WERKMASTER™

Ultra Floor Systems

OPERATOR'S MANUAL

TITAN XT
COLOSSOS XT

WerkMaster Grinders and Sanders Inc.
6932 Greenwood Street, Burnaby, BC V5A 1X8
tel: 604.629.8700 | toll free: 1.866.373.WERK | fax: 604.444.4231
www.werkmaster.com | email: info@werkmaster.com

LIABILITY LIMITATIONS

The remedies of the user set forth under provisions of warranty outlined at the end of this manual are the exclusive and total liability of WerkMaster Grinders & Sanders Inc. with the respect to their sale or the equipment and service furnished hereunder, in connection with the performance or breach thereof, or from the sale, delivery, installation, repair or technical direction covered by or furnished under the sale, whether based on contract, warranty, negligence, indemnity, strict liability, or otherwise shall not exceed the purchase price of the unit of equipment upon which such liability is based.

WerkMaster will not in any event be liable to the user, any successors in interest or any beneficiary or assignee relating to this sale for any consequential, incidental, indirect, special or punitive damages arising out of this sale or any breach thereof, or any defects on, or failure of, or malfunction of the equipment under this sale based upon loss of use, lost profits or revenue, interest, lost goodwill, work stoppage, impairment of other goods, loss by reason of shutdown or non-operation, increased expenses of operation of the equipment, cost of purchase or replacement power of claims of users or customers of the user for service interruption whether or not such loss or damage is based on contract, warranty, negligence, indemnity, strict liability, or otherwise.

WerkMaster reserves the right to modify, alter and improve any part or parts without incurring any obligation to replace any part or parts previously sold without such modified, altered or improved part or parts.

No person is authorized to give any other warranty or to assume any additional obligation on WerkMaster's behalf unless made in writing and signed by an officer of WerkMaster.

USE ONLY GENUINE WERKMASTER PARTS AND ACCESSORIES FOR YOUR OWN SAFETY, THE SAFETY OF OTHERS AND THE LIFE OF YOUR MACHINE.

CONTENTS

INTRODUCTION

Congratulations on your purchase of a WerkMaster machine. WerkMaster machines allow professional surface prep, polishing, grinding, edging, buffing and restoration of virtually any surface material, including concrete, terrazzo, stone, and hardwood. This manual is provided to assist you in the operation and maintenance of your WerkMaster machine.

MACHINE DESCRIPTIONS

WerkMaster machines include the Scarab, Termite, Viper XT, Raptor XT, TITAN XT, COLOSSOS XT models. To see the complete family of WerkMaster machines visit our website at www.werkmaster.com.

TITAN XT (230V / 380V / 460V)

- Most aggressive surface prep machine in its class, designed to exceed the needs of the professional commercial, residential, and maintenance contractor
- 7 Machines in 1 – grinds, sands, strips, polishes, buffs, burnishes, and edges
- Removes thinset, epoxy, glue, paint, mastic, and micro toppings; works on spalled or rained out concrete
- Allows you to easily flatten a floor or follow a wavy floor with the same tool so you can polish from cream to exposed aggregate
- Delivers deep, crisp, clear mirror finishes on concrete, marble, stone, granite and terrazzo
- Runs wet or dry on concrete, stone, and terrazzo
- Features WerkMaster Octi-DiscTM Technology with 8 counter rotating heads and the versatility of using our 6 ¾" (171 mm) ULTRA-FLEX Plug 'N Go tooling system
- Edges to within 1/8" (3 mm) of the wall
- Easy to use and operator friendly, the TITAN XT weighs only 600 lbs (273 kg), has a 20" (51 cm) footprint with a disc rotation speed range of 450 – 1800 RPM
- Runs on both single-phase 220V or three-phase 230V
- 380V / 460V runs in three-phase only in 380V or 460V mode
- The dual action wet/dry vacuum port allows for dry, dust-free pick up and can be used with our optional water feature
- Has EZ Bak tilt and an adjustable, foldable handle for easy transport

