valve.

Tool bit preparation

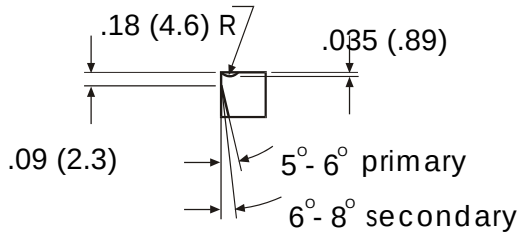


Geometry for cutting 1/8" (3 mm) deep in mild steel

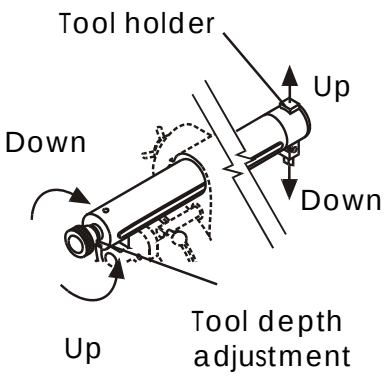


Minimize clearance to prevent chatter

Set tool bit behind center



1. Grind a 3/8" (10 mm) square HSS tool bit as shown above.



	NOTE
	High-speed tool bits may perform better than carbide tools. Carbide bits tend to ride up or skid on the surface.

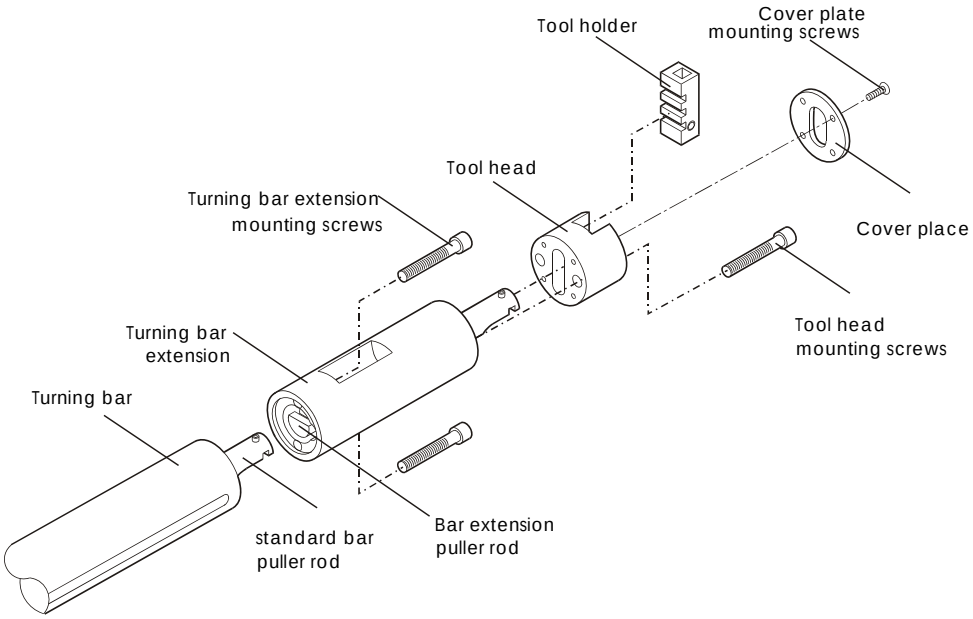
2. Secure the tool bit in the tool holder.
   The tool bit cutting face is intended to lag behind the center line of the shaft to prevent the tool from digging in. Due to the angle of the tool holder, the smaller the shaft diameter the further the tool cutting face will be behind the shaft center line.
3. Turn the depth adjustment knob counterclockwise to raise the tool bit.
4. Insert the tool holder and bit into the depth adjustment rocker. Select a depth adjustment slot that will allow the cutter to just clear the surface of the shaft. Mount the cover plate with flat head screws.

	CAUTION
	Correct tool bit geometry is critical to the performance of the machine. Never use tool bits without checking their geometry.

Optional Assemblies

Turning bar 22” extension

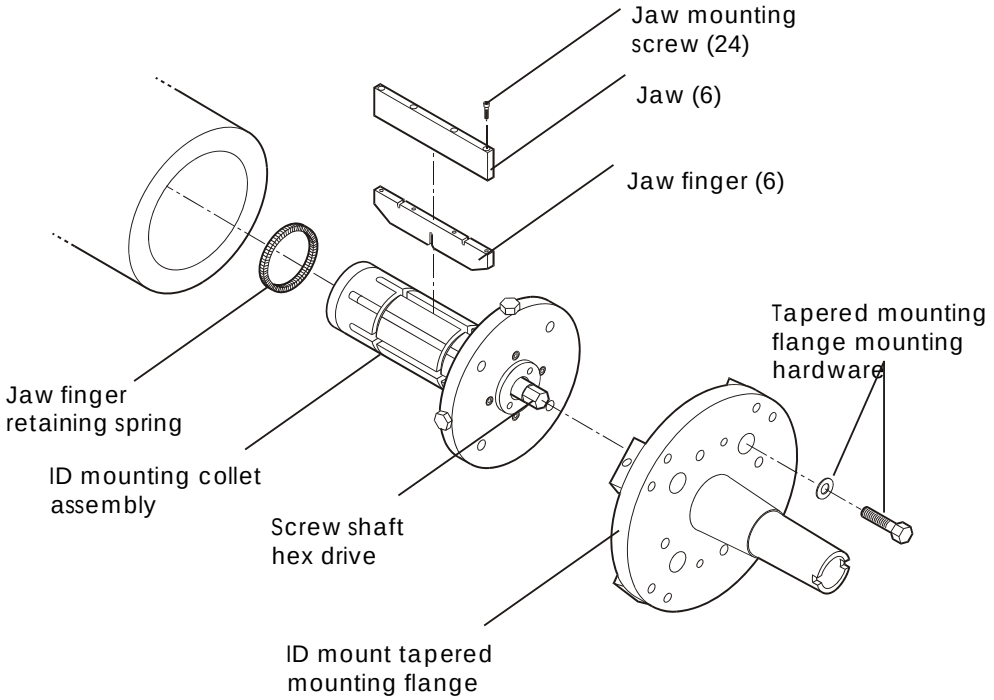
With the optional turning bar extension, the turning bar can reach 22" (558.8 mm). To add the extension:



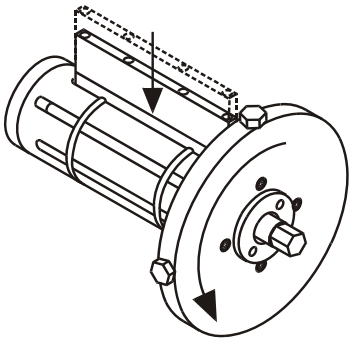
1. Unscrew two socket head cap screws and remove the tool head from the turning bar.
2. Hook the bar extension puller rod onto the standard bar’s puller rod.
3. Mount the tool head onto the bar extension with two extra-long socket-head cap screws. Reassemble the tool holder and cover plate to the housing.

ID mounting collet

The ID mounting collet assembly allows the PL3000 Portable Lathe to be mounted inside work piece diameters from 4” to 10-3/4” (102 to 273 mm). The work piece shaft must be at least 9” (228.6 mm) deep to secure the mounting collet.



	WARNING
	To avoid serious personal injury from moving machinery, turn off and disconnect power before setting up the machine.

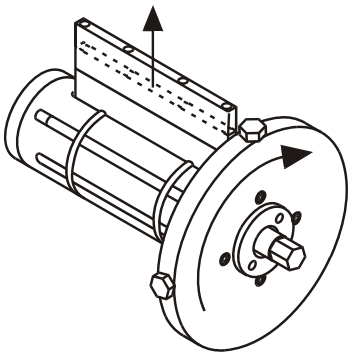


Turning counterclockwise releases the jaws

Do the following to set up the assembly:

1. Clean the work ID with solvent to remove grease, oil, and dirt.
2. Insert the six jaw fingers into the collet slots, and wrap the two retaining springs around them. There are two slots on the fingers for the springs to rest in.
3. Select a set of six jaws that will fit inside the workpiece diameter and attach them to the jaw fingers with the 24 socket head cap screws provided.
4. Turn the screw shaft hex counterclockwise until the jaws are small enough to fit inside the bore of the work piece.
5. Insert the ID mounting collet assembly inside the bore of the workpiece.
6. Turn the shaft screw hex clockwise until it is tight inside the bore.

	NOTE
	The ID mounting collet is self-centering.



Clockwise extends the jaws to grip the bore

7. Mount the tapered mounting flange to the collet assembly then mount the lathe to the assembly. See Section 3.1.2 "Mounting the machine" for instructions.
8. Operation is the same as for the standard machine.

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OPERATION

	WARNING
	To protect yourself from flying chips and loud noise, wear eye and ear protection while operating the machine.

Pre-start checks

	WARNING
	To prevent serious bodily injury from moving machinery, turn off and disconnect the machine before performing pre-start checks.

General lathe pre-start checks

1. Check that tool bits are properly sharpened.
2. Check that all moving parts move freely.

Electric lathe pre-start checks

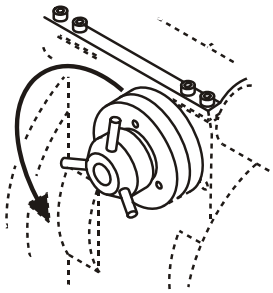
1. Inspect electrical parts for damage.
2. Be sure power is OFF before plugging unit in.
3. Plug the machine into a grounded outlet.

Pneumatic lathe pre-start checks

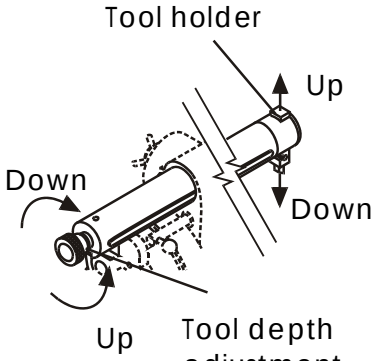
1. Fill the air lubricator with air oil. Use an air oil that has antioxidants and rust inhibitors such as Marvel Air Tool Oil. The lubricator should be set to deliver oil at a rate of 2-4 drops per minute.
2. Drain the air filter.
3. Push down the safety lockout slide (and the red emergency stop knob on CE machines) until the word CLOSED and the lockout can be seen from the bottom of the valve. Be sure the slide is pushed all the way.
4. Turn the needle valve clockwise all the way. No colored bands will be visible when the valve is completely closed.
5. Be sure the air lines are not obstructed or damaged and pressure is 90 psi (620 kPa).

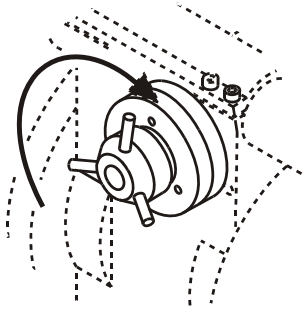
Operating

Do not loosen these screws or the machine will cut a taper



Turn locking hub counterclockwise to disengage auto feed





Tap the feed hub clockwise to engage auto feed

1. Check that the power is off.
2. Loosen the feed locking hub to disengage the power feed.

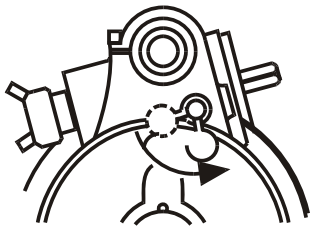
	NOTE
	Because the power feed moves the cutter away from the mounting flange, start the cut with the bar fully retracted.

3. Using the crank handle, retract the turning bar until the tool bit is over the end of the shaft.
4. Loosen the four flat head socket cap screws in the plate cover at the end of the turning bar.
5. Turn the depth adjustment knob clockwise until the cutter just touches the shaft.
6. Retract the turning bar until the cutter just clears the end of the shaft.
7. Turn the depth adjustment knob to set the tool bit. See "Tool bit preparation" for proper tooling geometry information. If a lot of material is to be removed, see "Heavy Cutting".
8. Tighten the cover plate to lock the tool holder in position.
9. Using a soft rubber mallet, lightly tap the feed locking hub to engage the automatic feed.
10. Set the axial feed lever to desired feed rate. See "Axial feed" for more information.
11. Remove the crank handle from the machine.
12. Start the machine. See "Setting the rotational speed" for more information.
13. After the desired length of shaft has been turned, slowly stop machine rotation.

14. Loosen the feed locking hub to disengage the power feed.

15. Using the crank handle, retract the cutter.

16. Repeat Steps until the shaft is turned to the required size and surface finish.



Counterclockwise increases feed rate

	NOTE
	For finer surface finish, set the tool bit for a shallower cut and select a slower rate of feed.

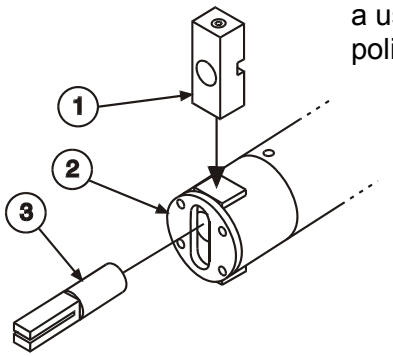
Heavy cutting

To make deep cuts, it is recommend that you make several passes, each about 1/8" (3.1 mm) deep. After making one 1/8" (3.1 mm) cut:

1. Turn off and disconnect the machine.
2. Loosen the feed locking hub to disengage the power feed.
3. Using the crank handle, retract the turning bar until the cutter is just past the shaft.
4. Loosen the cover plate.
5. Turn the depth adjustment knob clockwise to lower the tool bit an additional 1/8" (3.1 mm).
6. Tighten the cover plate.
7. Using a soft rubber mallet, lightly tap the feed locking hub to engage the automatic feed.
8. Set the axial feed lever to desired feed rate. See section 3.4 "Axial feed" for more information.
9. Remove the crank handle from the machine.
10. Reconnect and start the machine. See section 3.5 "Setting the rotational speed" for more information.
11. Slowly stop machine rotation.
12. Turn off and disconnect the machine.
13. Loosen the feed locking hub to disengage the power feed.

