

Diamatic MPS-1827LP

Original Operating Instructions
Version 1.0

Operating Instructions



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1. Introduction

Before use, operators must be provided with information, instruction and training for the use of the machine and the substances for which it is to be used, including the safe method of removal and disposal of the material collected. All persons who are working with or maintaining this machine must read the manual carefully and understand it fully. In case you sell the unit, hand it on to the next owner.

Keep this manual always with the machine, to enable it to be referred to at any time.

Any other work not covered by this operating manual must not be carried out.

This machine is designed for industrial use by professionals. **Only authorized and trained personnel may operate this machine.** This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. **Diamatic USA** offers a course on the use of the machine to make the operating and maintenance personnel familiar with all elements of the machine.

2. Machine Description

The MPS-1827LP is a propane driven micro-polishing machine. This is a single headed machine used to burnish/micro-polish concrete floors. The single disc is 27 inches in diameter. It can be used for dry and wet applications. The machine may be used with an adequate dust extraction system. A specially designed Diamatic dust collection system ensures dust-free operation of the machine and clean air at the workspace. This machine may not be used on wood.

3. Accessories:



PA-109200
PA-109400
PA-10993
PA-10994
PA-10995

27" Flor Grit Pad 200 Grit
27" Flor Grit Pad 400 Grit
27" Flor Grit Pad 800 Grit
27" Flor Grit Pad 1500 Grit
27" Flor Grit Pad 3000 Grit

4. Safety

Warning!

Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire, explosions and / or serious injuries.



3.1 Emissions and CO safety

The purpose of this document is to provide information on:

- The potential effects of CO exposure;
- The methods to reduce the risk of CO poisoning;
- The methods used to determine the amount of potential exposure to CO produced by equipment.

⚠ DANGER: All LPG (Liquid Propane Gas) powered engines, including this engine, produce Carbon Monoxide (CO). It is a **LETHAL POISON** that is a colorless, odorless, tasteless, and non-irritating gas. It is produced by incomplete combustion of carbonaceous material such as propane (LPG).

Failure to provide for proper venting of CO produced during the operation of combustion powered engines may result in **SERIOUS INJURY OR DEATH** to the operator and those in the contaminated area.

The effects of CO can be experienced at different exposure levels, depending on the health of the individual. Conditions that affect the tolerance of the individual are smoking, age, temperature, humidity, and other conditions.

⚠ WARNING: Read and understand The Operators Manual completely before using this machine

This document explains how CO produced can be managed to reduce the risk of carbon monoxide poisoning.

All distributors, owners, and operators should be aware of the potential effects of CO and the methods used to prevent over exposure.

We are dedicated to our customers, their safety, and providing information, services, and products that meet those needs.

Information provided in this document is current as of the date written May 2017

⚠ DANGER: It is the owner/operator's responsibility to ensure that the air-exchange system installed in any location where a propane floor care machine is being operated is of sufficient capacity and quality to support the use of such a machine. OSHA and other County, State, or Federal Agencies publish guidelines on this subject that are usually most readily found in the possession of the respective owners and/or parent companies of any location or chain of locations. Failure on the part of the owner/operator to ensure that a propane floor care machine can be operated safely in a given location may lead to injury, sickness or even loss of life.

5. Document Overview

The information provided in the following overview has been condensed to provide the reader with a summary of the material presented.

Potential Effects of CO Exposure

- **Work place/industry guidelines** for CO exposure limits vary substantially from region to region (OSHA) Permissible Exposure Limit (PEL) for CO is 50 ppm, as an 8-hour time weighted average.
- **Definition of CO effects** - The toxic effects of carbon monoxide in the blood are the result of tissue hypoxia (lack of oxygen). The severity depends on the state of activity of the individual and his tissue oxygen needs.

Methods to Reduce the Risks of CO Poisoning

- **Air Exchange and CO Diffusion** - CO does not mix with air on its own. Air currents can “stir” the CO and dilute the concentration values by mixing it with the available air. When using equipment over a large area in a short time “stirring” occurs as you walk.
- **Application Considerations** (Burnishing versus Stripping) - When activity is concentrated to a smaller area as in a stripping application, air “stirring” must be forced using fans to reduce the risk of high concentrations of CO.
- **Air Quality Monitoring** – Deployment of a monitor/detector is essential for the safe operation of any equipment that has the potential to produce CO.
- **Room Size and Time Estimations** - The concentration and volume of CO production, the size of the area and the amount of air exchange are factors involved with determining safe time limits for operation in a specific room size.
- **Maintenance of Equipment** - LPG engines are dependent on engine tune up, and air filter replacement. CO concentration (production) skyrockets when the air to fuel ratio becomes fuel rich. Follow the recommended Maintenance Schedule for the engine.
- **Safety Equipment Available.** - Automated fuel to air ratio monitoring and regulation providing an optimum combustion, three-way type catalytic converter to scrub CO, Hydro Carbons (HC), and Nitrous Oxide (NOx) from the engine exhaust providing the lowest possible emissions, high cubic feet per minute (CFM) fans (forced air mixing), and digital combustion analyzers for tail pipe emissions monitoring.

6. Engine Emissions and CO Safety

Potential Effects of CO Exposure

- Work place/industry guidelines for CO exposure limits
- Definition of CO effects

Work place/industry guidelines for CO exposure limits

Limits for permissible exposure to CO vary substantially from region to region. City, State, and Industry requirements should be consulted prior to use of any equipment.

The current Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for CO is 50 ppm, as an 8-hour time weighted average (TWA). This is computed by making measurements at intervals over 8 hours, then adding the sums of the concentrations and the intervals, and dividing by 8 hours. For example:

Time	Interval	PPM	
8:00-9:00	1 HR	100	
9:00-10:00	1 HR	25	
10:00-11:00	1 HR	25	
11:00-12:00	1 HR	50	
12:00-1:00	1 HR	50	400ppm/8HR=50ppm TWA
1:00-2:00	1 HR	50	
2:00-3:00	1 HR	50	
3:00-4:00	1 HR	50	
Time intervals =	8 HR	ppm =	400

The current National Institute for Occupational Health and Safety (NIOSH), immediately dangerous to life and health concentration (IDLH) recommended level for CO is 1,200 ppm. NIOSH defines the IDLH exposure level as the concentration that could result in irreversible health effects or death, or prevent escape from the contaminated environment within 30 minutes.

Definition of CO Effects

The toxic effects of carbon monoxide in the blood are the result of tissue hypoxia (lack of oxygen). carbon monoxide combines with hemoglobin to form carboxyhemoglobin. Since CO and oxygen react with the same group in the hemoglobin molecule, carboxyhemoglobin is incapable of carrying Oxygen. The affinity of hemoglobin for CO is 200 to 240 times greater than for oxygen. The extent of saturation of hemoglobin with CO depends on the concentration of the gas, the quantity of inspired air and on the time of exposure. The severity depends on the state of activity of the individual and his tissue oxygen needs.

According to Harrison's Principles of Internal Medicine 7th edition, no symptoms will develop at a concentration of 0.01% CO (100ppm) in inspired air, since this will not raise blood saturation above 10 %. Exposure to 0.05% (500ppm) for 1 hour during light activity will produce a blood concentration of 20% carboxyhemoglobin and result in a mild or throbbing headache. Greater activity or longer exposure causes a blood saturation of 30 to 50 %. At this point head ache, irritability, confusion, dizziness, visual disturbance, nausea, vomiting, and fainting can be experienced. Exposure for one hour to concentrations of 0.1% (1000ppm) in inspired air the blood will contain 50 to 80% carboxyhemoglobin which results in coma, convulsions, respiratory failure and death. On inhalation of high concentrations of CO, saturation of the blood proceeds so rapidly that unconsciousness may occur suddenly without warning.

Methods to Reduce the Risks of CO Poisoning

- Air Exchange and CO Diffusion
- Application Considerations (Burnishing versus Stripping)
- Air Quality Monitoring
- Room Size and Time Estimations
- Maintenance of Equipment
- Safety Equipment Available

Air Exchange and CO Diffusion

The most reliable method to prevent CO Poisoning is to ensure all the CO produced is vented outside. With wood stoves or gas heaters this is performed with ductwork that carries the exhaust and CO outside. Non-stationary combustion type equipment must be used in such a way that CO is not allowed to rise to a harmful or dangerous level.