COLOSSOS XT (230V / 460V)

- Largest model in the WerkMaster family of machines, designed to exceed the needs of the professional commercial, residential, and maintenance contractors
- Available in 230V, 380V/460V and 460V models
- 7 Machines in 1 – grinds, sands, strips, polishes, buffs, burnishes, and edges
- Removes thinset, epoxy, glue, paint, mastic, and micro toppings; works on spalled or rained out concrete.
- Allows you to easily flatten a floor or follow a wavy floor with the same tool, so you can polish from cream to exposed aggregate
- Delivers deep, crisp, clear mirror finishes on concrete and terrazzo
- Runs wet or dry on concrete, stone and terrazzo
- Features WerkMaster Octi-DiscTM Technology with 8 counter rotating heads and the versatility of using our 8" (203 mm) ULTRA-FLEX Plug 'N Go tooling system
- Edges to within 1/8" (3 mm) of the wall.
- Easy to use and operator friendly, the COLOSSOS XT weighs only 800 lbs (364 kg), has a 24" (61 cm) footprint has an auto sensing dual voltage (230V and 460V) 3 phase variable frequency drive with a disc rotation speed range of 450 –1800 RPM. 380V models are NOT dual voltage
- The dual action wet/dry vacuum port allows for dry, dust-free pick up and can be used with our optional water feature.
- Has EZ Bak tilt and an adjustable, foldable handle for easy transport.

SPECIFICATIONS

MODEL	TITAN XT	COLOSSOS XT
Dimensions (l x w in) (l x w cm)	20 x 20 51 x 51	24 x 24 61 x 61
Weight (lbs / kg)	600 / 273	800 / 364
Horsepower (HP) Phase	10 1~ / 3~	20 3~
Frequency (Hz)	50 / 60	50 / 60
Voltage (V)	230V: 200-230 460V: 380-460	230V: 200-230 460V: 380-460
Breaker Size	230V: 50 / 460V: 30	50

SAFETY PRECAUTIONS

⚠ WARNING

Read this manual and all the safety precautions before attempting to operate WerkMaster machines. Failure to follow the safety precautions may result in severe personal injury or death. This machine is intended for commercial use.

Personal Protective Equipment

- Wear eye and ear protection at all times when operating WerkMaster machines. Use only ANSI/OSHA-approved safety glasses to help prevent eye injury.
- Wear appropriate clothing and footwear when operating WerkMaster machines. Do not wear loose clothing or jewelry that may become entangled in moving parts.
- Crystalline silica from bricks and concrete and other masonry products may cause health problems. Risk of exposure varies depending on how often you do this type of work. To reduce your risk, work in a well-ventilated area, use a dust control system such as an industrial-style vacuum, and wear approved personal safety equipment, such as a dust or particle respirator designed to filter out microscopic particles.

Physical and Mental Fitness

- **NEVER** operate WerkMaster machines under the influence of drugs or alcohol, when taking medications that impair the senses or reactions, or when excessively tired or under stress.
- Only operate and maintain WerkMaster machines if you are in good physical condition and mental health. You must be physically able to handle their bulk, weight and power.

Safe Operating Distance

- WerkMaster machines are designed to be operated by one person at a time. Maintain a safe operating distance to other personnel. Keep bystanders a safe distance away during operation by blocking off the work area in all directions with roping, safety netting, or other material. Failure to do so may result in someone being injured by flying debris or being exposed to harmful dust and noise.
- Maintain a safe operating distance from flammable materials. Sparks from the cutting action of WerkMaster machines may ignite flammable materials or vapors.

Power

- Unplug the WerkMaster's power cord when not in use and before servicing or changing discs.
- Turn the WerkMaster **off** before disconnecting power.
- **DO NOT** disconnect power by pulling the cord. To disconnect power, grasp the plug, not the cord. To remove twist-lock plugs, push in and turn clockwise to engage, and turn counter-clockwise and pull to remove.
- **DO NOT** turn on the WerkMaster while it is tilted back. Any tooling fastened to the WerkMaster may eject and become a lethal projectile.