14. Using the crank handle, retract the cutter.
15. Repeat Steps #1 through #14 until less than 1/8" (3.1 mm) of metal needs to be removed.
16. Make a finish cut at the desired depth and at a slower feed rate. An abrasive belt may be used to smooth the shaft. See section 3.11 "Shaft polishing" for more information.

Shaft polishing

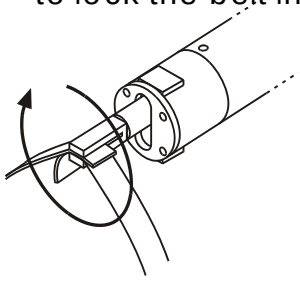


With the abrasive belt holder (included with the machine) and a user supplied abrasive belt, the PL3000 Portable Lathe can polish shafts.

	WARNING
	To avoid serious personal injury from moving machinery, turn off and disconnect the power before setting up the abrasive belt.

1. Attach an abrasive belt holder to the end of the turning bar
2. Remove the cover plate (#2) from the depth adjustment housing.
3. Remove the tool holder.
4. Insert the dial indicator tool holder (#1) into the slot in the depth adjustment housing. Be sure the rocker fits into the slot in the holder.
5. Replace the cover plate (#2).

Rotate the belt holder to lock the belt in place



Slip both ends of the emery cloth through the slit in the belt holder then rotate the belt holder one half turn.

6. Slide the abrasive belt holder (#3) through the slot in the cover plate (#2) and into the holder (#1).
7. Wrap an abrasive belt around the shaft and through the slot into the holder (#3).
8. Twist the belt holder (#3) one half turn to lock the belt ends in place, then tighten the set screw in the top of the dial indicator holder (#1).
9. Turn the depth adjustment knob at the other end of the turning bar counterclockwise (raise the tool holder). This will tighten the abrasive belt holder against the work piece.

Spot polishing

1. Position the belt on the shaft.
2. Using a soft rubber mallet, lightly tap the feed locking hub counterclockwise to disengage the automatic feed.

3. Start the machine.
4. Run the machine until the shaft has the required surface finish.

Polishing the entire shaft

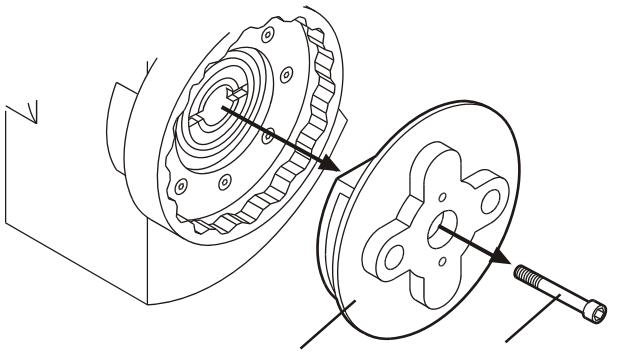
1. Using a soft rubber mallet, lightly tap the feed locking hub counterclockwise to disengage the automatic feed.
2. Retract the bar until the belt is at the end of the shaft.
3. Using a soft rubber mallet, lightly tap the feed locking hub clockwise to engage the automatic feed.
4. Start the machine. The belt will feed automatically along the shaft.

Disassembly

	WARNING
	Prevent serious bodily injury from moving machinery, turn off and disconnect power before dismantling the machine.

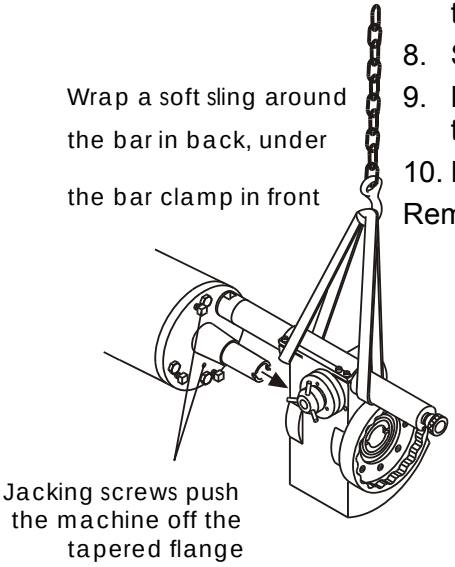
Do the following to disassemble the PL3000 Portable Lathe:

1. Turn off and disconnect the power supply.
2. Loosen the cover plate.
3. Turn the depth adjustment knob counterclockwise to raise the cutter.
4. Take off the cover plate.
5. Remove the tool holder from the depth adjustment rocker.
6. Take the motor from the planetary housing.



7. Remove the planetary housing assembly by unscrewing the inner socket head cap screw.
8. Secure the machine with a hoist.
9. Back out the hex screws on the taper mounting flange until they push the main body loose.
10. Remove the machine from the mounting flange.

Remove the mounting flange from the shaft.



MAINTENANCE

Recommended lubricants

Lubricant	Brand	Where used
Gear grease	UNOBA EP#2	Planetary housing gears
Light oil	WD-40	Unpainted surfaces
Cutting oil	UNOCAL KOOLKUT	Tool bits, work piece
Lubricating oil	Marvel Air Tool Oil	Lubricator oil cup (pneumatic model)

Main body

Under normal conditions the main body is maintenance-free.

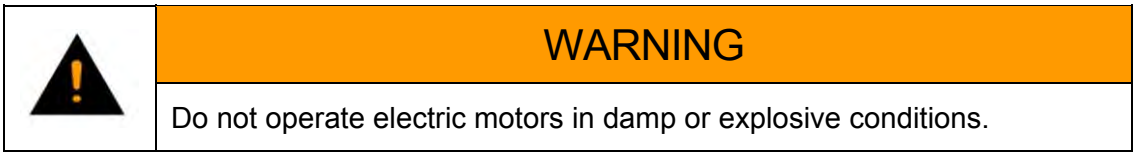
Mounting flange

Clean the flange before use. Spray WD-40 on all unpainted surfaces.

Turning bar assembly

Lightly oil the turning bar every time you use the lathe.

Electric motor



Repack the gear case every 6 months or 500 hours with one ounce of gear grease. Remove the gear case, being careful not to dislodge the armature. DO NOT DISASSEMBLE THE GEARS.

Periodically inspect the brushes:

- Unscrew the brush retainer caps on the motor housing
- Pull out the retainer springs and brushes.

Replace brushes when they have worn down to 1/4" in depth (6 mm). Always replace the brushes in sets.

Air motor and pneumatic conditioning unit

- Route incoming air through the lubricator and air filter.
- Use nonrestrictive air lines and fittings.
- Check periodically that air pressure is 90 psi (620 kPa).
- Adjust air motor torque with the needle valve.

NOTE

DO NOT control motor speed by changing air pressure from 90 psi (620 kPa).

- Fill the air lubricator oil cup before each use.
- Set the lubricator to deliver oil at a rate of 2-4 drops per minute.
- Drain the air filter before and after using the machine.

CAUTION

Avoid machine damage. Never operate the machine without the air filter and lubricator

Planetary housing

As necessary, repack the gears with gear grease. Spray exposed housing surfaces with WD-40.

ID mounting collet

After operation, spray exposed surfaces with WD-40.

STORAGE

Proper storage of the PL3000 Portable Lathe Portable Lathe will prevent undue deterioration or damage.

Before storing the machine, clean it with solvent to remove grease, metal chips, and moisture.

Drain the air filter on pneumatic machines. Spray the machine with a moisture-protective material (WD-40 for short storage, Cosmoline for long storage) to prevent rusting. Place the machine in the box provided with desiccant bags or vapor wrap to absorb moisture.

To replace a box, order part number 16783 by calling CLIMAX.

Spare Parts

Listed below are items most frequently replaced due to wear, loss, or damage. You are advised to maintain an inventory of these critical parts by calling CLIMAX.

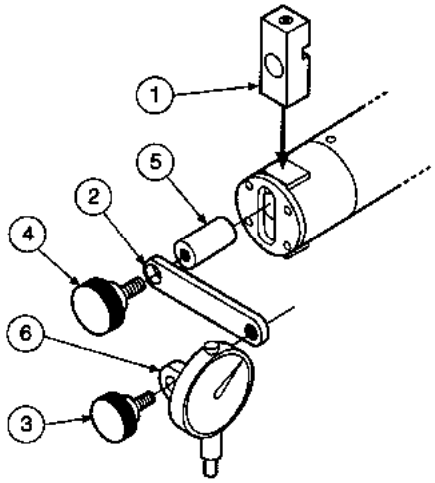
PART NO.	DESCRIPTION	QTY	WHERE USED
10637	Dial indicator	1	Tool kit
10600	5/32" hex wrench	1	
10200	1/8" hex wrench	1	
10199	1/4" hex wrench	1	
16807	5/16" hex x 6" T-handle wrench	1	
10549	3/8" Sq. HSS tool bit	1	
10632	Crank handle	1	
10547	Screw 5/16-18 X 1/4" SSS	1	Turning bar assembly
10559	Cover plate	1	
10560	Screw 10-32 X 3/8" FHSCS	6	
11053	Screw 3/8-16 X 2-3/4" SHCS	1	Main body assembly
10586	Holder belt abrasive	1	
11775	Hub assembly feed locking	1	
11139	Air motor	1	Air motor assembly
10431	Screw 5/16-18 X 1" SHCS	2	
18085	120V Electric motor	1	Electric motor assembly
18838	230V electric motor	1	
10640	Blank mounting flange assembly	1	
10643	Holder tool extension 4"-6"	1	
10644	Holder tool extension 6"-8"	1	
18368	Holder tool extension 8"-11"	1	
31041	*Operating manual	1	

*This Manual is available electronically in Adobe Acrobat format.

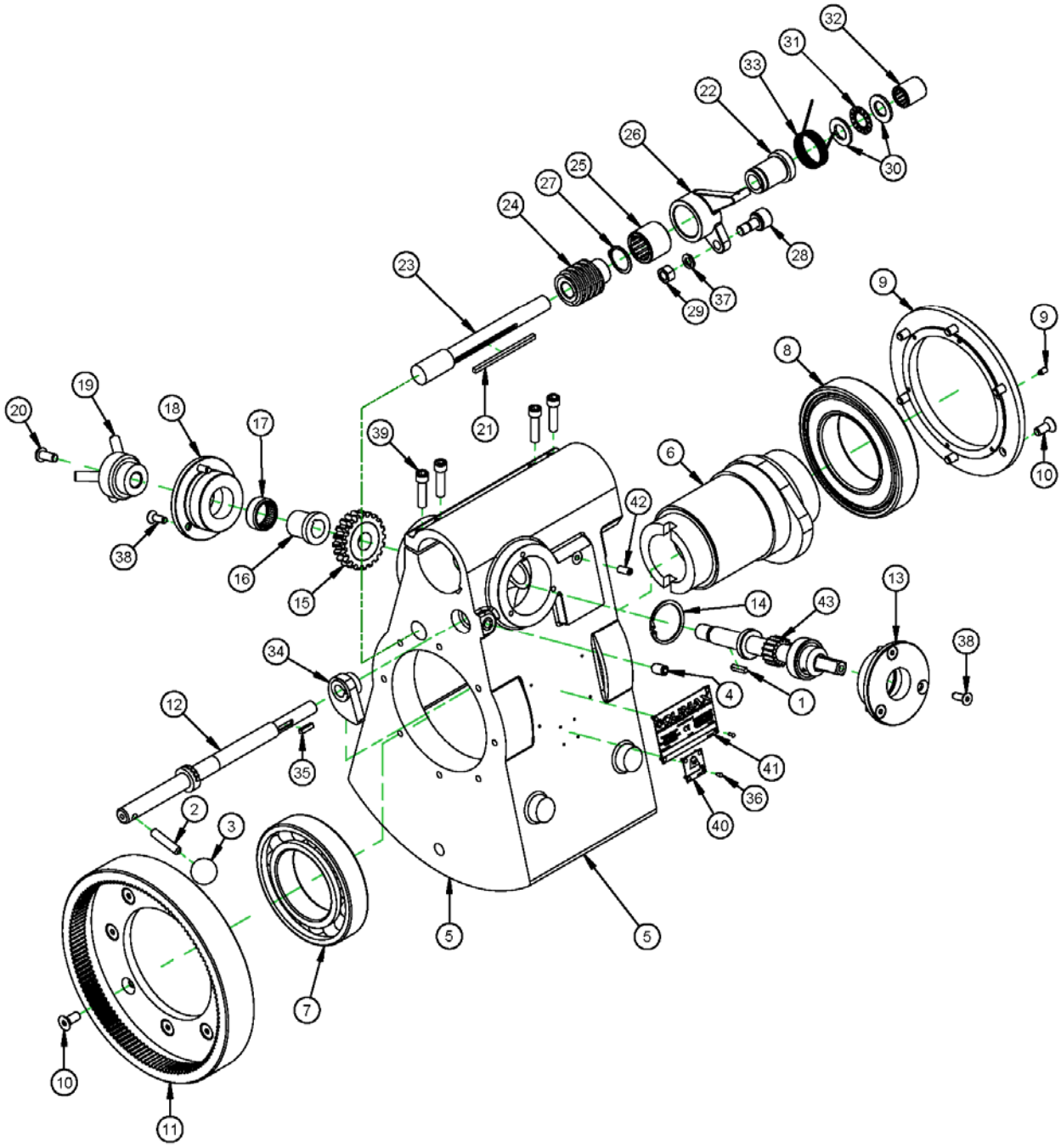
EXPLODED VIEWS AND PARTS LISTS

The following diagrams and parts lists are for your reference purposes only.