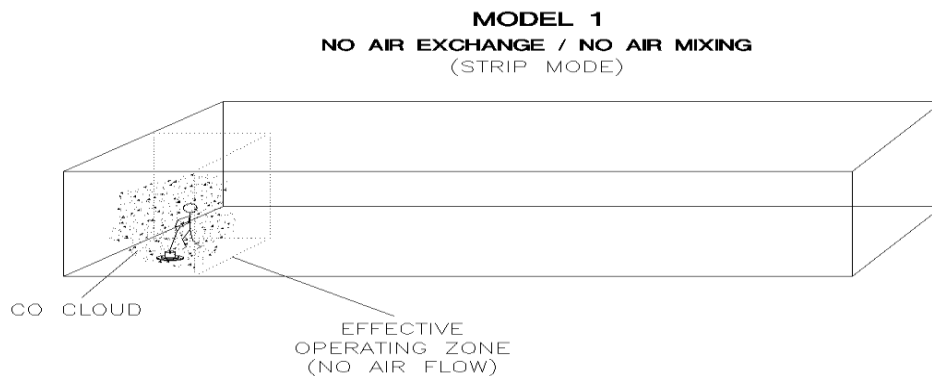
CO does not readily dissipate or mix with air on its own. Air currents can “stir” the CO and dilute the concentration or ppm values by mixing it with the available air. When using equipment over a large area in a short time “stirring” occurs as you walk, or to say it another way, your Effective Operating Zone is large. When activity is concentrated to a smaller area as in a stripping application, the Effective Operating Zone is small, and “stirring” must be forced using fans to increase the Effective Operating Zone and reduce high concentrations of CO.

Air exchange rates (air exchange is defined as the exhausting of internal air to the external atmosphere), the size of the Effective Operating Zone, amount of CO produced, level of human activity, and the duration of exposure are all factors in the determination of the production of carboxyhemoglobin and the amount of CO blood saturation.

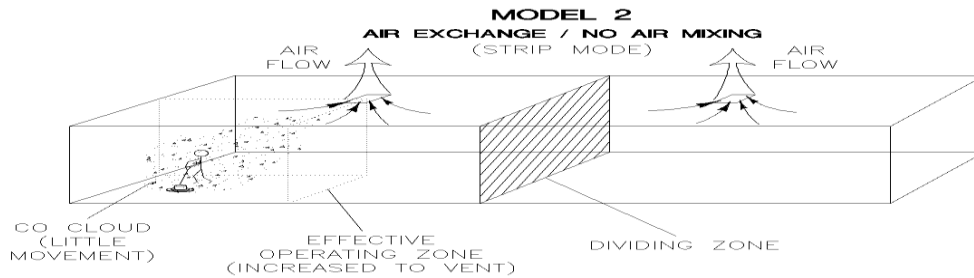
Application considerations (Burnishing versus Stripping)

When using equipment over a large area in a short time, as in most burnishing applications, your Effective Operating Zone is large. When activity is concentrated to a smaller area as in stripping applications, the Effective Operating Zone is small and stirring or CO mixing **MUST** be forced using fans to increase the Effective Operating Zone and reduce high concentrations of CO.

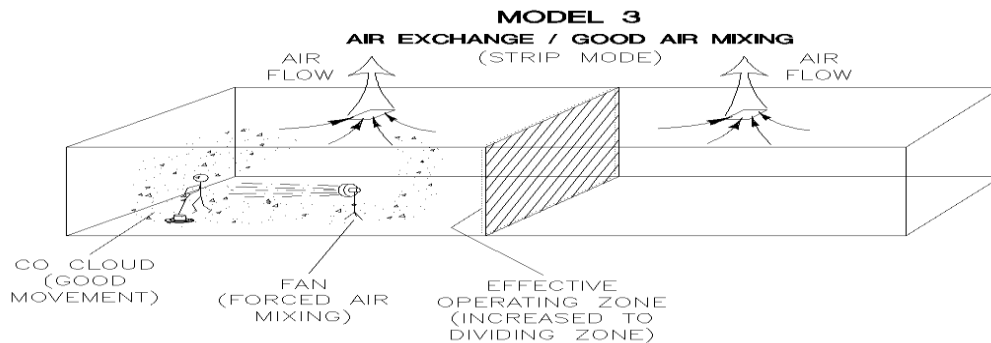
Caution: air mixing may not be sufficient to reduce CO to a safe level. The Effective Operating Zone can be defined as the area covered in a given time.



Stripping is quite a different type of operation than burnishing, and carries with it substantially more hazards, as stripping is a low movement operation compared to burnishing (less floor space for the same time). As shown in Model 1, the CO concentrations rise much quicker as the “Effective Operating Zone” is a very small area compared to the total building size.



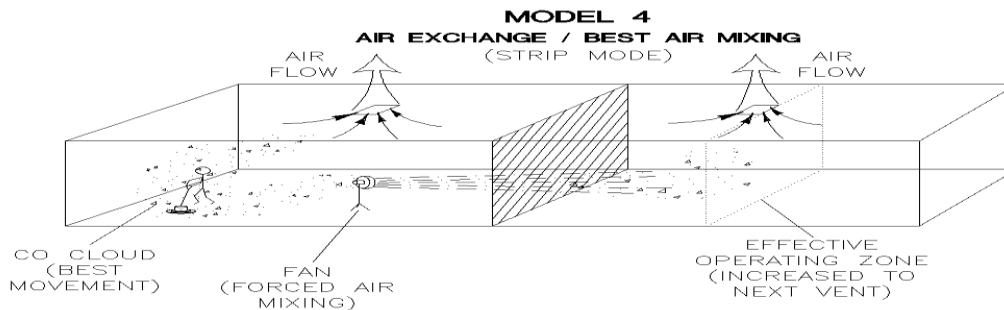
Notice the CO concentration and the Effective Operating Zone with air exchange. The CO cloud is still concentrated in a small area. Note the “Dividing Zone” shown above, this is the line where airflow changes direction. In Model 2, air changes are cut in ½ as little or no CO crosses the Dividing Zone to be exhausted.



Notice the CO concentration and the Effective Operating Zone (Expanded to the Dividing zone) with air exchange and forced air mixing. The CO cloud is still concentrated on one side of the Dividing zone. Note the “Dividing Zone” shown above, this is the line where airflow changes direction. In Model 3, air changes are cut in

½ as little or no CO crosses the Dividing Zone to be exhausted.

Notice the CO concentration and the Effective Operating Zone (Expanded through the Dividing zone to the second vent) with air exchange and forced air mixing through the dividing Zone. The CO cloud is diluted with the available air in the



building. Note the “Dividing Zone” shown above, this is the line where airflow changes direction. In Model 4, air changes are full as forced air mixing has moved and mixed the CO between all air zones.

Air Quality Monitoring

Warning: Deployment of a monitor/detector is essential for the safe operation of any equipment that has the potential to produce CO. CO sensors/detectors became available on the mass market around 1978. At present several brands sell in the fifty-dollar range. The main differences between the technologies involved are battery or electric and Semiconductor or Biomimetic types. Detectors for carbon monoxide (CO) are manufactured and marketed for use in either the home or occupational industrial settings. The detectors for home use are devices that will sound an alarm before CO concentrations in the home become hazardous. There is an Underwriters Laboratories, Inc., performance standard (UL 2034) for residential CO detectors. Detectors currently available on the market are battery-powered, plug-in, or hard-wired. Some models incorporate a visual display of the parts per million (ppm) concentration of CO present in the home. For more information on CO detectors for home use, call the Consumer Product Safety Commission Hotline at 1-800-638-2772. CO detectors for use in residential settings are not designed for use in typical workplace settings. Monitoring requirements in an occupational setting are different from monitoring requirements in the home. In the workplace, it is frequently necessary to monitor a worker’s exposure to carbon monoxide over an entire work shift and determine the time-weighted average (TWA) concentration of the exposure. It may also be necessary to have carbon monoxide monitors with alarm capabilities in the workplace. The direct-reading instruments are frequently equipped with audio and/or visual alarms and may be used for area and/or personal exposure monitoring. Some have microprocessors and memory for storing CO concentration readings taken during the day. It is significant to note that some of the devices mentioned for workplace CO monitoring are not capable of monitoring TWAs, and not all are equipped with alarms. The appropriate monitor must be chosen on an application-by-application basis. For more information on the availability of workplace CO monitors or their application, call the National Institute for Occupational Safety and Health at 1-800-35- NIOSH(1-800-356-4674).