Safe Operating Conditions

- Be sure all safety decals on the machine can be clearly read and understood. Replace damaged or missing decals immediately.
- Maintain WerkMaster machines in safe operating condition with all guards in place and secure, all mechanical fasteners tight, all controls in working order, and the grinder configured for the job application, whether concrete, natural stone, wood or other surfaces.

- To prevent damage to the grinder or severe personal injury, avoid protruding slab inserts, nails, screws, Hilti anchors, rebar, embedded bolts or any other debris, pipe extensions, machinery bases, or any objects that transmit sudden shock to the grinding assembly.
- Inspect the tooling plates carefully before installing. **Do not** use any tooling plates that exhibit signs of damage, as severe personal injury or damage to the equipment could result.
- **NEVER** leave WerkMaster machines running unattended.

- Risk of Explosion: Floor sanding can result in an explosive mixture of fine dust and air. Use floor-sanding machine only in well-ventilated area free from any flame or match.

Modifications

- **DO NOT** modify WerkMaster machines. **Modifications will void the warranty** and may result in injury to persons and damage to the machine.

POWER AND CONNECTIVITY

All WerkMaster machines are outfitted with an X4 variable frequency drive (VFD) that allows the desired grinding speed to be selected. Along with controlling the speed of the machine, X4 VFD features include the following:

- Undervoltage protection (damages most single-phase motors)
- Overcurrent protection (prevents nuisance breaker tripping)
- 60 Hz and 50 Hz capability (international)
- Wide voltage range (200–230V +/- 15% for 230V models; 380–460V +/- 15% for 460V models)
- Soft start (smaller generator requirements)
- Monitor pad speed display
- Load display

General Connections

WerkMaster machines come with a variety of different plug configurations. The following table lists the plugs that are typically used.

MODEL	TITAN XT		COLOSSOS XT	
	230V	380V/ 460V	230V	380V/ 460V
Voltage	230	480	230	480
Breaker Draw	30	30	50	30
Phase Configuration	1 phase	3 phase	3 phase	3 phase
Cord End	4 pole 3 wire twist lock	4 pole 3 wire twist lock	4 pole 3 wire twist lock	4 pole 3 wire twist lock

Single-Phase to Three-Phase Adapter Cord

WerkMaster machines come in a variety of voltage and phase configurations.

The TITAN XT is typically configured to operate on 208–230V three-phase power. The TITAN XT is capable of operating on single-phase 208–230V power with the use of the included adapter cord.

COLOSSOS XT is capable of operating with 230V three-phase to 460V three-phase power with the use of the adapter cord. Runs on 230V or 460V auto synching.

Pigtails

Pigtails are plug ends with unfinished bare wire on one end for hooking up to panels. Pigtails are used when connectivity is unknown, when connecting to the power grid of an unfinished building that has no power receptacles, or when operating certain generators. Many pigtails are available or can be made up by an electrician.

Stove and Dryer Adapter Plugs

When using the TITAN XT in a residential environment, source power may be hard to find. The use of stove and dryer adapter cords make it easier to connect to single-phase source power. The adapter cords are outfitted with a 30 A 250 V single-phase twist-lock cord end for dryers and 40A 250V single-phase twist-lock cord end for stoves. The single-phase to three-phase adapter is used to connect the stove or dryer adapter cord to the TITAN XT **only**.

Power Cord Minimum Requirements

The following table lists the minimum requirements for power cords.

MODEL	DISTANCE	MINIMUM REQUIREMENT
TITAN XT	Up to 300 ft	Single-phase minimum gauge of 10/3 Three-phase minimum gauge of 10/4
	Over 300 ft	Single-phase minimum gauge of 8/3 Three-phase minimum gauge of 8/4
COLOSSOS XT 230V	Up to 100 ft	Three-phase minimum gauge of 8/4
	Over 100 ft	Three-phase minimum gauge of 8/4
COLOSSOS XT 380V/460V	Up to 300 ft	Three-phase minimum gauge of 10/4
	Over 300 ft	Three-phase minimum gauge of 8/4

Generator Minimum Requirements

The following table lists the minimum requirements for generators.