The machine Limited Warranty is void if the machine has been tampered with by anyone who has not been authorized in writing by CLIMAX.



TOOL KIT (P/N 13870)		
BALLOON No	**PART**	**DESCRIPTION**
1	10585	HOLDER TOOL DIAL INDICATOR
2	10584	HOLDER DIAL INDICATOR
3	10583	KNOB PLASTIC KNURLED
4	10582	KNOB PLASTIC KNURLED
5	10581	STUD DIAL INDICATOR
6	10580	INDICATOR DIAL
7	10546	SCREW 5/16-18 X 5/16 SSSNT
NOT SHOWN	10549	BIT TOOL 3/8 SQ X 3 HSS BLANK
NOT SHOWN	10632	CRANK JS
NOT SHOWN	10586	HOLDER ABRASIVE BELT
NOT SHOWN	16479	WRENCH END 9/16 COMBINATION LONG
NOT SHOWN	16807	WRENCH HEX 5/16 X 6 T-HANDLE
NOT SHOWN	32207	BIT TOOL HSS 3/8 X 3.0 NEG HEEL TC
NOT SHOWN	32208	BIT TOOL HSS 3/8 X 3.0 NEG HEEL SC
NOT SHOWN	33999	SET HEX WRENCH .050 - 3/8 BONDHUS BALL END
NOT SHOWN	55547	LABEL HAZARDOUS ROTATING MACHINERY
NOT SHOWN	59035	LABEL WARNING - WEAR EYE PROTECTION
NOT SHOWN	59037	LABEL WARNING - WEAR EAR PROTECTION



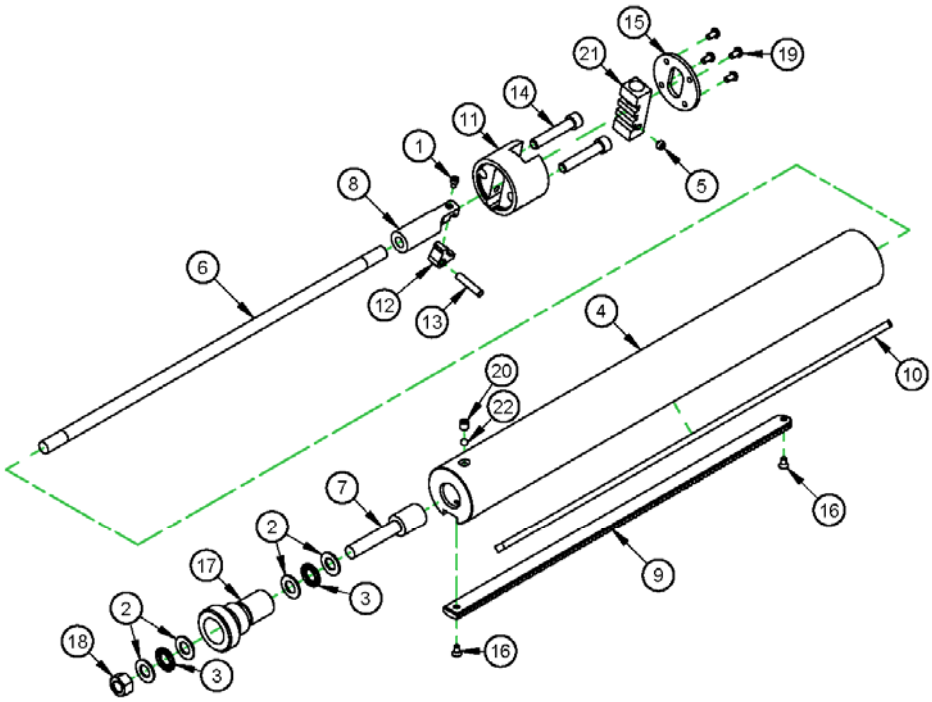
13871 - BODY MAIN ASSY PL3000 - REV A

FOR REFERENCE ONLY

PARTS LIST			
ITEM	QTY	P/N:	DESCRIPTION
1	1	10428	KEY 5/32 SQ X .75 SQ BOTH ENDS
2	1	10439	STUD 5/16-24 X 5/16-18 X 1-1/2
3	1	10440	BALL 1 DIA BLACK PLASTIC
4	1	10441	SPRING PLUNGER 3/8-16 HEAVY FORCE
5	1	10511	BODY MAIN PL3000
6	1	10512	HUB MOUNTING JS
7	1	10513	BRG BALL 2.9528 X 5.1181 X .9843
8	1	10514	BRG BALL 3.1496 X 5.5118 X 1.0236
9	1	10515	RING RETAINING BEARING PL3000
10	14	10516	SCREW 5/16-18 X 3/4 FHSCS
11	1	10517	GEAR RING INTERNAL JS & 618
12	1	10518	SHAFT FEED
13	1	10519	HOUSING BEARING
14	1	10521	RING SNAP 1.575 ID (40MM) .062 TH
15	1	10522	GEAR WORM GEAR JS
16	1	10523	CLAMP GEAR WORM JS
17	1	10524	BRG NEEDLE 1 ID X 1-1/4 OD X 1/2 OPEN
18	1	10525	HOUSING BEARING
19	1	10526	HUB LOCKING FEED JS
20	1	10527	SCREW 5/16-24 X 3/4 BHSCS
21	1	10528	KEY 5/32 SQ X 3.25 SQ BOTH ENDS
22	1	10529	BUSHING PL3000
23	1	10530	SHAFT FEED JS (KB)
24	1	10531	GEAR WORM
25	1	10532	BRG ROLLER CLUTCH 1 ID X 1-5/16 OD X 1.063
26	1	10533	RATCHET CAM FOLLOWER
27	1	10534	RING SNAP 1 OD
28	1	10535	BRG CAM FOLLOWER .750 OD X .500 WIDE W/ STUD
29	1	10536	NUT 3/8-24 STDN
30	2	10537	WASHER THRUST .625 ID X 1.125 OD X .092
31	1	10538	BRG THRUST .625 ID X 1.125 OD X .0781
32	1	10539	BRG ROLLER CLUTCH 5/8 ID X 7/8 OD X 1.000
33	1	10540	SPRING TORSION 1.34 ID X 0.615 WIRE 180 DEG
34	1	10541	CAM FEED MODEL PL3000
35	1	10542	KEY 5/32 SQ X .62 SQ BOTH ENDS
36	8	10588	SCREW DRIVE #2 x 1/4 HOLE SIZE .089
37	1	10595	WASHER 3/8 LOCW
38	6	10843	SCREW 1/4-20 X 3/4FHSCS
39	4	11735	SCREW 5/16-18 X 1-1/4 SHCS
40	1	29152	PLATE MASS CE
41	1	29154	PLATE SERIAL YEAR MODEL CE 2.0 X 3.0
42	1	43247	SCREW 1/4-20 X 5/8 SSSFP
43	1	74305	ASSY PINION FEED PL3000

- - REV A

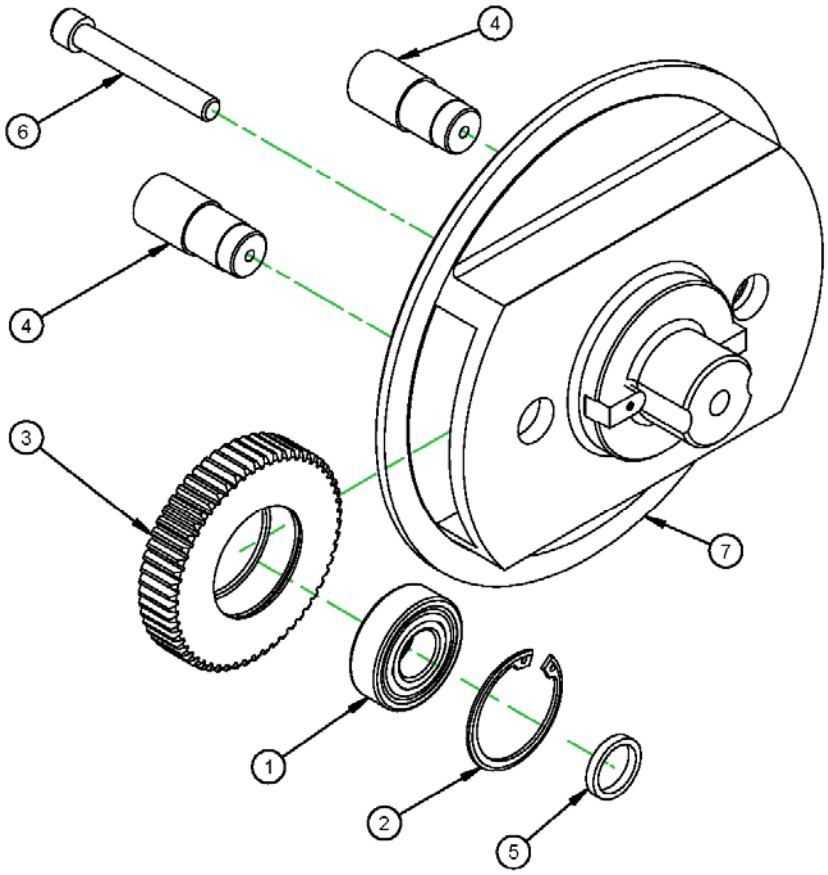
FOR REFERENCE ONLY



PARTS LIST			
ITEM	QTY	P/N:	DESCRIPTION
1	1	10226	SCREW 8-32 X 1/4 SHCS
2	4	10436	WASHER THRUST .500 ID X .937 OD X .060
3	2	10437	BRG THRUST .500 ID X .937 OD X .0781
4	1	10545	BAR TURNING PL3000
5	1	10547	SCREW 5/16-18 X 1/4 SSSCP
6	1	10548	ROD PULLER EXTENSION
7	1	10550	ROD PULLER #2
8	1	10551	ROD PULLER #3 PL3000
9	1	10552	RACK GEAR 18 IN
10	1	10553	KEY 1/4 X 3/8 X 20.85 IN. RADIUS BOTH ENDS
11	1	10554	HOUSING DEPTH ADJUSTING PL3000
12	1	10555	ROCKER DEPTH ADJUSTING
13	1	10556	PIN DOWEL 1/4 DIA X 1-1/4
14	2	10557	SCREW 3/8-16 X 2 SHCS
15	1	10559	PLATE COVER
16	2	10560	SCREW 10-32 X 3/8 FHSCS
17	1	10561	KNOB ADJUSTING DEPTH PL3000
18	1	10562	NUT 1/2-20 STDN
19	4	11678	SCREW 10-32 X 3/8 BHSCS
20	1	12324	SCREW 5/16-18 X 3/8 SSSCPPL
21	1	18368	HOLDER TOOL EXTENSION 8 TO 11 IN
22	1	19225	BALL NYLON 1/4 DIA

10635 - BAR TURNING ASSY PL3000 - REV A

FOR REFERENCE ONLY

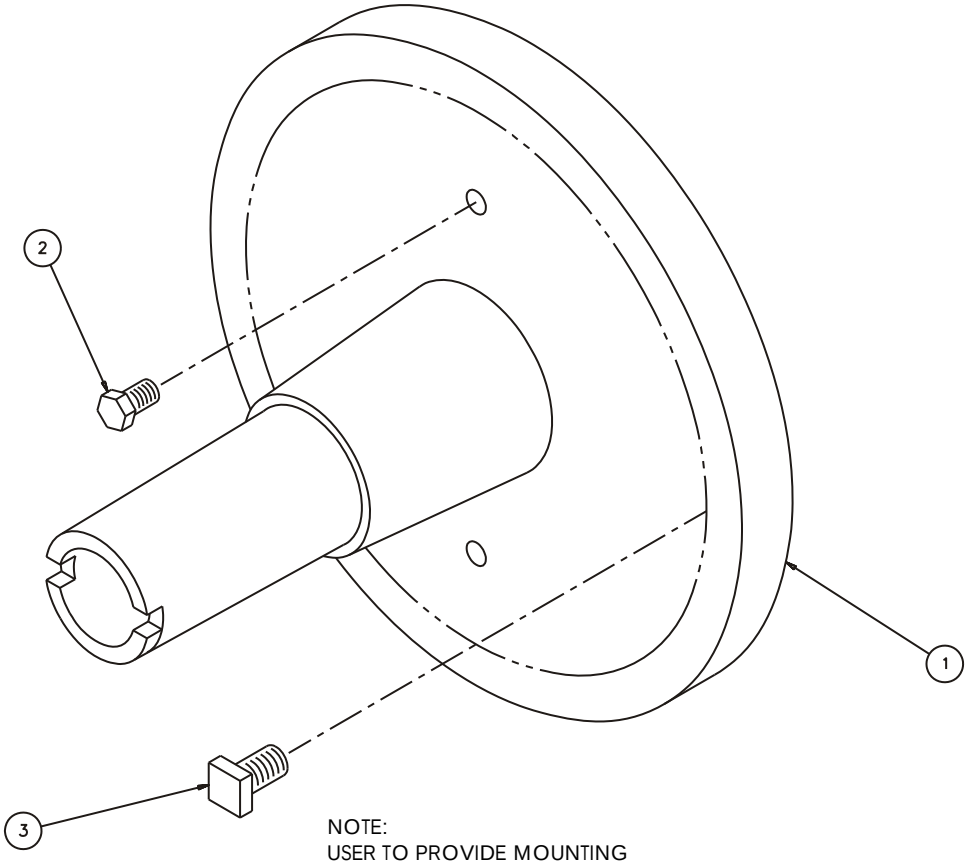


AVAILABLE CONFIGURATIONS			
P/N	DESCRIPTION	ITEM 7 P/N	ITEM 7 DESCRIPTION
19246	HOUSING PLANETARY ASSY AIR PL3000	10647	HOUSING PLANETARY ASSY AIR PL3000
19247	HOUSING PLANETARY ASSY ELEC PL3000	11336	HOUSING PLANETARY ASSY ELEC PL3000