Room Size and Time Estimations for Parts Per Million (PPM) CO

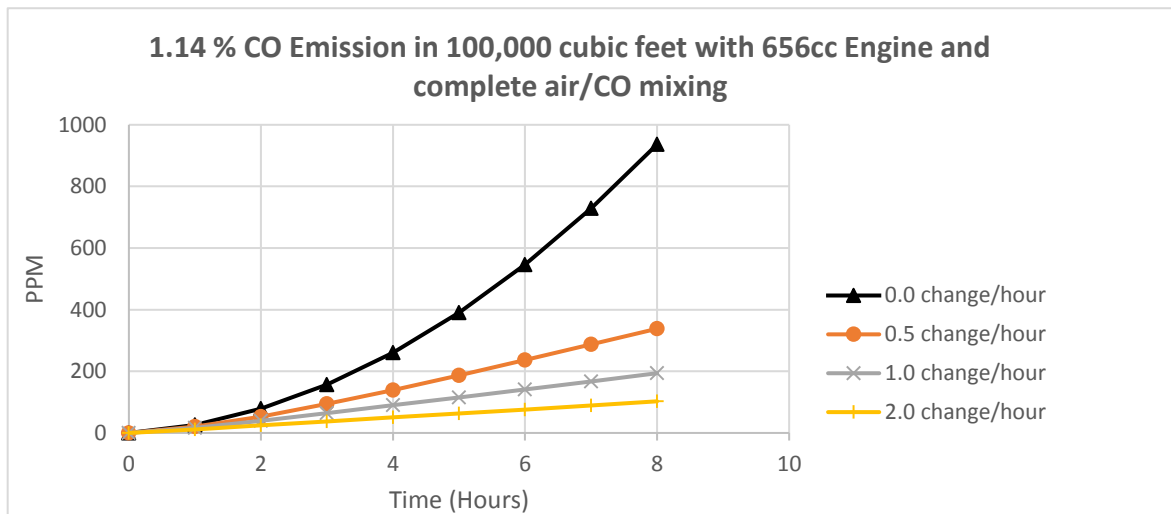
The fundamental factors in area CO levels involve: The concentration and volume of CO production; The size of the area;

The amount of *air exchange if any; The amount of time CO is produced.

Multiplying length, width, and height will determine the volume or cubic feet in a room. So, an empty building 100ft by 100ft with a 10ft ceiling would be 100,000 cubic ft. in size. Any material that is in the room and takes space would reduce the cubic feet.

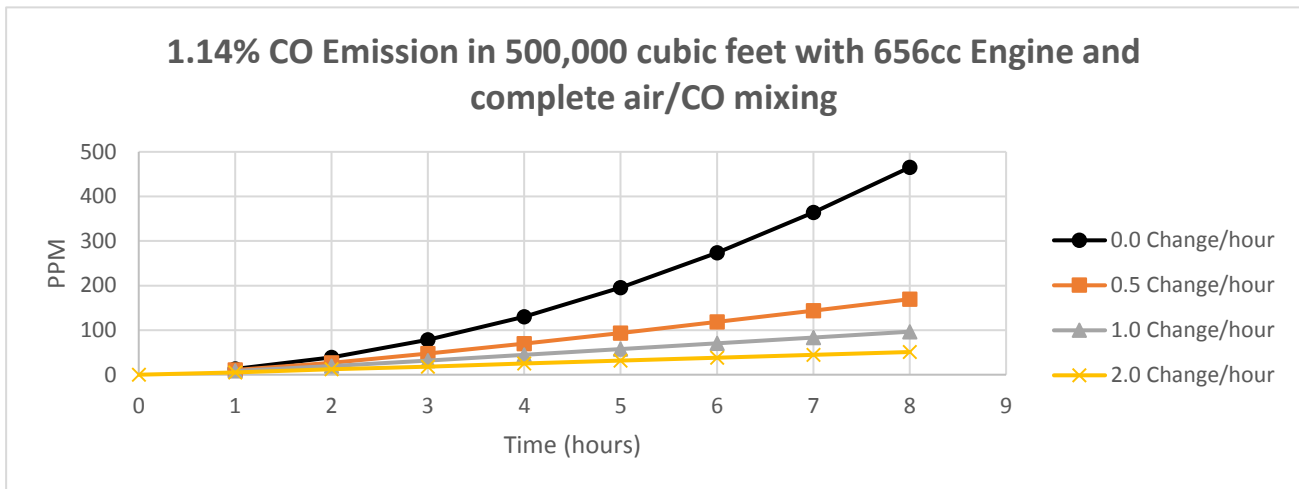
***Air exchange is defined as the exhausting of internal air to the external atmosphere.**

The graph below depicts the relationships of air exchange to time and CO ppm with cubic feet area and percent CO emissions remaining constant



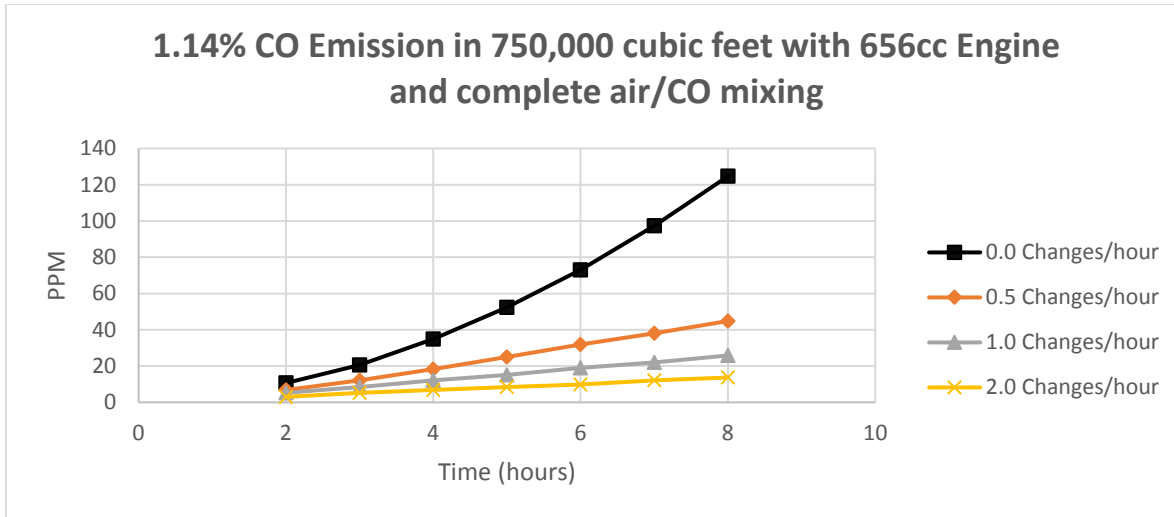
8 Hour Time Weighted Average (OSHA Method)									
1.14% CO 100,000cf	Hours Operation	1	2	3	4	5	6	7	8
TWA (OSHA Method)	0 change/hr.	25.84	78.28	156.56	260.68	390.64	546.44	728.84	936.32
	1/2 change/hr	20.52	53.2	94.24	139.08	186.96	236.36	287.28	338.2
	1 change/hr	16.72	38.76	63.84	89.68	115.52	141.36	167.2	193.8
	2 change/hr	11.4	24.32	37.24	50.16	63.08	76	88.92	102.6

Based on the CO production rates shown above the TWA would be exceeded in a 100 x 100 x 10 foot (empty) space after 3 hours with 2 air changes per hour. (Assumes no additional CO exposure during 8 hour time period.)



8 Hour Time Weighted Average (OSHA Method)									
1.14% CO 500,000cf	Hours Operation	1	2	3	4	5	6	7	8
TWA (OSHA Method)	0 change/hr	12.92	38.76	78.28	129.96	195.32	273.6	364.04	465.12
	1/2 change/hr	10.64	26.6	47.12	69.92	93.48	118.56	143.64	169.48
	1 change/hr	8.36	19.76	31.92	44.84	57.76	70.68	83.6	96.52
	2 change/hr	5.32	12.16	18.24	25.08	31.92	38	44.84	50.92

Based on the CO production rates shown above the TWA would be exceeded in a 100 x 500 x 10 foot (empty) space after 6 hours with 2 air changes per hour. (Assumes no additional CO exposure during 8 hour time period.)



The graph above depicts the relationships of air exchange to time and CO ppm with cubic feet area and percent CO emissions remaining constant.

8 Hour Time Weighted Average (OSHA Method)									
1.14% 750,000cf	Hours Operation	1	2	3	4	5	6	7	8
TWA (OSHA Method)	0 change/hr	3.8	10.64	20.52	34.96	52.44	72.96	97.28	124.64
	1/2 change/hr	3.04	6.84	12.16	18.24	25.08	31.92	38	44.84
	1 change/hr	2.28	5.32	8.36	12.16	15.2	19	22.04	25.84
	2 change/hr	1.52	3.04	5.32	6.84	8.36	9.88	12.16	13.68

Based on the CO production rates shown above the TWA would not be exceeded in a 100 x 750 x 10 foot (empty) space after 8 hours with 2 air changes per hour. (Assumes no additional CO exposure during 8 hour period)

Maintenance of Equipment

Warning: The proper maintenance of equipment is vital to safe operation. LPG engines are dependent on engine tune up, and air filter replacement. CO concentration (production) skyrockets when the air to fuel ratio becomes fuel rich. Follow the recommended Maintenance Schedule for the engine found in the Engine Operator/Owner Manual as well as the Maintenance and Adjustments schedule found in the Propane Floor Equipment Operator’s Manual that were supplied with the equipment.