MODEL	MINIMUM REQUIREMENT (KW)
TITAN XT	11
COLOSSOS XT	25

⚠ WARNING

Exercise extreme caution at all times when working with electrical power. WerkMaster strongly recommends that only certified electricians be permitted to work with electrical power sources within customers' facility or on their job site.

INTRODUCTION TO THE CONTROLS

Machine Controls

Starting the machine and changing the speed can only be done with the controls on the handle.

USE THIS...	TO DO THIS...
Green Start button	Start the machine.
Red Stop button	Stop the machine.
Speed control knob	Control the speed of the pad drivers. You can set the speed before the machine is turned on or adjust it while the machine is running or unplugged. The speed control knob is analog and has end points.

VFD Controls

The TITAN XT and the COLOSSOS XT use a Vacon X4 Variable Frequency Drive. The TITAN XT VFD allows the TITAN XT to be operated on either single-phase or three-phase power. To operate on single-phase power, a single-phase to three-phase adapter is required. The machine can operate on either 50 Hz or 60 Hz frequencies. The VFD will automatically adjust for phase or frequency input.

The COLOSSOS XT 230/460 Dual Volt VFD allows the COLOSSOS to run on either 230V or 460V auto-sensing between 230 and 460V. The machine to be operated on 230V, 380V or 460V **except on 230V only or 460V only models**. An adapter (not included) is required to convert to 460V. The machine can operate in 50 Hz or 60 Hz frequencies. The VFD will automatically adjust for phase or frequency input.

⚠ DANGER

NEVER open the VFD panel while plugged in or immediately after unplugging the power cord. Severe injury or death may occur.

The TITAN XT and the COLOSSOS XT models include VFD controls listed below. The following buttons are locked out as they are not required to use these machines:

- Forward button (FWD)
- Reverse button (REV)
- Jog button (JOG)
- Local / remote button (LOC/REM)

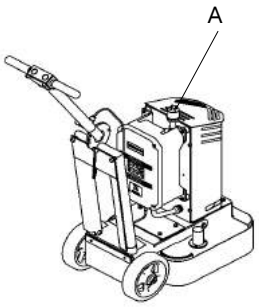
USE THIS...	TO DO THIS...
Stop button (STOP)	Stop the machine. The machine will not perform any function from the keypad other than stopping the machine. The machine can be stopped with this stop button on the VFD or with the stop button on the handle. The stop button on the VFD cannot be locked out as it is a secondary safety stop. If the stop button on the handle fails, the stop button on the VFD can be used instead.
Program button (PROG)	Enter level 1 programming. All programming parameters are locked out by means of an access code. This is done to prevent accidental parameter changes that can cause machine malfunction or damage.
Shift button (SHIFT)	Use with the program button to enter level 2 programming. Also use to change parameter settings.

MACHINE OPERATION

⚠ WARNING

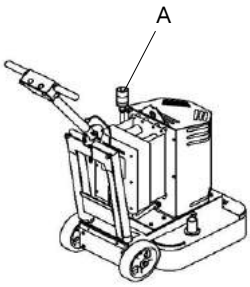
Changing Tools

Always turn off and disconnect power from the machine when performing any operations to the bottom of the machine.



Titan XT

Fig 1



Colossos XT

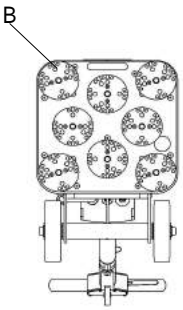


Fig 2

To change tooling:

1. Unplug the power cord from the twist lock inlet (A). Ensure the handle is in its full upright position (Fig 1). Tilt the machine back (Fig 2). Choose the appropriate tooling holder attachment – magnetic Plug 'N Go plate (B) for Metal Bond tools or Foam/Velcro Adapter plate for polishing resins. Insert the two (2) shear pins into the rubber grommets. Attach the corresponding tooling to the plate.
2. Return the machine to the upright position.