PARTS LIST			
ITEM	QTY	P/N:	DESCRIPTION
1	2	10150	BRG BALL .7874 X 1.8504 X .5512 2/SHLDS
2	2	10152	RING SNAP 1.850 ID (47MM) BEVELED .062 TH
3	2	10564	GEAR PLANETARY DRIVE PL3000
4	2	10565	SHAFT PLANETARY ASSY PL3000
5	2	10566	SPACER PLANETARY ASSY PL3000
6	1	11053	SCREW 3/8-16 X 2-3/4 SHCS
7	1	CHART	CHART HOUSING PLANETARY PL3000

15378 - CHART PLANETARY ASSY ELEC/AIR PL3000 - REV B

FOR REFERENCE ONLY

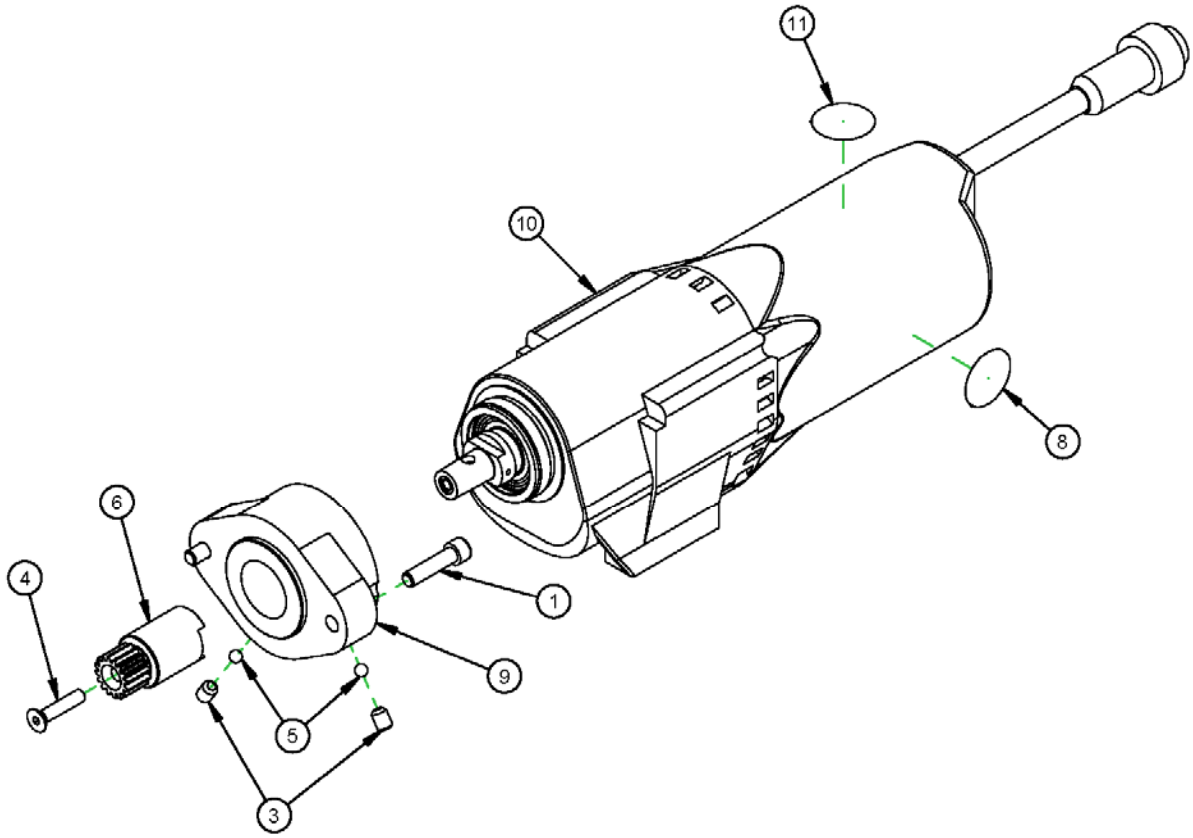


NOTE:
USER TO PROVIDE MOUNTING
HOLES TO MATCH WORKPIECE

MOUNTING FLANGE ASSEMBLY
(10640 - BLANK MOUNTING FLANGE)
(10642 - CUSTOM MOUNTING FLANGE)

10640 FLANGE MTG BLANK ASSY		
BALLOON	**PART**	**DESCRIPTION**
1	10578	FLANGE MTG TAPERED PL3000
2	10577	SCREW 3/8-16 X 3/4 HHCS
3	10579	SCREW 1/2-13 X 1 SQHSS
3	10599	SCREW 1/2-13 X 1-1/4 SQHSS

10642 FLANGE MTG CUSTOM ASSY		
BALLOON No	**PART**	**DESCRIPTION**
1	10578	FLANGE MTG TAPERED PL3000
2	10577	SCREW 3/8-16 X 3/4 HHCS
3	10579	SCREW 1/2-13 X 1 SQHSS
3	10599	SCREW 1/2-13 X 1-1/4 SQHSS

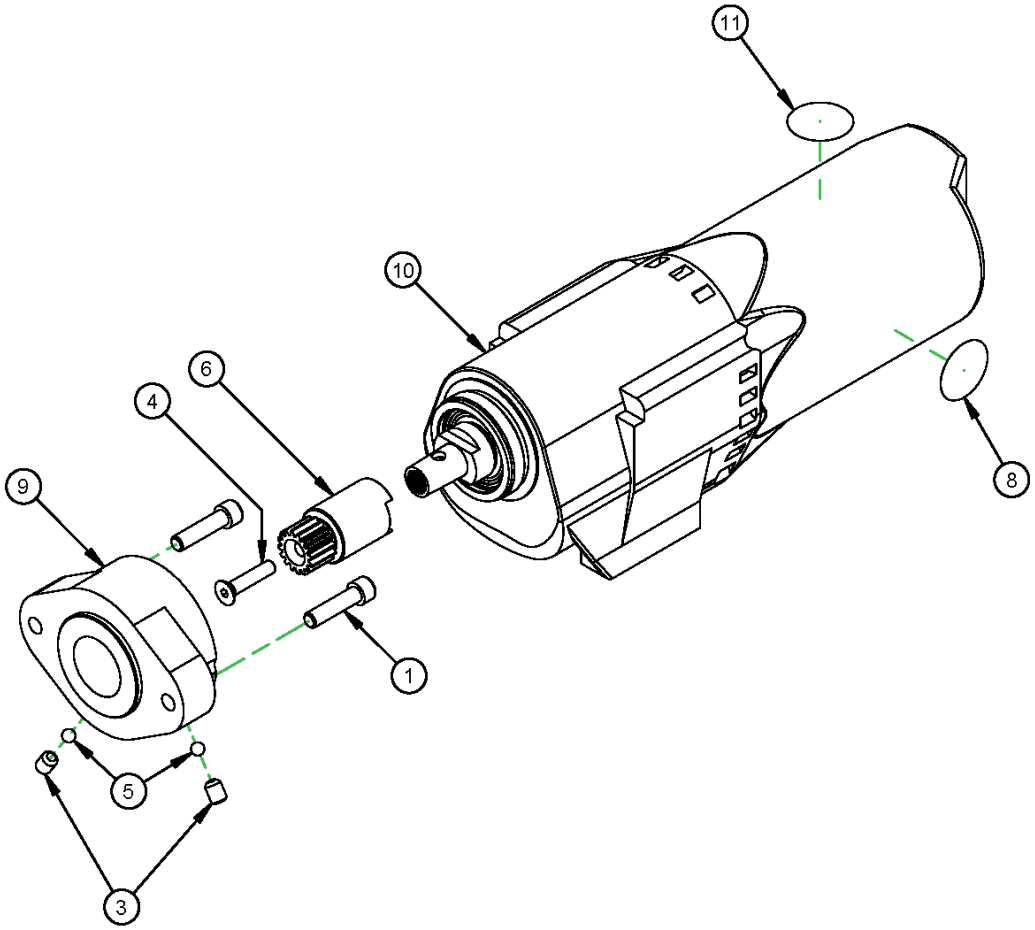


ITEM	QTY	PART No.	DESCRIPTION
11	1	78824	LABEL WARNING - DO NOT EXPOSE TO WATER
10	1	76137	MOTOR MODIFIED SHAFT MILWAUKIE 120V 300/600 RPM
9	1	61056	FLANGE MOTOR MTG ELECTRIC PL3000
8	1	59044	LABEL WARNING - CONSULT OPERATOR'S MANUAL
7	1	37517	(NOT SHOWN) CONTROLLER 120V BB5000 NON-CE
6	1	33763	GEAR DRIVE
5	2	26506	BALL NYLON 5/16 DIA
4	1	11776	SCREW 5/16-18-UNC X 1.5 FHSCS
3	2	11722	SCREW 3/8-16 X 1/2 SSSCP
2	1	10601	(NOT SHOWN) WRENCH HEX 5/16 SHORT ARM
1	2	10474	SCREW 3/8-16 X 1-1/2 SHCS

PARTS LIST

61385 - POWER UNIT ASSY 120V PL3000 - REV A

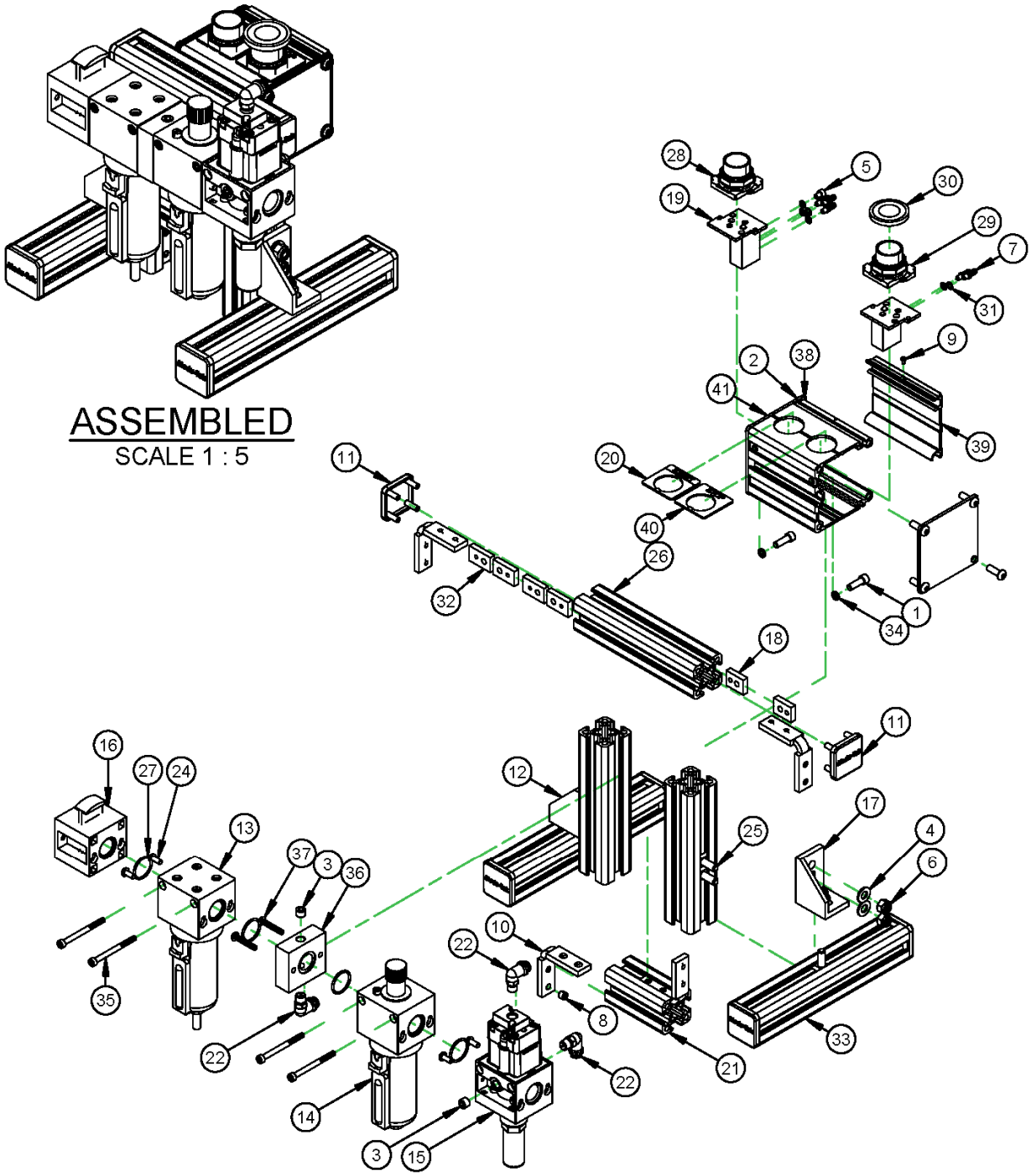
FOR REFERENCE ONLY



PARTS LIST			
ITEM	QTY	P/N:	DESCRIPTION
1	2	10474	SCREW 3/8-16 X 1-1/2 SHCS
2	1	10601	(NOT SHOWN) WRENCH HEX 5/16 SHORT ARM
3	2	11722	SCREW 3/8-16 X 1/2 SSSCP
4	1	11776	SCREW 5/16-18-UNC X 1.5 FHSCS
5	2	26506	BALL NYLON 5/16 DIA
6	1	33763	GEAR DRIVE
7	1	37518	(NOT SHOWN) CONTROLLER 230V DOMESTIC 60HZ BB5000
8	1	59044	LABEL WARNING - CONSULT OPERATOR'S MANUAL
9	1	61056	FLANGE MOTOR MTG ELECTRIC PL3000
10	1	76134	MOTOR MODIFIED SHAFT MILWAUKIE 230V 300/600 RPM
11	1	78824	LABEL WARNING - DO NOT EXPOSE TO WATER