CO Safety Equipment Available

- Automated emissions monitoring will shut down the engine when high emissions are detected.
- Three-way type catalytic converter to scrub CO, Hydro Carbons (HC), and Nitrous Oxide (NOx) from the engine exhaust providing the lowest possible emissions
- High cubic feet per minute (CFM) fans (forced air mixing)
- Digital combustion analyzers for tail pipe emissions monitoring

6.1 Work Area Safety

- Do not use the machine in rain, damp or wet locations.
- Avoid dangerous environments: do not work in the presence of explosive atmospheres, in the presence of flammable liquids, gases or dust. Remove materials or debris that may be ignited by sparks.
- In some cases, sparks could be created by grinding.
- The surface to be treated must be clean, make sure to remove all stones, screwsetc...
Any stones, screws, bolts, pieces of wire etc. could cause serious damage if it gets inside the machine!
- Make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- Do not use on wood.
- Keep children and bystanders away while operating the machine. They are likely not to foresee the potential dangers of the machine. Distractions could cause you to lose control of the machine.
- Persons who are not operating the machine must not be permitted to stay in the surrounding area of at least 5 meters from the machine.
- Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
- Make sure that there are no cables or hoses in the driving direction of the machine.
- Make sure that there is nothing standing or situated on the surface to be treated.
- Make sure the machine can travel over all inequalities on the surface, small inequalities like weld seams or floor joints are no barriers for the machine.
- Never stay in the rain with the machine.
- Check if there are any obstacles that can snag the cables when the machine is moving.
- Remove reinforcing steel or other objects protruding from the surface to prevent damage to the compounds or diamond discs.
- Warning!
Make sure that the surface to be treated does not contain dangerous materials such as:
 - combustible or explosive dusts or substances.
 - carcinogenic or pathogenic substances.
- Secure the work area around the machine in public areas providing an adequate safety distance from the machine. Use a red and white safety chain and danger sign to enclose the work area.

6.2 Personal Safety

- Always wear Personal Protective Equipment while working with the machine.**
 - Dust mask class FFP2 or higher
 - Ear protection
 - Safety glasses with lateral protection
 - Protecting gloves
 - Safety shoes
- Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.
- Stay alert, watch what you are doing and use common sense when operating the machine.
- All persons in the proximity of the machine, must wear eye/ear protection and safety shoes.
- Always seek professional medical attention immediately in case of injury.

6.3 Machine Safety General

- a) Safety functions and operating functions must work correct.
- b) No loose bolts and nuts permitted.
- c) Never operate machine without the guards and/or safety devices in place.
- d) Never change anything on the safety devices on the machine!
- e) The machine, specially the handle grips must be free of fats/oils and must be dry.
- f) If the length of the brushes is, due to wear, less than 5mm or they are extremely deformed, the brushes must be replaced. Check the Service Manual for the ordernumbers.
- g) All repair work must be done by qualified Diamatic personnel, this guarantees a safe and reliable machine.
- h) **Always use original Diamatic spare parts, grinding disks, grinding wings and polishing pads.** This will ensure the best performance. Only original Diamatic parts meet the factory specifications and quality. Otherwise Diamatic BV cannot guarantee the safety of the machine.
The part numbers can be found in the Service Manual.
- i) Check the rotating direction of the motor. The correct direction is given with an arrow on the housing of the motor.
- j) If **safety-critical changes** occur to the machine or its working method, the machine must **be shut down immediately!** The cause of the fault must be established, and rectified.
- k) In the event of **operational malfunctions** the machine must be **shut down immediately** and secured!
- l) Do not use the unit when it is damaged.
- m) Do not **open** or **remove protective guards** while driving gears are running.

6.4 Maintenance Safety

- a) Press the e-stop and turn the ignition key off before starting inspections and repairing on the machine.
- b) Wait for standstill of all drives before any inspections, adjustments and/or maintenance work is started.
- c) Block the machine in a stable position before doing any maintenance work.
- d) Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.
- e) Operational safety and service life of the machine depends, among other things, on proper maintenance. Prevent premature wear by keeping the machine as dust free as possible. Clean the machine regularly with a dust collector and non-aggressive materials, especially the engine. Never use a high-pressure water cleaner to clean the machine.
- f) It is advisable to stock all spare parts or wear parts that cannot be supplied quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.
- g) Do not use any **aggressive** cleaning materials!
- h) Use lint-free **cleaning cloths!**
- i) For the electrical parts, use a tool that is insulated against voltages

6.5 Safety Regarding Dust Collectors

- a) If equipped with vacuum shroud, always use a Diamatic dust collector (when working dry) to ensure a dust-free operation of the machine and clean air at the workspace. Also, the airflow helps to cool the machine and prevent overheating.
- b) Read the operating instructions of the dust collector before using it.
- c) The dust container/bag of the dust collector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.
- d) The dust hose must be connected properly with a hose clamp and industrial tape.
- e) The dust hose must be undamaged and free of obstructions.
- f) Always switch on the dust collector first!

6.6 Burnishing / Micro-polishing Safety

- a) The machine contains rotating parts, which are protected with a sliding cover. Always leave the burnishing pad on the floor while the engine is turning.
- b) The flexible coupling can become worn out with use, because of this there can be higher vibrations than normal. Check the flexi-drive coupling for deformation and damage before every use.
- c) Do not let the machine rest on the burnishing pad or coupler when it is not in use, this will cause deformation to the flexi-drive coupling.
- d) If equipped with vacuum shroud, make sure the brush seals are in good condition, this to avoid dust.
- e) Make sure the burnishing pad is not damaged or worn out.
- f) Always pull out the main plug before changing the burnishing pad.
- g) When mounting or removing a burnishing pad; lay down the machine so it is resting on the frame stops. Make sure the machine will not fall back down. A second person can hold the handle down, to make sure it will not fall back down.
- h) When changing the burnishing pad, you should wear Personal Protective Equipment like a dust mask, safety goggles, and gloves.
- i) **Caution!** The burnishing pads heat up during use, don't risk getting burned, always wear protective gloves when handling them.
- j) Be careful when raising and lowering the machine, dropping or slamming the machine can damage electrical parts.
- k) If equipped with dust shroud, make sure the floating shroud is in transport mode when you transport the machine.

6.7 Transport Safety

- a) Be aware of your surroundings and machine operating level. Do not use on a side hill, do not run on steep incline, this could cause machine to tip over.
- b) The weight of the MPS-1827LP is 350 lbs. Use a crane or lift when transporting the machine, use the lifting eyes of the machine.
- c) When transporting the machine do so in such a manner that damage from the use of force or incorrect loading and unloading is avoided.
- d) Always drive backwards when driving up to a ramp or grade, and forwards when driving off the ramp
- e) Chock wheels for transport and keep control handle in neutral position.
- f) Don't leave the machine unsecured on jobsites.
- g) Always park the machine on a flat horizontal and level surface.
- h) If equipped, make sure the floating shroud is in transport mode when you transport the machine.
- i) Store the cleaned and dry machine in a humid free room. Protect the engine from moisture, heat and dust
- j) Never use the machine for lifting or transporting persons or items.

7. Signs on the Machine

The following stickers are placed on the machine. Meanings of these symbols are:



- Wear a dust mask class FFP2 or higher
- Ear protection is obliged
- Safety glasses with lateral protection are obliged
- CE-mark on this machine
- Wear protecting gloves
- Safety shoes obliged
- Consult the manual before operating the machine



- Danger, disconnect electrical supply before working on this equipment

Personnel must tie back long hair and not wear loose clothing or jewelry including rings.

8. Initial Operation

Before using the machine, it is important to inspect the machine.

It is not permitted to use the machine if the machine safety is not according the checkpoints below. Before switching on the machine make sure that no-one can be endangered when the machine starts up!

8.1 Checkpoints of Electrical Safety

- Check all electrical connections for tightness.
- Check wiring harness for cuts and abrasions.
- No damage is permitted for wiring harness.
- Check battery hold down strap is secure. Tighten if necessary

8.2 Checkpoints of Machine Safety

- Safety functions and operating functions must work correct.
- Check the burnisher pad for damages and/or wear.
- Check all screws and other fasteners for tightness. No loose bolts and/or nuts arepermitted.
- Check the electrical components, cables and connections for wear and/ordamages.
- If equipped with dust shroud, dust hose connection must be reliable: use hose clamps and industrial tape.
- Dust hoses must be undamaged and free of obstructions

8.3 Manual Moving of the Machine

To move the machine, press down the handgrips of the machine until the front part rises from the ground. It can now be pushed around on its wheels.

WARNING! Always make sure all rotating parts have come to a complete standstill before moving around the machine.



9. Tool Tips for MPS-1827LP

Prior to use or maintenance, the operator's manual must be read carefully and understood before using the machine.

9.1 Installation of the polishing pad

- Squeeze locking clip and remove snap on pad retainer.
- Select desire Florgrit pad
- Center pad on the pad driver and install pad retainer by pressing into place.