61055 - POWER UNIT ASSY 230V PL3000 - REV B

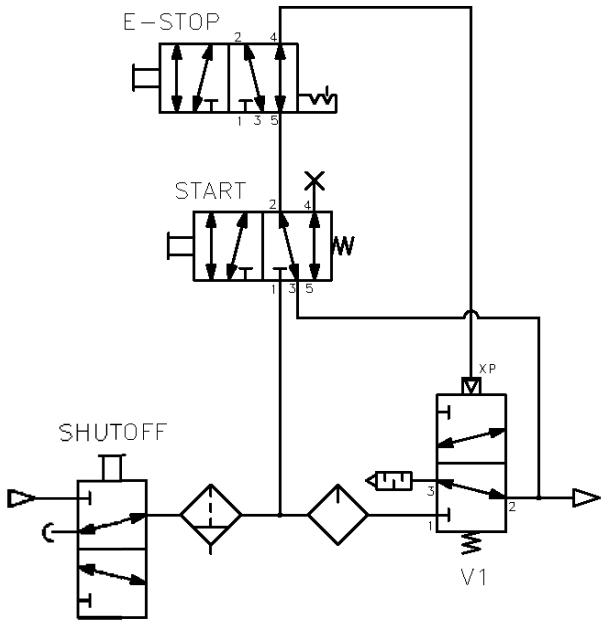
FOR REFERENCE ONLY



PNEUMATIC CONDITIONING UNIT 1/2 IN LOW PRES. DROPOUT

59246

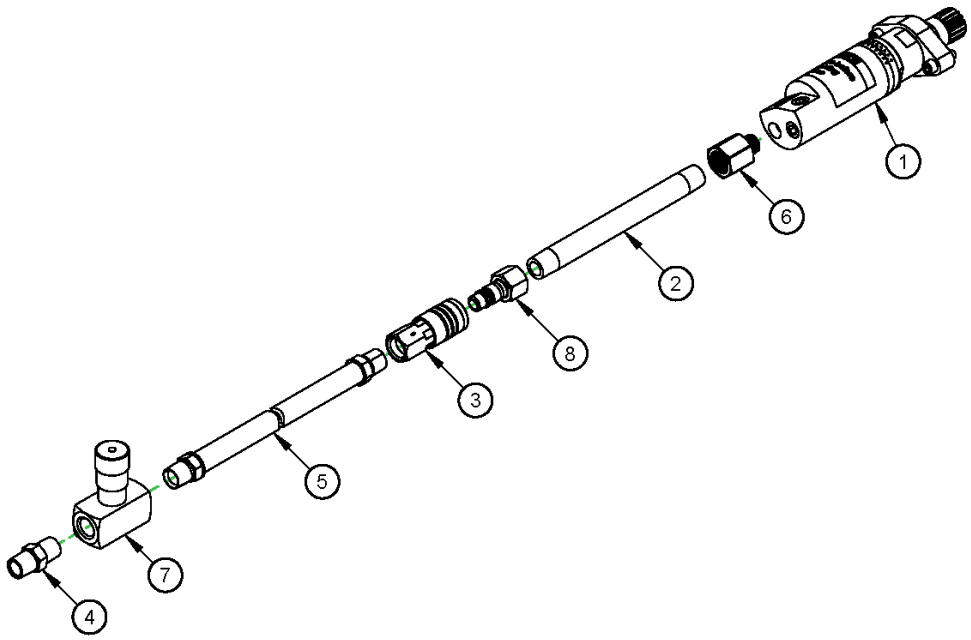
PARTS LIST			
ITEM	QTY	P/N:	DESCRIPTION
1	2	10160	SCREW 1/4-20 X 3/4 SHCS
2	8	11365	SCREW 1/4-20 X 3/4 BHSCS
3	2	12616	FTG PLUG 1/8 NPTM SOCKET
4	6	13489	WASHER 5/16 FLTW SAE
5	1	14726	SCREW 10-32 X 1/4 SHCS
6	6	19729	NUT 5/16-18 NYLON INSERT LOCKNUT
7	5	22235	FTG BARB #10-32 X 1/8 HOSE
8	16	27895	SCREW 5/16-18 X 5/16 SSSFP
9	1	35857	SCREW 4-40 X 1/4 FHSCS
10	4	46761	BRACKET 90DEG JOINER MODU-TEK
11	6	46764	ENDCAP 1 X 1 FOR 1.63SQ MODU-TEK EXTRUSION
12	1	46765	BRACKET 1X2 SLOT HALF WEB LEFT MODU-TEK
13	1	46767	FILTER PARTICULATE 1/2NPTF METAL BOWL W/GLASS
14	1	46768	LUBRICATOR AIR 1/2 NPTF 3.8oz BOWL W/SIGHT
15	1	46769	VALVE EXHAUST QUICK PILOT 1/2NPTF MUFFLER
16	1	46777	VALVE SHUT OFF VS22 SERIES
17	1	46783	BRACKET 1X2 SLOT HALF WEB RIGHT MODU-TEK
18	2	46784	NUT SQUARE 5/16-18 AND 1/4-20
19	2	46785	VALVE PUSHBUTTON 5 PORT PNEUMATIC
20	1	46797	LEGEND PLATE START 10250 SERIES
21	1	46802	1.63 X 1.63 X 3.375L MODU-TEK EXTRUSION
22	3	48648	FTG ELBOW 1/8 NPTM X 1/4 TUBE PRESTOLOK
23	60	48650	TUBING 1/4 OD POLYURETHANE (INCH) (NOT SHOWN)
24	4	53617	SCREW M5 X 0.8 X 12MM BHCS BLACK FINISH
25	6	59436	SCREW 5/16-18 X 3/4 T-BOLT
26	3	59437	1.63 X 1.63 X 7.00L MODU-TEK EXTRUSION
27	4	59442	O-RING 2mm X 23mm ID X 25mm OD
28	1	59458	PUSHBUTTON GREEN FLUSH
29	1	59459	PUSH BUTTON PUSH PULL MAINTAINED (M-M)
30	1	59462	PUSH BUTTON OPERATOR RED 1-5/8
31	6	59480	WASHER #10 FLTW PLASTIC .32 OD .025 THICK
32	4	59705	NUT PLATE M5 X .08 AND 5/16-32 .75 X 1.25 X .25
33	2	59739	EXTRUSION 1.63 X 1.63 X 8.75 MODU-TEK
34	2	59745	WASHER 1/4 LOCW .37 OD .07 THICK
35	4	59754	SCREW M5 X 0.8 X 40MM SHCS
36	1	59818	PLATE DIVERTER NUMATICS 22 SERIES
37	2	59819	SCREW M5 X 0.8 X 30MM BHSCS
38	1	59820	ENCLOSURE PNEUMATIC CONTROL VALVE 3.38 X 3.435 X 3.9
39	1	59821	COVER PNEUMATIC CONTROL VALVE ENCLOSURE 3.38 X 3.435 X 3.9
40	1	59825	LEGEND PLATE STOP 10250SERIES YELLOW BACKGROUND
41	2	68644	PLATE COVER EXTRUDED WIREWAY



NOTES:

1. SIMILAR TO 59248

EXCEPT AS NOTED DIMENSIONS ARE IN INCHES PER ASME Y14.5M-1994 .X ± .030 .XX ± .010 .XXX ± .005 ANGLES ± .5°	ADDITIONAL INFORMATION AND SPECIFICATIONS REQUIRED TO MANUFACTURE THIS PART ARE PROVIDED IN CLIMAX SPEC. P100 CONFIDENTIAL PROPERTY OF CLIMAX PORTABLE MACHINE TOOLS, INC.	CLIMAX®	CLIMAX Portable Machine Tools, Inc.
MATERIAL:	DRAWN BY: JWD DATE: 01/25/10 CHECKED BY: DAB DATE: 02/05/10 MFG SERVICES: N/A DATE:	PNEUMATIC CONDITIONING UNIT 1/2 IN LOW PRES. DROPOUT	
COSMETIC CLASS EXCEPT AS NOTED A	APPROVED BY: JWD DATE: 02/05/10	SIZE A / CAGE CODE: 15509 / DWG NO: 59246 / REVISION A CAD/CAM STD 4-3D / SCALE: / SHEET 5 OF 7	

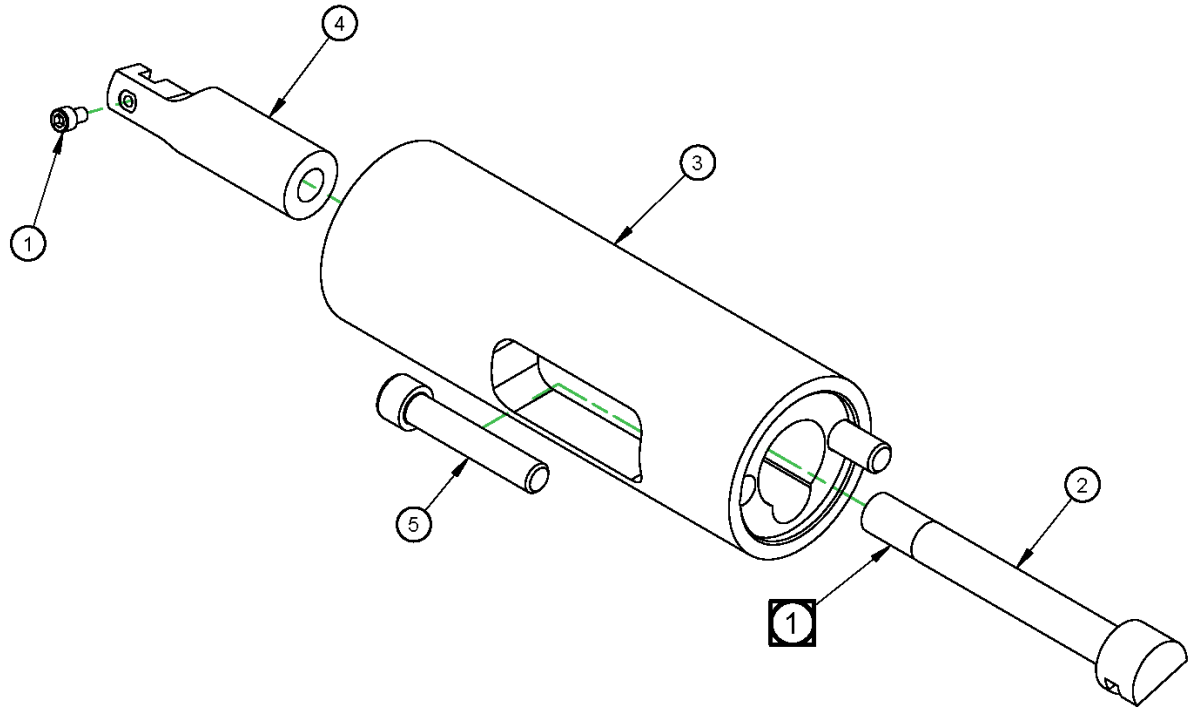


ITEM	QTY	PART No.	DESCRIPTION
9	1	34866	(NOT SHOWN)OIL AIRTOOL COMPLETE
8	1	24851	FTG QUICK COUPLER 1/2B 1/2 NPTF MALE AIR
7	1	22229	VALVE NEEDLE 1/2 IN.
6	1	15970	FTG REDUCING ADAPTER 1/2 NPTF X 3/8 NPTM
5	1	15915	HOSE ASSY 801 1/2 X 1/2 NPTMS X 1/2 NPTMS X 72
4	1	14704	FTG NIPPLE 1/2 NPTM X 1/2 NPTM
3	1	13208	FTG QD COUPLER 1/2B 1/2 NPTF PNEUMATIC
2	1	12873	FTG NIPPLE 1/2 NPT X 8
1	1	11139	MOTOR AIR ASSY STANLEY