9.2 Handle Adjustment.

- Remove the thumbscrew on handle pivot. Raise or lower handle arm to comfortable position. Install pin and secure with thumbscrew.
- Operator handle can be adjusted as well to the most comfortable position.



9.3 Start Up

Step 1: Wear correct PPE including; steel toe boots, CO monitor, gloves, eye and hearing protection. No loose-fitting clothing or Jewelry. Make sure work area is well ventilated.

Step 2: Check engine oil. Add if below the fill line. Do not overfill.

Step 3: With safety key removed and E-stop engaged. Tilt machine back and install diamond tooling. Make sure mating surfaces are clean of dirt and debris. Once installed, slowly lower machine back to work surface.

Step 4: Install properly filled **vapor** propane tank and ensure hose coupler is secure. 99% of all propane related issues are from improperly/overfilled tanks.

Step 5: Turn tank valve counter clockwise to open valve and supply fuel.

Step 6: Ensure Ignition switch is in the off position, the E-stop is disengaged and the throttle is pushed all the way down to idle position.

Step 7: Turn the ignition switch clockwise one click to the run position. Wait for red emission control light to go out for Kawasaki engine or turn green for Briggs engine.

Step 8: Turn the ignition clockwise to engage the starter. Once engine fires and runs let go of ignition switch. Let engine idle for 1 minute. Engine will idle at 1300-1340 RPM when warm

Step 9: The MPS-1827LP is equipped with a heavy duty centrifugal clutch. To start burnishing, place one hand on the operator's handle, push the throttle lever forward to the second detent 3450RPM. **DO NOT RUN BELOW 2050RPM CLUTCH DAMAGE WILL RESULT. DO NOT RUN ABOVE 3600 RPM ENGINE DAMAGE WILL RESULT.**

9.4 Shut Down

Step 1: Pull the throttle lever backward to slow position.

Step 2: Let the machine idle at 1300-1340 RPM.

Step 3: Turn the propane bottle valve clockwise and shut off fuel. Let the engine run out of fuel and shut down. Please note the exhaust and engine will have hot surfaces.

Step 4: Depress E-Stop switch and turn ignition switch to off position.

Step 5: To re- start engine, follow steps above in the startup section.

10. Maintenance

- Clean the machine every day with air and non-aggressive materials.
- Never use high pressure water to clean the machine.
- Store the cleaned and dry machine in a dry and humid free room. Protect the engine from moisture and dust

All repair work must to be done by qualified Diamatic personnel, this to guarantee a safe and reliable machine.

Any guarantee on the machine is automatically void when:

- Non-original Diamatic parts have been used.
- Repair work is not done by qualified Diamatic personnel
- Modifications, changes or conversions are undertaken without the written permission from Diamatic USA.

11. Troubleshooting

Fault	Possible cause	Remedy
Excessive vibration or/and Unusual noises	Imbalance due to worn or broken grinding tools. worn out buffer rubbers Defective bearing.	Replace all worn or broken parts. Replace all worn or broken parts. Check the bearing on the axle drive shaft and replace if necessary.
Reduced or no burnishing performance	Burnishing pad has reached the maximum limit Inappropriate burnishing pad for the application.	Replace the worn part. Replace the burnishing pad with appropriate grinding tools for the surface to be treated.
Engine does not crank or turn over	Dead battery E-stop is engaged Defective ignition switch	Check the voltage at battery. Replace if necessary Rotate E-Stop switch and pull to disengage. Test switch with meter. Replace if necessary.
Engine cranks but will not start	Out of LP fuel Incorrect tank type. Defective Fuel Lock off Valve.	Check fuel level and fill Verify tank is vertical vapor Test valve and replace.

12. Spare Parts

Figure 12.1-Frame and Chassis

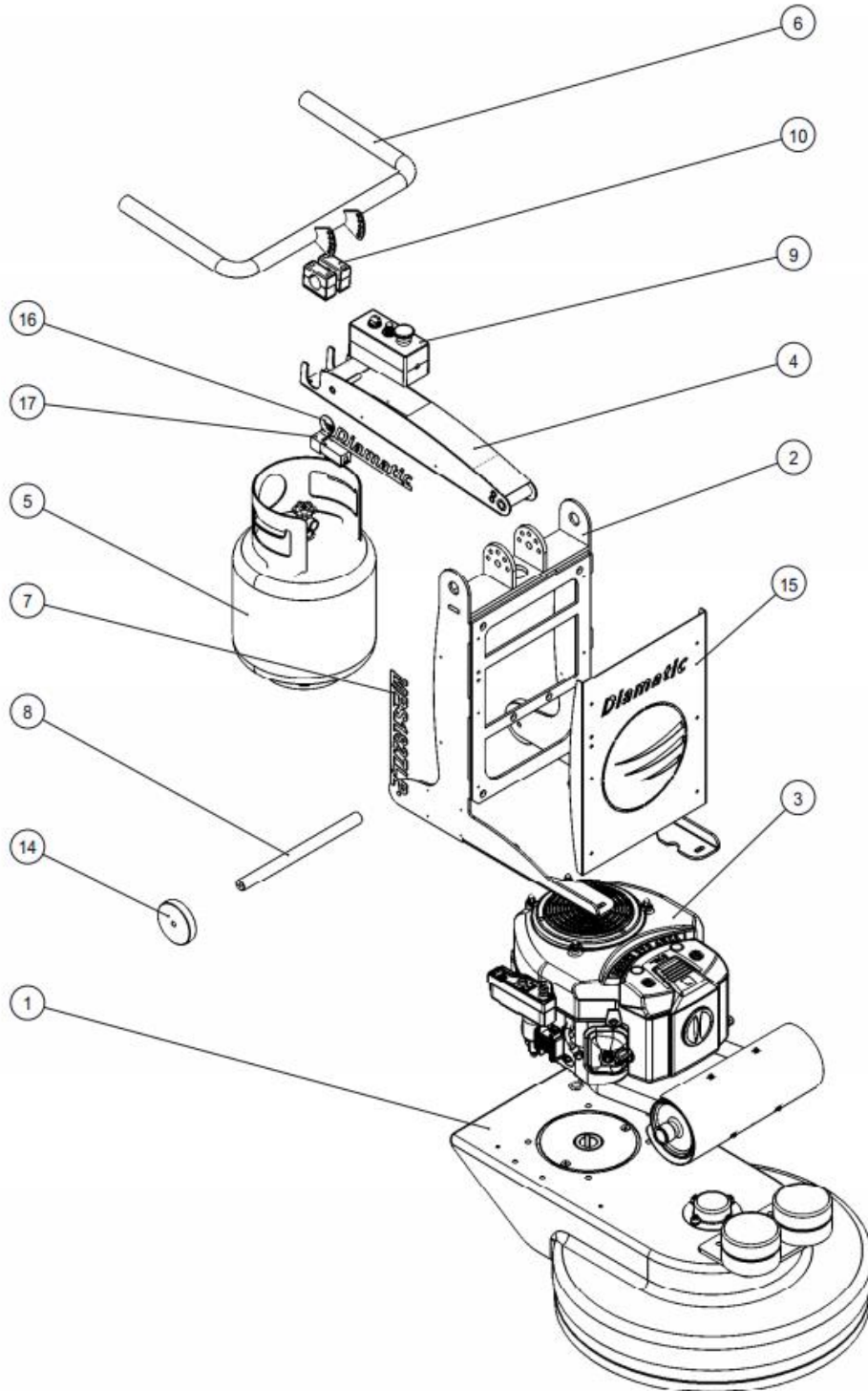


Table 12.1-Frame and Chassis

No.	Part number	Description	QTY
1	ME2100	Bottom Unit	1
2	ME0217	Rack	1
3	MP10005	Engine	1
4	MP10040	Handle rack	1
5	MP10019	Propane tank	1
6	ME0203	Handle weldment	1
7	ME0218	Model number plate	2
8	MP10042	Steel bar	1
9	ME0303	Control panel	1
10	ME0209	Pipe clamp D35	2
12	ME0210	Adjust Pin	1
13	ME0208	Shoulder bolt	1
14	ME0213-1	PU round disc D100x20 (ID11)	2
15	ME0216	Logo Plate Front	1
16	ME0215	Logo plate	2
17	BG11760	Deadman switch	1