PARTS LIST

59839 - MOTOR AIR ASSY STANLEY WITH HOSE - REV A

FOR REFERENCE ONLY

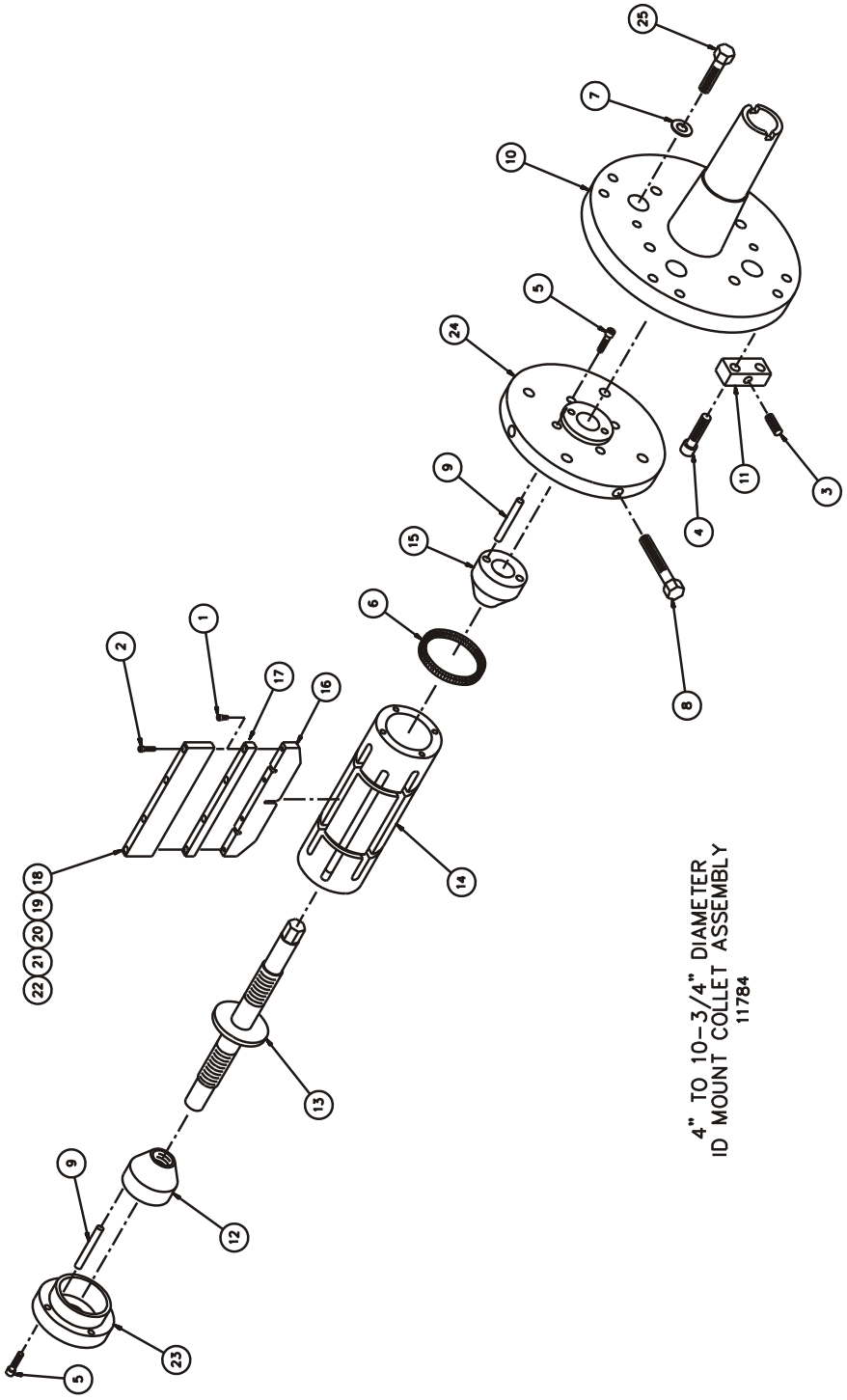


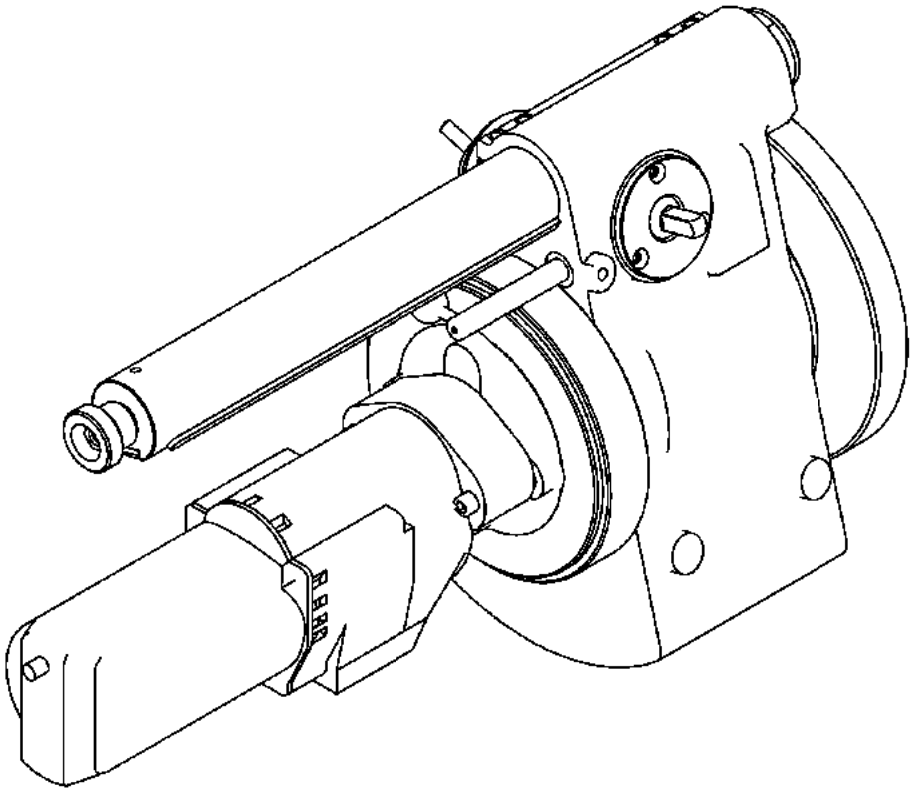
5	2	10557	SCREW 3/8-16 X 2 SHCS
4	1	10551	ROD PULLER #3 PL3000
3	1	10544	BAR TURNING EXTENSION PL3000
2	1	10543	ROD EXTENSION JS
1	1	10226	SCREW 8-32 X 1/4 SHCS
ITEM	QTY	PART No.	DESCRIPTION
PARTS LIST			

10636 - BAR TURNING EXTENSION 22 IN ASSY - REV A

FOR REFERENCE ONLY

11784 COLLET ID MOUNT JS 4 TO 10-3/4 ID		
BALLOON No	**PART**	**DESCRIPTION**
1	10877	SCREW 10-32 X 1/2 SHCS
2	10157	SCREW 10-32 X 5/8 SHCS
3	12969	SCREW 3/8-16 X 1 SSSHDPNI
4	13018	SCREW 7/16-14 X 1-1/4 SHCS
5	11777	SCREW 1/4-20 X 1-1/2 SHCS
6	11778	SPRING EXT .25 OD X .042 WIRE X 11 LONG
7	11779	WASHER 1/2 FLTW SAE
8	11780	SCREW 1/2-13 X 6 HHCS
9	11781	PIN DOWEL 5/16 DIA X 2-1/2
10	12971	FLANGE MTG ID COLLET
11	12970	BLOCK JACKING
12	11788	CONE RIGHTHAND THREAD
13	11789	SCREW SHAFT
14	11790	BODY COLLET
15	11791	CONE LEFTHAND THREAD
16	11793	FINDER ID COLLET
17	28539	JAW SET 1/2 IN 4.7 TO 5.95 ID PL3000
18	28540	JAW SET 1 IN 5.7 TO 6.95 ID PL3000
19	28541	JAW SET 1-1/2 IN 6.7 TO 7.95 ID PL3000
20	28542	JAW SET 2 IN 7.7 TO 8.95 ID PL3000
21	28543	JAW SET 2-1/2 IN 8.7 - 9.95 ID PL3000
22	28544	JAW SET 3 IN 9.7 TO 10.95 ID PL3000
23	11805	CAP END ASSY
24	11806	CAP ASSY FLANGE
25	11807	SCREW 1/2-13 X 1-3/4 HHCS


4" TO 10-3/4" DIAMETER
ID MOUNT COLLET ASSEMBLY
11784



PL3000 PORTABLE LATHE 230V MOTOR 15524

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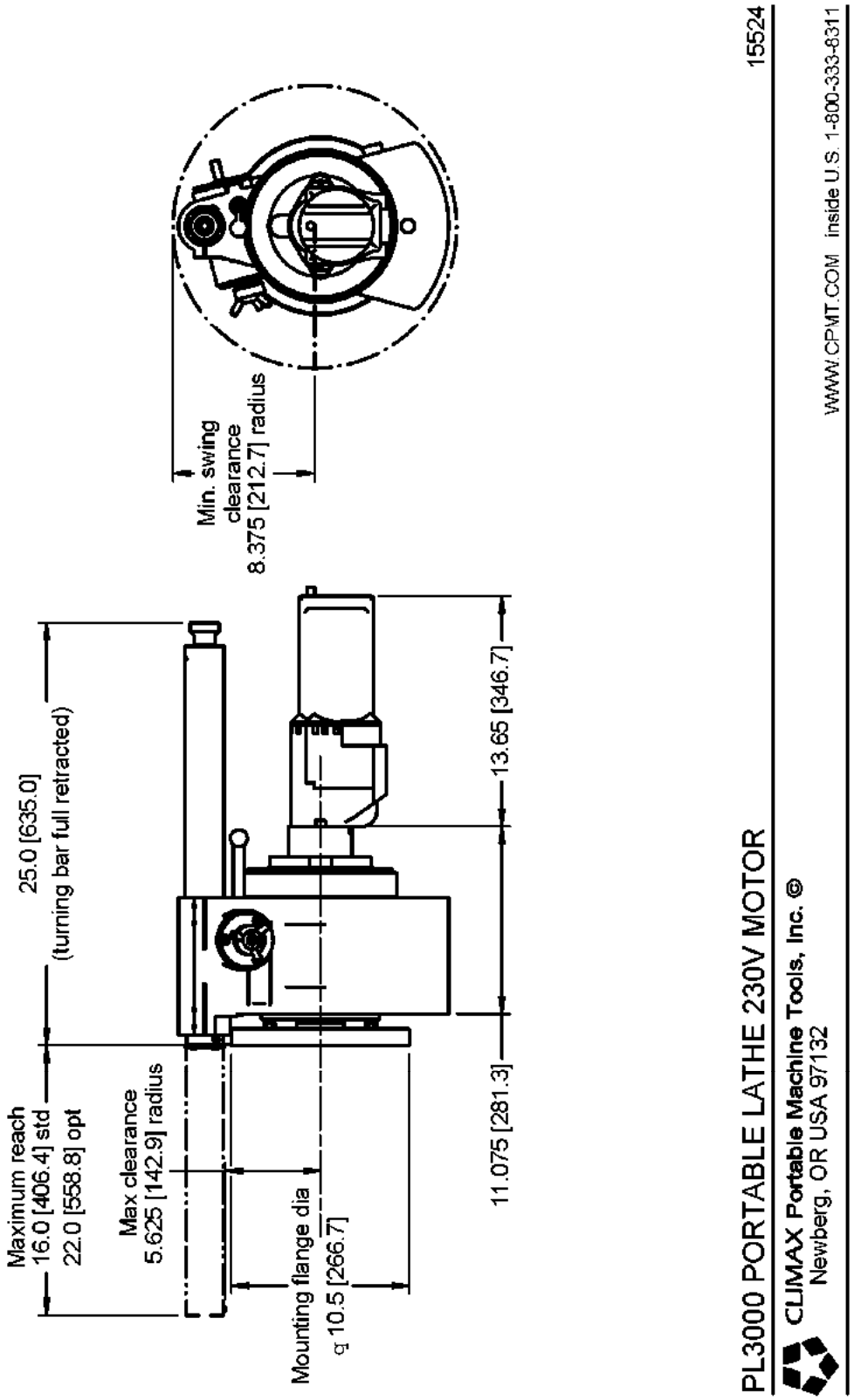
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clearance
8.375 [212.7] radius
25.0 [635.0]
(turning bar full retracted)
Maximum reach
16.0 [406.4] std
22.0 [558.8] opt
Max clearance
5.625 [142.9] radius
Mounting flange dia
q 10.5 [266.7]
13.65 [346.7]
11.075 [281.3]
15524
PL3000 PORTABLE LATHE 230V MOTOR
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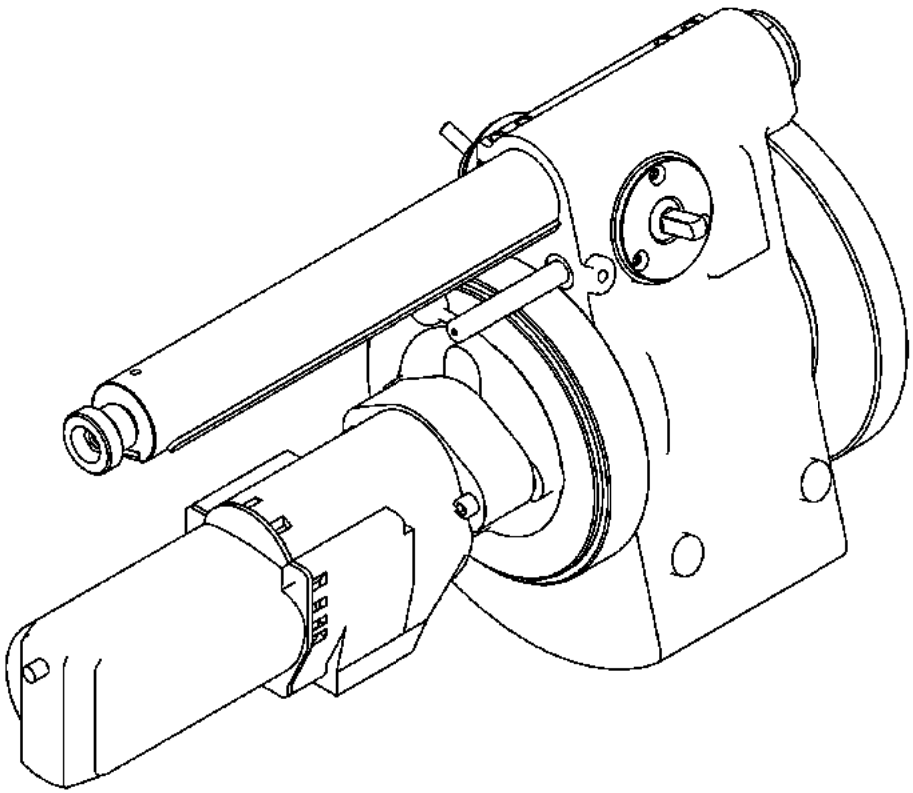
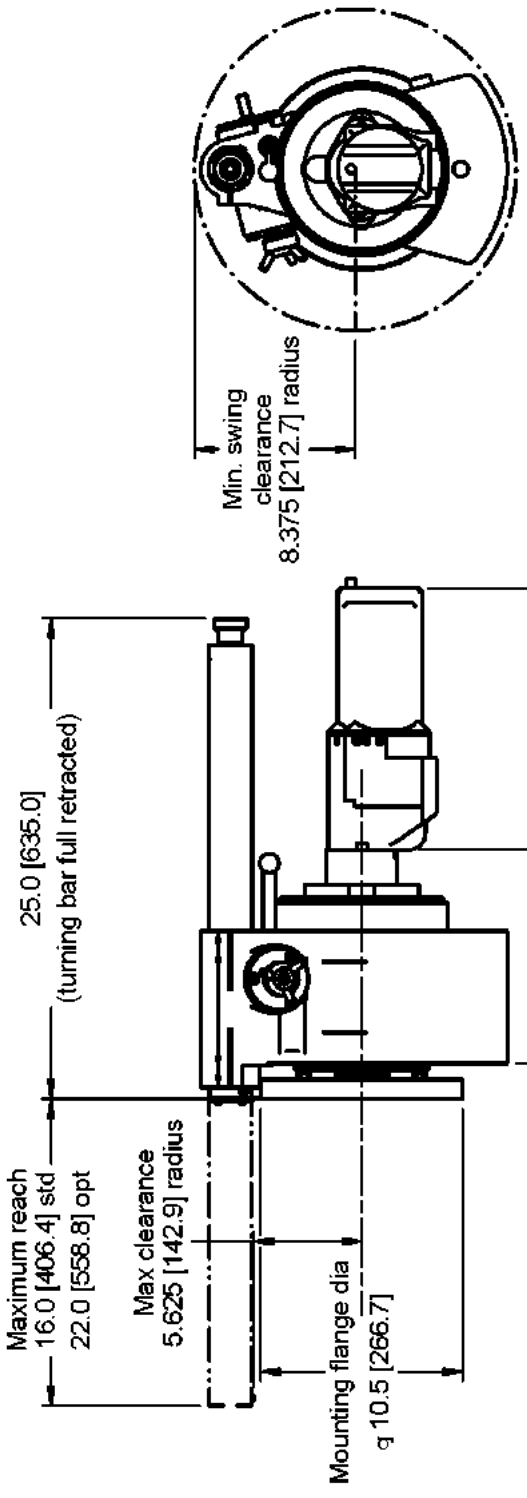