Figure 12.2-Bottom Unit

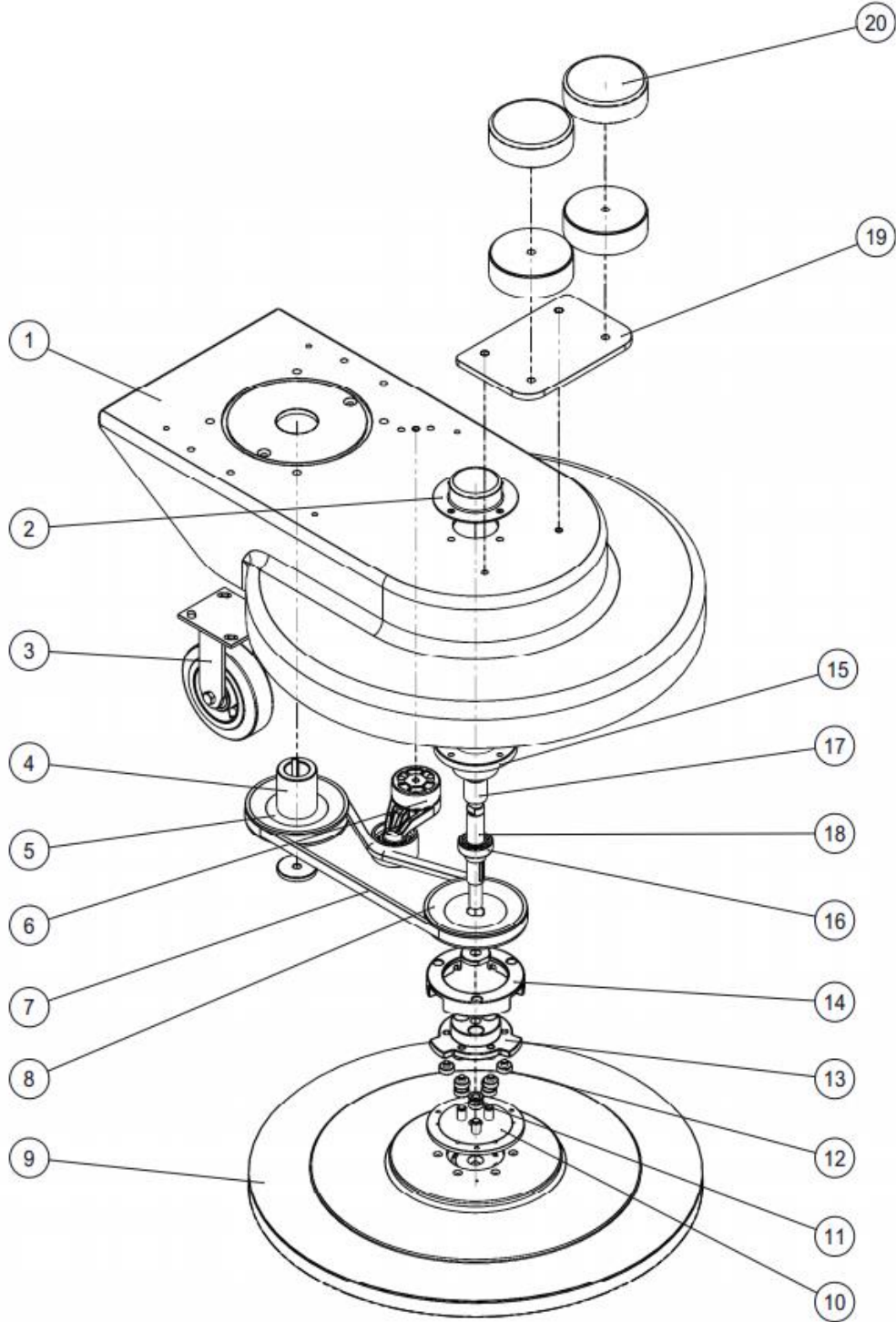


Table 12.2-Bottom Unit

No.	Part number	Description	QTY
1	ME0101	Housing	1
2	ME0102	Dust cover	1
3	ME0105	Wheel	2
4	ME0104	Bushing	1
5	MP10001	Clutch Assembly	1
6	ME0107	Tension pulley	1
7	MP10005	Belt	1
8	MP10002	Bearing unit sheave	1
9	MP10056	Pad holder	1
10	ME0118	Adapter	1
11	ME0117	Rubber big	3
12	ME0116	Rubber small	6
13	ME0115	Coupling male	1
14	ME0114	Coupling female	1
15	ME0110	Bearing housing	1
16	ME0109	Bearing	1
17	MP10008	Bearing unit spacer	1
18	ME0113	Shaft	1
19	MP10043	Weight mounting plate	1
20	MP0103-1, MP0103-2	Weight 8kg	2

Figure 12.3-Drive System

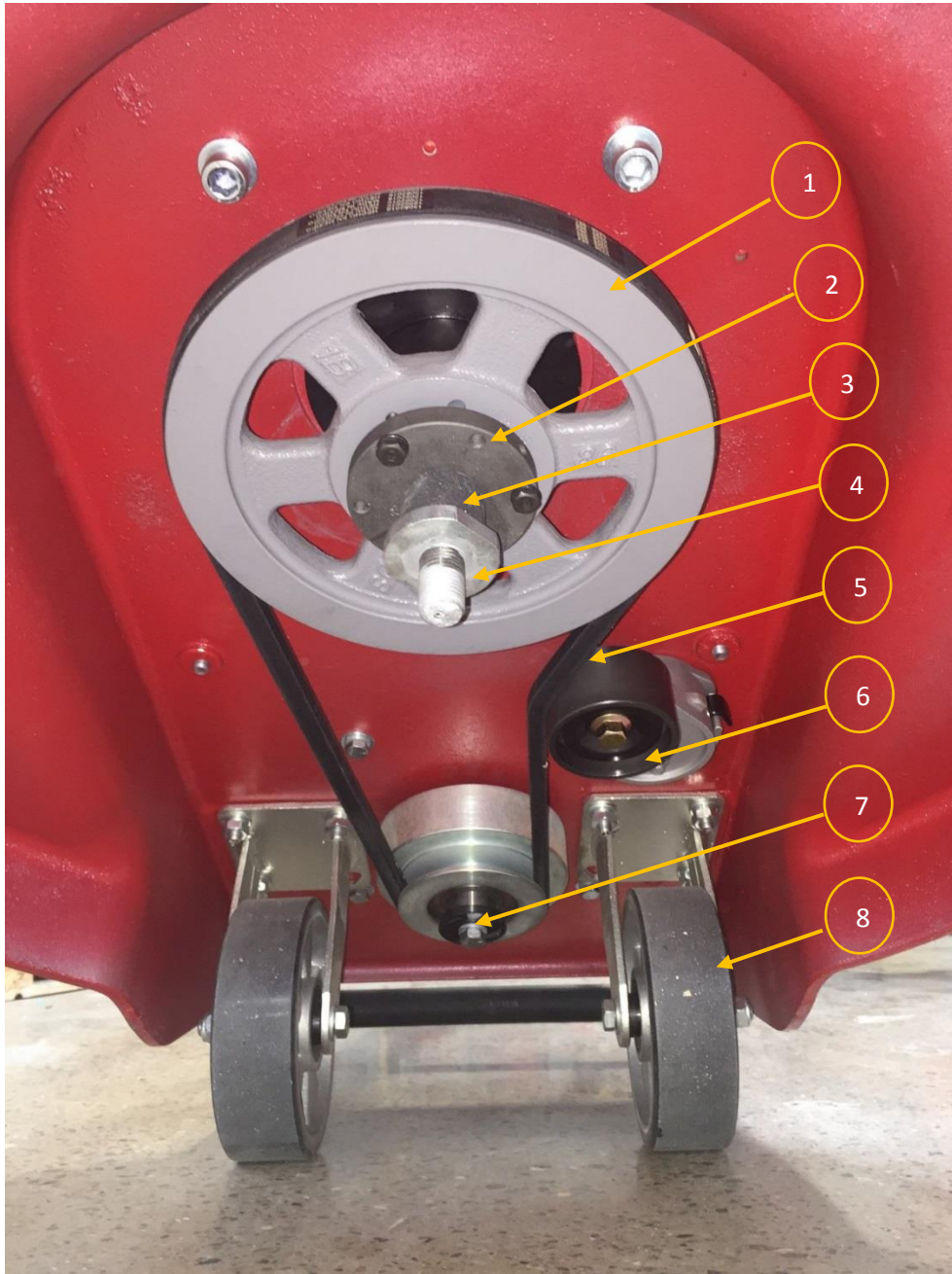


Table 12.3- Drive System

No.	Part Number	Part Name	Quantity
1	MP10002	Bearing Unit Sheave	1
2	MP10003	QD Bushing 25mm Bore	1
3	MP10008	Bearing Unit Spacer	1
4	ME0400	Spacer Nut	1
5	MP10004	Belt	1
6	ME0106	Idler/Tensioner	1
7	MP10001	Centrifugal Clutch w/Pulley	1
8	ME0105	Wheel Assembly	2

Figure 12.4- Control Box

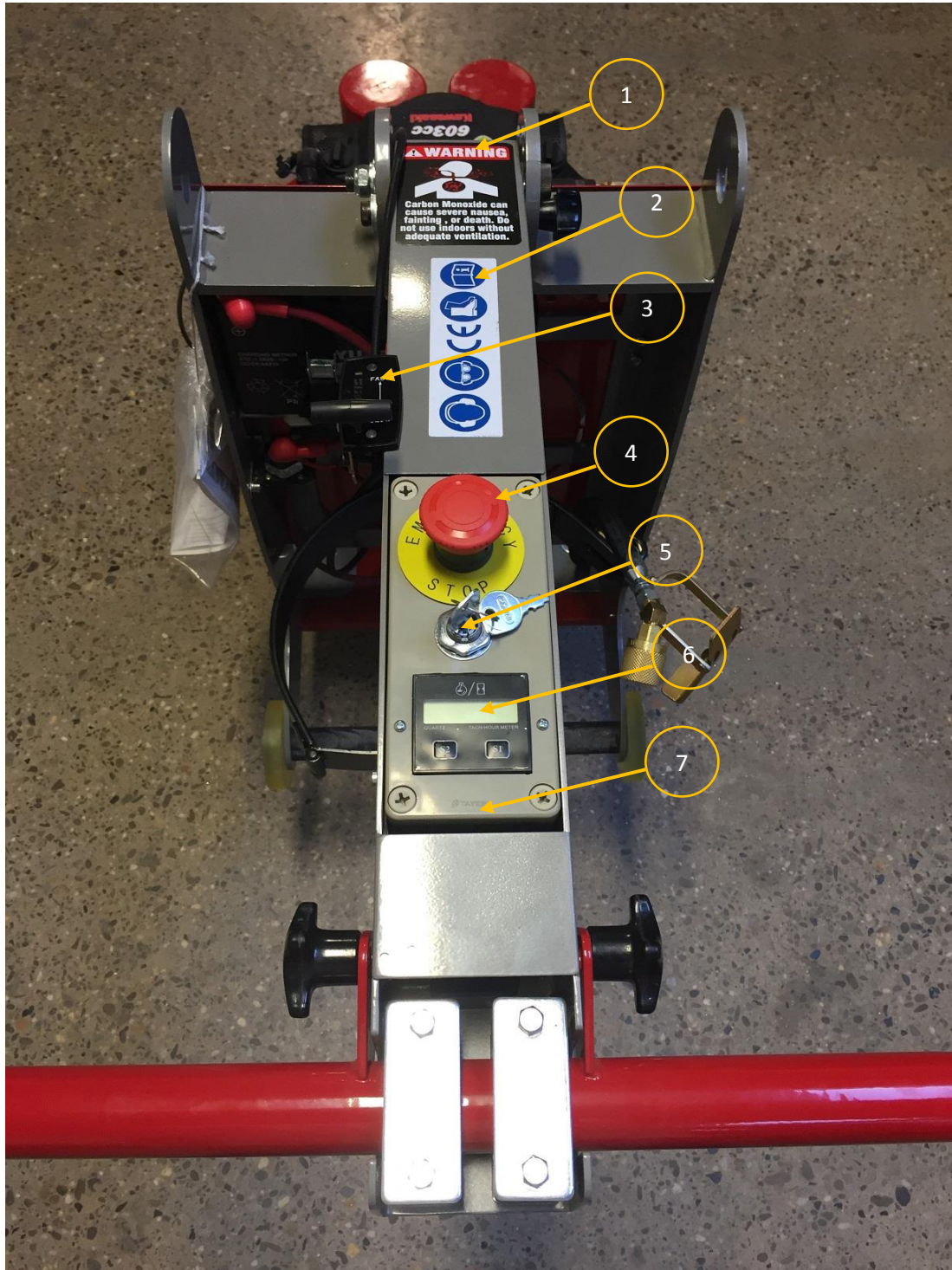


Table 12.4-Control Box

No.	Part Number	Part Name	Quantity
1	P000582	Decal/Warning Carbon Monoxide	1
2	C-10477	Decal/Safety Multiple Image	1
3	MP10009	Throttle Cable Assembly	1
4	ME0400	E-Stop	1
5	MP10011	Ignition Switch	1
6	MP10010	Hour Meter	1
7	MP10071	Electrical Enclosure	1

Figure 12.5-Rear Frame

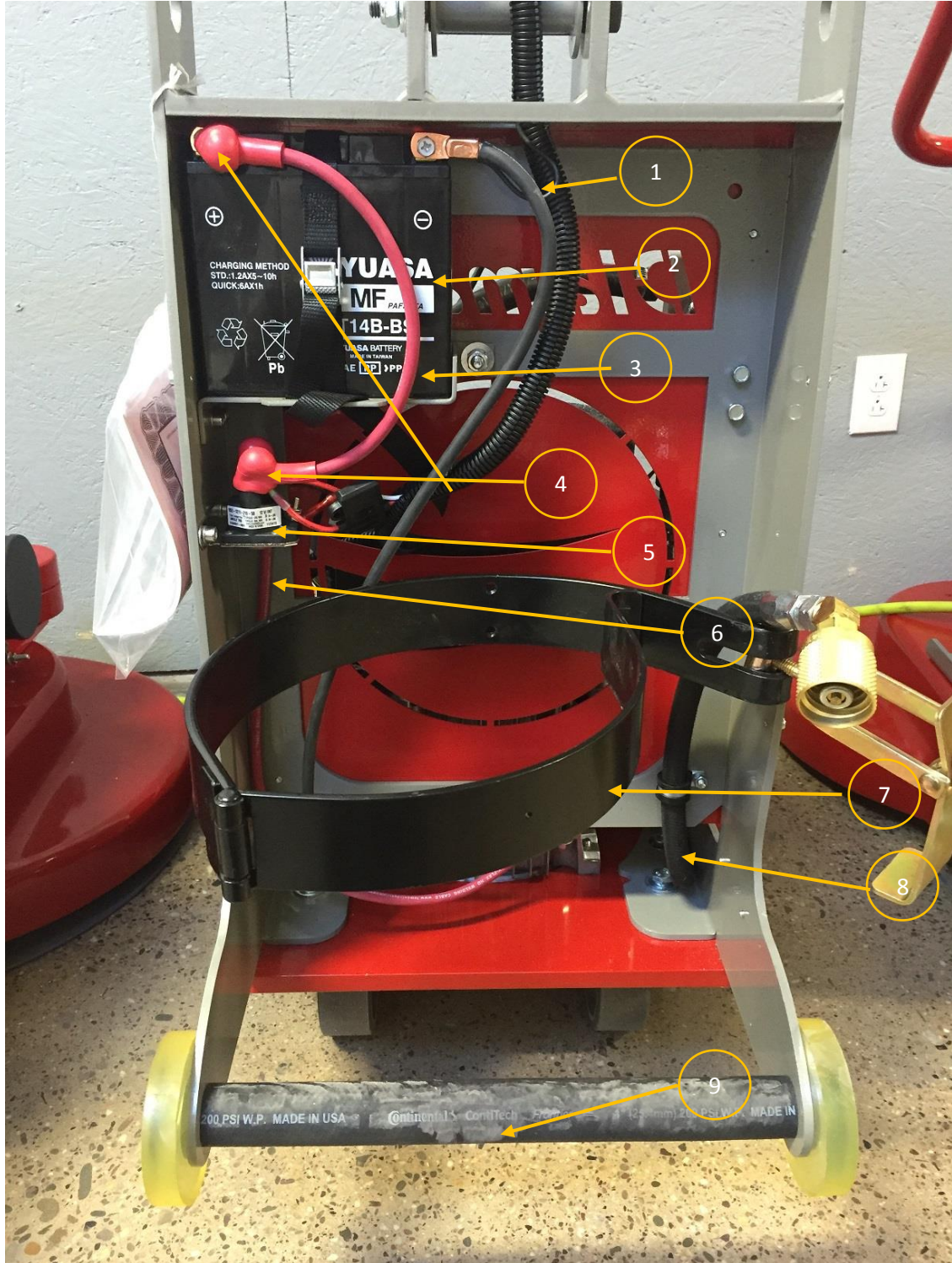


Table 12.5-Rear Frame

No.	Part Number	Part Name	Quantity
1	MP10052	Cable/- Battery to Ground	1
2	MP10012	Battery	1
3	MP10053	Cable/+ Battery to Solenoid	1
4	MP10054	Battery Cap	3
5	MP10053	Solenoid	1
6	MP10055	Cable/+ Solenoid to Starter	1
7	7510005	Propane Tank Bracket	1
8	MP10050	Propane Supply Hose	1
9	MP10032	Rubber hose	1