PL3000 PORTABLE LATHE 120V MOTOR 13872



PL3000 PORTABLE LATHE 120V MOTOR

13872

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SDS

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200), Health Canada HPR (SOR/2015-17), and Mexico NOM-018-STPS-2015

SECTION 1: Identification

Product Identifier	**Koolkut® SPECTRUM**
Other means of identification	Phillips 66 Koolkut® SPECTRUM
Code	**LBPH778731**
Relevant identified uses	Metalworking Fluid
Uses advised against	All others
24 Hour Emergency Phone Number	CHEMTREC: 1-800-424-9300 CHEMTREC México 01-800-681-9531

Manufacturer/Supplier
Phillips 66 Lubricants
P.O. Box 4428
Houston, TX 77210

SDS Information
URL: www.phillips66.com/SDS
Phone: 800-762-0942
Email: SDS@P66.com

Customer Service
U.S.: 800-368-7128 or International: 1-832-765-2500
Technical Information
1-877-445-9198

SECTION 2: Hazard identification

Classified Hazards

No classified hazards

Hazards Not Otherwise Classified (HNOC)

PHNOC: None known

HHNOC: None known

Label elements

No classified hazards

SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration
Distillates, petroleum, solvent-dewaxed heavy paraffinic	64742-65-0	50-70
Distillates, petroleum, solvent-refined light paraffinic	64741-89-5	30-50

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation: First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea. Prolonged or repeated contact may dry skin and cause irritation.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

SECTION 5: Firefighting measures

NFPA 704: National Fire Protection Association

Health: 0 **Flammability:** 1 **Instability:** 0

0 = minimal hazard
1 = slight hazard
2 = moderate hazard
3 = severe hazard
4 = extreme hazard

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

Special protective actions for fire-fighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Chemical Name	ACGIH	OSHA	Mexico	Phillips 66
Distillates, petroleum, solvent-dewaxed heavy paraffinic	TWA: 5mg/m³ STEL: 10 mg/m³ as Oil Mist, if Generated	---	---	---
Distillates, petroleum, solvent-refined light paraffinic	TWA: 5mg/m³ STEL: 10 mg/m³ as Oil Mist, if Generated	---	---	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Biological occupational exposure limits

Note: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye/face protection is not normally required; however, good industrial hygiene practice suggests the use of eye protection that meets or exceeds ANSI Z.87.1 whenever working with chemicals.

Skin/Hand Protection: The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. Suggested protective materials: Nitrile rubber

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88 2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Amber, Transparent
Physical Form: Liquid
Odor: Petroleum
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): >1
Upper Explosive Limits (vol % in air): No data
Lower Explosive Limits (vol % in air): No data
Evaporation Rate (nBuAc=1): No data
Particle Size: Not applicable
Percent Volatile: No data
Flammability (solid, gas): Not applicable
Solubility in Water: Insoluble

Flash Point: > 410 °F / > 210 °C
Test Method: Cleveland Open Cup (COC), ASTM D92
Initial Boiling Point/Range: No data
Vapor Pressure: No data
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: No data
Auto-ignition Temperature: No data
Decomposition Temperature: No data
Specific Gravity (water=1): 0.89 @ 60°F (15.6°C)
Bulk Density: 7.4 lbs/gal
Viscosity: 5.4 cSt @ 100°C; 32 cSt @ 40°C
Pour Point: < -4 °F / < -20 °C

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

SECTION 11: Toxicological information

Information on Toxicological Effects

Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful		>5 mg/L (mist, estimated)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

Likely Routes of Exposure: Inhalation, eye contact, skin contact

Aspiration Hazard: Not expected to be an aspiration hazard

Skin Corrosion/Irritation: Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Not expected to be irritating.

Skin Sensitization: Not expected to be a skin sensitizer.

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Repeated Exposure): Not expected to cause organ effects from repeated exposure.

Carcinogenicity: No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

Information on Toxicological Effects of Components

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

SECTION 12: Ecological information

GHS Classification:
No classified hazards

Toxicity: All acute aquatic toxicity studies on samples of lubricant base oils show acute toxicity values greater than 100 mg/L for invertebrates, algae and fish. These tests were carried out on water accommodated fractions and the results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Persistence and Degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulative Potential: Log Kow values measured for the hydrocarbon components of this material are greater than 5.3, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

Mobility in Soil: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of the hydrocarbon constituents in soil and sediment.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle used oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

SECTION 14: Transport information

U.S. Department of Transportation (DOT)
UN Number: Not regulated
UN proper shipping name: None
Transport hazard class(es): None
Packing Group: None
Environmental Hazards: This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant
Special precautions for user: If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds)
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CERCLA/SARA - Section 313 and 40 CFR 372
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds)
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

International Inventories
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

SECTION 16: Other information

Issue Date:	Previous Issue Date:	SDS Number	Status:
01-May-2018	16-Feb-2018	LBPH778731	FINAL

Revised Sections or Basis for Revision:
Exposure limits (Section 8)

Legend (pursuant to NOM-018-STPS-2015):
The information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; HPR = Hazardous Products Regulations; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

MARVEL OIL CO., INC.
2250 W. Pinehurst Blvd., STE 150
Addison, IL 60101

SAFETY DATA SHEET

1. Product and Company Identification

1.1 Product Identifier

Product Name:	Marvel Air Tool Oil
Product Code (SKU):	MM85R1 (50100), MM080R (50093) - See Section 15 for discontinued SKU's

1.2 Relevant Identified Uses Of The Substance

Product Use:	Engine Oil Additive – Fuel additive (EPA Registered)

1.3 Details of the Supplier of the SDS

Company Name:	Marvel Oil Company, Inc.
Street Address:	2250 W. Pinehurst Blvd., Suite 150
City, State, Zip Code:	Addison, IL 60101

1.4 Emergency Telephone Numbers

Phone Number:	1(630)455-3700
Fax Number:	1(630)455-3868
Transportation:	1(800)424-9300 (CHEMTREC)
Medical Assistance:	Call your local Poison Control Center

2. Hazard Identification:

2.1 Classification of the Substance or Mixture

Hazard Classification:	Flammable liquid 3. Skin irritation 2 Reproductive Toxicity 2 Aspiration toxicity 1

2.2 Label Elements

Pictogram:

Signal Word:	Danger
Hazard Statement:	Flammable liquid and vapor. Causes skin irritation. Suspected of damaging fertility of the un-born child. May be fatal if swallowed and enters airways.
Precautionary Statement:	Keep away from heat, sparks, open flames or hot surfaces. Do not smoke. Keep containers tightly closed. Ground all containers and receiving equipment. Use explosion proof electrical, ventilation, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static

discharge. Wear protective gloves, clothing, eye glasses and face shield. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. If exposed, get medical attention. If on skin or hair, remove immediately all contaminated clothing and launder before re-use. Wash skin with soap and water. If skin irritation occurs, get medical attention. If swallowed, immediately call a poison control center or doctor. Do NOT induce vomiting. Store in a well ventilated place. Dispose of contents and container in accordance with all local, state, national and international regulations.

2.3 Other Hazards
Description of additional HNOC: None

3. Information on Ingredients:

3.1 Substance not applicable

3.2 Mixture

Component	CAS Number	Concentration (wt%)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	64742-52-5	60-100%
Petroleum Distillates (Stoddard Solvent)	8052-41-3	10-30%
Tricresyl Phosphate	1330-78-5	0.1-1.0%
Ortho Dichlorobenzene	95-50-1	0.1-1.0%
Para Dichlorobenzene	106-46-7	<0.1%

4. First Aid Measures:

4.1 Description of First Aid Measures

Inhalation: Remove to fresh air and promote deep breathing. Get medical attention if effects persist or you feel un-well.
Skin: In case of skin contact, wash thoroughly with soap and water. Remove contaminated clothing and footwear. Launder clothing before re-use. Call a physician if irritation develops or persists.
Eyes: In case of eye contact, immediately flush eyes with plenty of water. Remove contact lenses if worn. If irritation persists, get medical attention
Ingestion: If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a poison control center or physician.

4.2 Most important symptoms and effects – acute and chronic

Inhalation:	May cause respiratory tract irritation. Vapors may cause drowsiness or dizziness.
Skin:	Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Eyes:	May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Ingestion:	May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

4.3 Indication of any immediate medical attention and special treatment

Symptoms may not appear immediately. Seek medical attention if effects develop or persist and you feel un-well.

5. **Fire Fighting Measures:**

5.1 Extinguishing media

Carbon dioxide, dry chemical, and alcohol foam

5.2 Special hazards arising from the substance or mixture

CO_2, CO, and hydrocarbons

5.3 Advice for Fire Fighters

Keep up wind of fire. Wear full firefighting turn out gear (full bunker gear) and respiratory protection (SCBA). Cool closed containers exposed to fire with water. See Section 8 for personal protection.

6. **Accidental Release Measures:**

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate all source of ignition.

6.2 Methods and materials for containment and clean up

For containment: Contain and absorb spill with inert material. Place in suitable container for disposal. Do not flush to sewer or allow to enter waterways. See section 8 for PPE.

For clean up: Take up material and place in a suitable container. Vapors may be heavier than air and may travel along the ground to a distant source of ignition. Provide adequate ventilation.