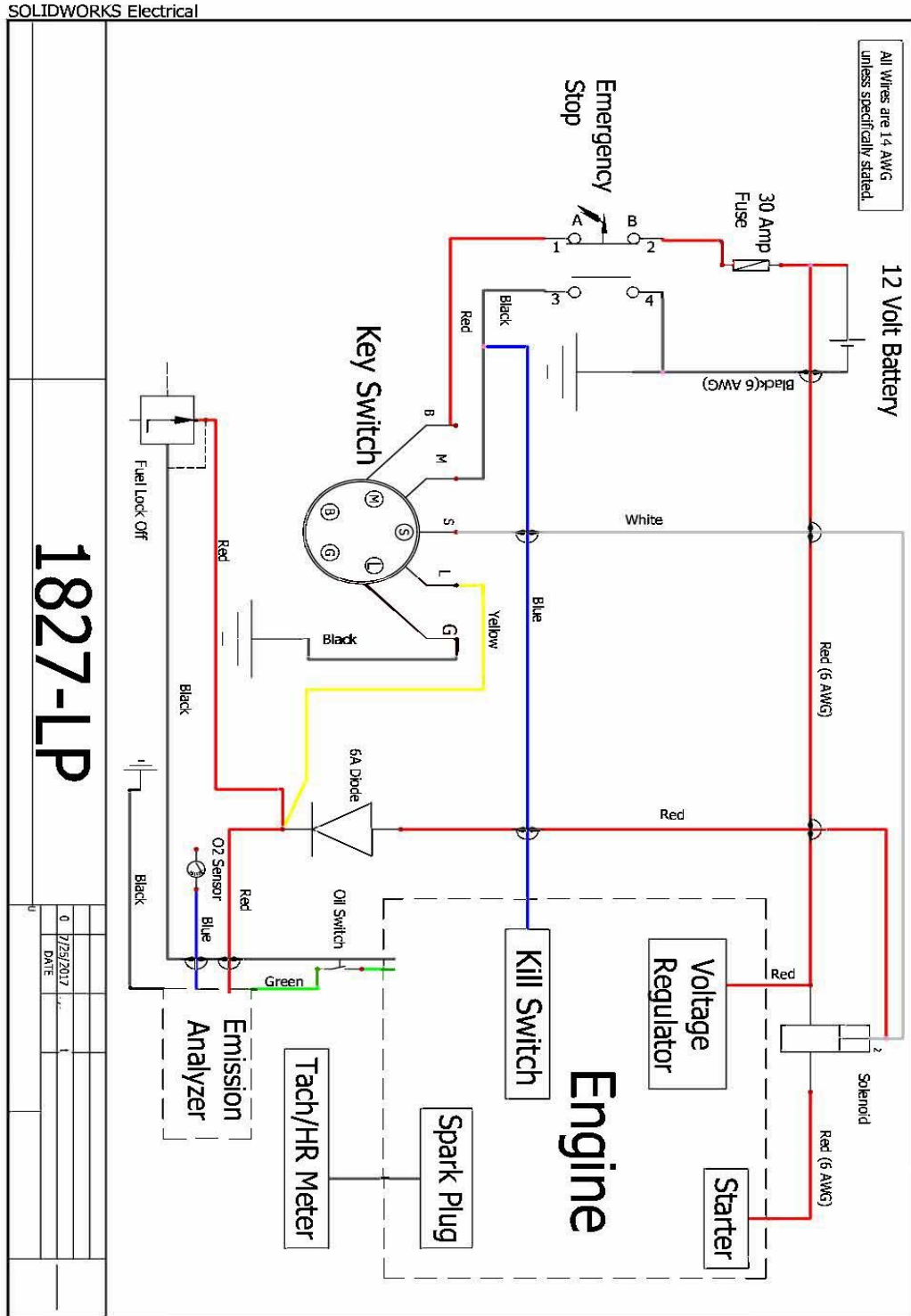
Figure 12.6-Engine



Table 12.6-Engine

No.	Part Number	Part Name	Quantity
1	MP10064	Propane Regulator	1
2	MP10053	Fuel Solenoid	1
3	MP10005-3	Foam Filter	1
4	MP10005-4	Hose/Propane Regulator	1
5	MP10054	Emission Warning Light	1
6	MP10005	18HP Kawasaki Engine Assembly 656CC Briggs and Stratton	1
7	MP10055	O2 Sensor	1
8	MP10059	Catalytic Muffler	1

13. Electrical Schematic



DIAMATIC® PRODUCT WARRANTY

STANDARD EQUIPMENT PRODUCTS

Diamatic warrants its **DIAMATIC** standard equipment products against defects in material and workmanship under normal and proper use for a period of **2 years** from the date of delivery or, in the case of Rental Fleet Machines, 180 days from the date of assignment to a Rental Fleet. Diamatic makes this warranty only to the buyer who purchases the products directly from Diamatic or its authorized distributor. This warranty does not include expendable parts such as, but not limited to, diamonds, wear parts, couplers, and diamond plates.

The buyer must register the product with the warranty card. This warranty card must be mailed to Diamatic within 45 days after taking delivery of the Diamatic machine to receive full warranty. Any machine not registered under warranty through Diamatic will only receive a 6 month warranty period from the date of delivery.

Warranty Terms and Conditions:

1. Diamatic's obligation under this warranty is limited to the replacement or repair, at Diamatic's option, of products and does not include, labor, the cost of transportation, loss of operating time, or normal maintenance services.
2. This warranty does not apply to failure occurring as a result of abuse, misuse, negligence, corrosion, erosion, normal wear and tear, alterations or modifications made to products without express written consent of Diamatic.
3. The buyer must submit all warranty claims no later than thirty (30) days after buyer becomes aware of the basis for any such claim, or should have become aware of the basis for any such claim in the exercise of reasonable diligence.

To return parts for warranty consideration, please call Diamatic Customer Service at **866-295-5512**.

Our customer service representative will obtain the necessary information to complete the Diamatic Returned Merchandise Authorization (RMA) Form. Diamatic will then send the RMA form to the customer authorizing the return of the parts for warranty evaluation.

The parts must be received within sixty (60) days following the RMA origination date or the warranty claim will be denied. Once the parts are received they will be evaluated for warranty.

If the customer cannot wait for the evaluation/replacement of the parts during this process, the customer must issue a new purchase order to Diamatic for the replacement parts before they can be shipped. Once the evaluation process is complete and parts are deemed a valid warranty claim, a credit will be issued against this invoice.

4. The buyer may not return Diamatic products without Diamatic's written authorization to do so.
5. Diamatic reserves the right to inspect and determine the scope of its warranty responsibilities for any returned Diamatic products.
6. Diamatic makes no warranty with respect to accessories it does not manufacture, including but not limited to, engines, motors, batteries, tires and all other parts. See component manufacture warranty.
7. Diamatic reserves the right to make product changes or improvements without prior notice and without undertaking any obligation such changes or improvements on previously sold products.
8. The above warranty conditions can only be altered by Diamatic. Diamatic must confirm alterations in writing for each specific transaction.
9. Diamatic reserves the right to modify this warranty for used or demo products on an individual transaction basis. Diamatic will include warranty modifications on its invoices for used or demo products
10. DIAMATIC DOES NOT AUTHORIZE ANY PERSON, REPRESENTATIVE OR SERVICE OR SALES OUTLET TO MAKE ANY WARRANTY DIFFERENT FROM THIS PRODUCT WARRANTY.
11. EXCEPT FOR ITS PRODUCT REPAIR OR REPLACEMENT OBLGATIONS DESCRIBED IN THIS PRODUCT WARRANTY, UNDER NO CIRCUMSTANCES SHALL DIAMATIC BE LIABLE TO THE BUYER OR ANY OTHER PERSON FOR ANY DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE DIAMATIC PRODUCT OR FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING WITHOUT LIMITATIONS, DAMAGES FOR ANY LOSS OF GOODWILL, WORK STOPPAGE, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.
12. DIAMATIC MAKES NO OTHER PRODUCT WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Diamatic® Warranty Registration Card

NOTICE!

TO THE DELIVERING DISTRIBUTOR OR END USER

To ensure the proper warranty coverage is extended to the owner of this machine, fill out the attached card **COMPLETELY** and **ACCURATELY** and return to Diamatic.

The warranty period will start on the delivery date entered below.

The distributor or the end user must prepare the machine warranty information card when the machine is delivered. Return of the warranty card will extend the warranty period to **2 years** from the date entered below. **Failure to comply will make any and all warranties on the equipment void after 6 months.**

USER'S REFERENCE INFORMATION

Delivery Date _____	Machine Model No. _____
Delivering Distributor's Name and Address _____	Machine Serial No. _____
_____	Modifications _____
_____	_____
_____	_____
_____	_____
Signature of Delivering Distributor's Representative _____	_____

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Fold and Detach Here

Warranty Registration Card

IMPORTANT! To ensure that your Diamatic® machine is covered under warranty, please fill in the following information completely and mail or fax it to:

Diamatic, 5220 Gaines Street, San Diego, CA 92110

Fax 619-295-0754

(Please print legibly)

Company _____

Address _____

City, State, & Zip _____

Telephone No. _____ Contact Person _____

Date of Purchase _____ Date Received _____

Machine Model No. _____ Serial No. _____

Distributor Name _____

End User Name _____

End User E-mail _____