7. **Handling and Storage**

7.1 Precautions for safe handling

Keep away from source of ignition. Do not smoke. Take precaution to eliminate static discharge. Avoid contact with skin and eyes. Avoid breathing vapor or mist. Do not swallow. Do not eat or drink while handling. Wash hands with soap and water after handling. Use only non-sparking tools.

7.2 Conditions for safe storage including incompatibilities

Keep out of reach of children. Store in a well ventilated place. Do not store above 49°C (120°F).

7.3 Specific end uses

Shelf Life: Shelf life is considered to be 7 – 10 years when properly stored.

8. Exposure Control/Personal Protection:

8.1 Control parameters

Exposure Limits 8 hr TWA:	(OSHA PEL)	(ACGIH TWA)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	not applicable	not applicable
Petroleum Distillates (Stoddard Solvent)	500 ppm	100 ppm
Tricresyl Phosphate	not applicable	not applicable
Ortho Dichlorobenzene	50 ppm	25 ppm
Para Dichlorobenzene	75 ppm	10 ppm

8.2 Exposure controls

Use adequate ventilation to keep exposure below recommended limits. Ensure that eye wash station and safety shower are close to work station.

Hand Protection Equipment: Wear chemical resistant gloves to prevent skin contact.
Eye Protection Equipment: Wear safety glasses or splash goggles to prevent eye contact.
Skin and Body Protection: Wear suitable protective clothing.
Respiration/Ventilation Protection Requirements: Provide good ventilation.
Ingestion Protection Requirements: Do not eat, drink or smoke while handling. Wash hands with soap and water after handling. Launder all clothing and foot wear before re-use.

9. Physical And Chemical Properties:

9.1 Information of basic chemical and physical properties

Physical Form:	thin liquid
Color:	clear red
Odor:	typical oily
Odor Threshold:	not available
pH:	not applicable – oil based product
Melting Point/Freeze Point:	-51°C (-60°F)
Initial Boiling Point:	not available
Flash Point (Seta Closed Cup):	53°C (128°F)
Flammability Limits:	**Explosive Limits:** **Upper:** not available **Lower:** not available
Evaporation Rate:	not available
Flammability Solid/Gas:	not applicable
Vapor Pressure:	not available
Vapor Density:	not available
Specific Gravity:	0.876
Solubility in Water:	insoluble
Auto Ignition Temperature:	not available
Partition coefficient (n/octonol/water):	not available
Viscosity (Kinimatic @ 100°C):	2.0 – 3.0 cSt

9. 2 Other information

% NVM by Weight:	75.0%
% VOC Content (California):	24.92%

10. **Stability and Reactivity:**

10.1 Reactivity
Does not react under normal conditions

10.2 Chemical stability
Stable

10.3 Possibility of hazardous reactions
Does not react under normal conditions

10.4 Conditions to avoid
Heat and incompatible materials

10.5 Incompatible materials
Strong oxidizers such as bleach and peroxides

10.6 Hazardous decomposition products
CO_2, CO and hydrocarbons

11. **Toxicological Information:**

11.1 Information on Toxicological effects

Marvel Mystery Oil

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg
LC50 – Inhalation Rat	>20 mg/L (4 hr)

Petroleum Distillates Hydrotreated Heavy Naphthenic (64742-52-5)

LD50 – Oral Rat	>5000 mg/Kg
LD50 – Dermal Rabbit	>5000 mg/Kg
LC50 – Inhalation Rat	>5 mg/L (4 hr)

Tricresyl Phosphate (1330-78-5)

LD50 – Oral Rat	3000 mg/Kg

o-Dichlorobenzene (95-50-1)

LD50 – Oral Rat	500 mg/Kg
LD50 – Dermal Rabbit	>10000 mg/Kg
LC50 – Inhalation Rat	8.15 mg/L (4 hr)

p-Dichlorobenzene (106-46-7)

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg

Skin corrosion/irritation	Causes skin irritation
Serious eye damage/irritation	Based on available data, classification data are not met
Respiratory or skin sensitization	Based on available data, classification data are not met
Germ cell mutagenicity	Based on available data, classification data are not met
Carcinogenicity	Based on available data, classification data are not met
o-Dichlorobenzene (95-50-1)	IARC Group 3 – Not Classified

p-dichlorobenzene (106-46-7)	IARC Group 2B – Possible carcinogen to humans. NTP 1-Evidence of Carcinogenicity 3, Reasonably anticipated to be a human Carcinogen
Reproductive toxicity	Suspected of damaging fertility of un-born child
Specific target organs – single exposure	Based on available data, classification data are not met
Specific target organs – repeated exposure	Based on available data, classification data are not met
Aspiration hazard	May be fatal if swallowed and enters air ways.
Symptoms/injuries after inhalation	May cause respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Symptoms/injuries after skin contact	Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Symptoms/injuries after eye contact	May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Symptoms/injuries after ingestion	May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

12. Ecological Information:

12.1 Toxicity
Not recommended for release into aquatic systems without treatment

12.2 Persistence and degradability
Not established

12.3 Bioaccumulative potential
Not established

12.4 Mobility in soil
Not established

12.5 Other adverse effects
None known

13. Disposal Considerations:

13.1 Waste treatment methods

RCRA Hazardous Waste:	Regulated as a hazardous waste (D-001 Ignitable).
Waste Disposal Method:	Dispose of in accordance with local, state and federal regulations
Waste Disposal Vessel:	Metal drums are recommended.

14. Transportation Information:

14.1 UN number
1268

14.2 UN Proper shipping name
Petroleum Distillate n.o.s.

14.3 Transport Hazard class
3

14.4 Packaging group
III

14.5 Marine Pollutant
No

14.6 Transportation in Bulk
Not applicable

14.7 Special precautions
Use limited quantities

15. Regulatory Information:

15.1 US Federal Regulations

TSCA Status: All ingredients are commercially available and listed by the manufacturer under TSCA.

15.2 Foreign Regulations

Canadian Status: All materials contained in this product are listed on the Canadian Domestic Substance List (DSL). Consult Turtle Wax, Inc. regarding status of ingredients.

European Union: All materials contained in this product are listed on EINECS.

AICS: All materials are registered for AICS (Australia)

15.3 State Regulations

State Regulatory Information:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements, contact the appropriate agency in your state.

California Prop 65:

CAS Number	Concentration	State Code
p-Dichlorobenzene (106-46-7)	<0.1%	Cancer

15.4 HMIS & NFPA Classifications

HMIS Classification:	Health	2
	Flammability	2
	Reactivity	0
NFPA Classification:	Health	2
	Flammability	2

	Reactivity 0
15.5 Discontinued SKU's	All discontinued SKU's used this same formula.

MM080, MM085, MM85R, MM086, MM088R, MM089

16. Other Information:

Reason For Issue	Address Update
Prepared By	James Heidel
Preparer's Title	Technical Director, R&D
SDS Administrator	Jean Mayszak - Technical Compliance Manager, R&D
Approval Date	January 26, 2017
Supersedes Date	March 10, 2015
Revision Number	#12

This information is, to the best of Turtle Wax, Inc.'s knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy oneself as to the suitableness and completeness of such information for their own particular use.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

SECTION 1: Identification

Product Identifier: **Unoba® EP**

Other means of identification:
Unoba® EP No. 00
Unoba® EP No. 0
Unoba® EP No. 1
Unoba® EP No. 2
Unoba® EP No. 3

SDS Number: **722490**
Relevant identified uses: Lubricating Grease
Uses Advised Against: All others
24 Hour Emergency Phone Number: CHEMTREC 800-424-9300 (24 Hours)
CHEMTREC Mexico 01-800-681-9531

Manufacturer/Supplier:
Phillips 66 Lubricants
P.O. Box 4428
Houston, TX 77210

SDS Information:
Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

Customer Service:
U.S.: 800-368-7128 or International: 1-832-765-2500
Technical Information: 1-877-445-9198

SECTION 2: Hazard identification

Classified Hazards
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other Hazards
None Known

Label Elements

No classified hazards

SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration[1]
Lubricant Base Oil (Petroleum)	VARIOUS	>75
Non-Hazardous Materials	VARIOUS	<25
Calcium Carbonate	1317-65-3	<5

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea. Dry skin and possible irritation with repeated or prolonged exposure.

Notes to Physician: When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to the hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

SECTION 5: Firefighting measures

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: Exposure controls/personal protection

Chemical Name	ACGIH	OSHA	Other
Lubricant Base Oil (Petroleum)	TWA: 5mg/m³ STEL: 10 mg/m³ as Oil Mist, if Generated	TWA: 5mg/m³ as Oil Mist, if Generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye/face protection is not normally required; however, good industrial hygiene practice suggests the use of eye protection that meets or exceeds ANSI Z.87.1 whenever working with chemicals.

Skin/Hand Protection: The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. Suggested protective materials: Nitrile

Respiratory Protection: Respiratory protection is not normally required under intended conditions of use. Emergencies or conditions that could result in significant airborne exposures may require the use of NIOSH approved respiratory protection. An industrial hygienist or other appropriate health and safety professional should be consulted for specific guidance under these situations.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Green
Physical Form: Semi-Solid
Odor: Petroleum
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): > 5
Upper Explosive Limits (vol % in air): No data
Lower Explosive Limits (vol % in air): No data
Evaporation Rate (nBuAc=1): <1
Particle Size: Not applicable
Percent Volatile: Negligible
Flammability (solid, gas): Not applicable

Flash Point: 450 °F / 232 °C
Test Method: Cleveland Open Cup (COC), ASTM D92
Initial Boiling Point/Range: No data
Vapor Pressure: <0.1 mm Hg
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: No data
Auto-ignition Temperature: No data
Decomposition Temperature: No data
Specific Gravity (water=1): No data
Bulk Density: 7.5 lbs/gal
Viscosity: N/D
Solubility in Water: Negligible

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

SECTION 11: Toxicological information

Information on Toxicological Effects of Substance/Mixture

Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful		>5 mg/L (mist, estimated)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

Aspiration Hazard: Not expected to be an aspiration hazard.

Skin Corrosion/Irritation: Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Not expected to be irritating.

Skin Sensitization: No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Repeated Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Carcinogenicity: No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

Germ Cell Mutagenicity: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Reproductive Toxicity: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

Information on Toxicological Effects of Components

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

SECTION 12: Ecological information

GHS Classification:
No classified hazards

Toxicity: All acute aquatic toxicity studies on samples of lubricant base oils show acute toxicity values greater than 100 mg/L for invertebrates, algae and fish. These tests were carried out on water accommodated fractions and the results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Persistence and Degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulative Potential: Log Kow values measured for the hydrocarbon components of this material are greater than 5.3, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

Mobility in Soil: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of the hydrocarbon constituents in soil and sediment.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle used oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

SECTION 14: Transport information

U.S. Department of Transportation (DOT)

Shipping Description:	***Not regulated***
Note:	***If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)***

International Maritime Dangerous Goods (IMDG)

Shipping Description:	***Not regulated***
Note:	***U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.***

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
Not applicable

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: *Not regulated*
Note: *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

SECTION 15: Regulatory information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health Hazard:	No
Chronic Health Hazard:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65

Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:
none

National Chemical Inventories
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

SECTION 16: Other information

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
09-Sep-2014	13-Sep-2013	722490	FINAL

Revised Sections or Basis for Revision:
Manufacturer (Section 1); Exposure limits (Section 8); Environmental hazards (Section 12); Regulatory information (Section 15)

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Safety Data Sheet
California CARB Compliant

1 - Chemical Product and Company Identification

Trade Name: WD-40 Multi-Use Product 25% VOC Bulk Liquid	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131**
Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion **Restrictions on Use: None Identified**	**Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**
SDS Date Of Preparation: July 19, 2018	

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Liquid Category 3
Aspiration Toxicity Category 1
Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: The 1 gallon size product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to larger containers sold for industrial/professional use.

Label Elements:

DANGER!
Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Prevention
Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
Keep container tightly closed.
Ground and bond containers and receiving equipment.
Use explosion-proof electrical equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing mists or vapors.
Use only outdoors or in a well-ventilated area.
Wear eye protection.
Response
IF SWALLOWED. Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
In case of fire: Use water fog, dry chemical, carbon dioxide or foam to extinguish.

Storage
Store locked up.
Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	40-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	<25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness and other nervous system effects. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Flammable liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children

Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class II Liquid.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m3 TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)

The Following Controls are Recommended for Normal Consumer Use of this Product

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL 0.8% UEL 5.6%
Odor	Mild petroleum odor	Vapor Pressure:	1 psi @38°C (100°F) ASTM D323
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	322 - 388°F (161 - 198°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point	138°F (59°C) Tag Closed Cup	Autoignition Temperature:	Not established
Evaporation Rate	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas):	Not Applicable	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	206 grams/liter (25%)	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea Intentional abuse may be harmful or fatal
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Components are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001) However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Excepted from Hazmat (49CFR 173 150 (F)) in non-bulk packaging
Bulk Packaging: UN1268, Petroleum Distillates, n.o.s., Combustible Liquid, PG III
IMDG Shipping Description: UN1268, Petroleum Distillates, n.o.s 3, PG III
ICAO Shipping Description. UN1268, Petroleum Distillates, n.o.s. 3, PG III

NOTE: WD-40 Company does not test containers to assure that they meet the pressure differential and other requirements for transport by air. We do not recommend that our products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have

more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

16 – Other Information

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: July 19, 2018 Supersedes: January 1, 2016

Revision Summary: Address and telephone number update in Section 1.

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

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