EZ Bak Tilt Operation

For the **TITAN XT**:

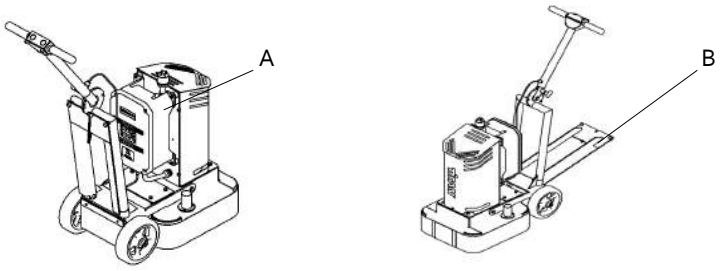


Fig 1

1. Unplug the power cord from the twist lock plug (A). Ensure the handle is in its full upright position (Fig 1). Tilt the equipment back by removing the pull pin, releasing and stepping on the step down plate (B) and pulling down on the handle.
2. Slowly lift the equipment back to the upright position by using the step down plate (B) to prevent the TITAN XT from hitting the floor.
3. Fold up and secure the step down plate (B); replace the pull pin.

For the **COLOSSOS XT**:

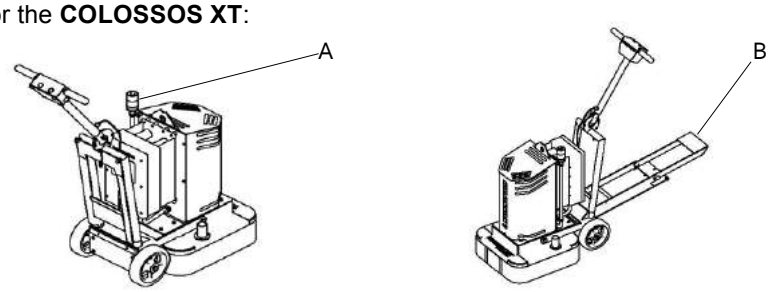


Fig 1

1. Unplug the power cord from the twist lock plug (A). Ensure the handle is in its full upright position (Fig 1). Tilt the equipment back by releasing and unfolding the step down plate (B). While stepping on the step down plate, pull down on the handle.
2. Slowly lift the equipment back to the upright position by using the step down plate (B) to prevent the COLOSSOS XT from hitting the floor.
3. Fold up and secure the step down plate (B); replace the pin.

Adjusting the Dust Skirt

The dust skirt serves as a seal for the bottom of the machine to act as a vacuum chamber helping the dust stay contained under the machine. If the skirt is too far from the ground, the dust containment is reduced.

To adjust the dust skirt:

1. Pull one end of the skirt off of the machine until you reach the middle of the skirt.
2. Position the skirt until it is barely touching the ground and repeat with the other end.

⚠ WARNING

Avoid positioning the dust skirt too low as it will drag against the ground, wearing the skirt out prematurely and possibly preventing smooth machine movement.

Adjusting the Handle

To adjust the handle:

3. The handle on the TITAN XT is spring-loaded, pop the pin and adjust the handle to the desired operating position.
4. On the COLOSSOS XT, pull the pin and adjust the handle to the desired operating position.

⚠ WARNING

Failure to check the handle is fully engaged could result in damage to the machine or personal injury as the handle could release unexpectedly when the machine is being operated or tilted back.

Initial Start Sequence

When the machine is first plugged in, the following start-up screen will appear showing the model of the VFD and the software version.

After the machine runs through its initial start-up sequence, the screen will show the VFD status, pad driver speed in revolutions per minute (RPM), and percent of motor load.

Selecting the Starting Speed

Using the speed control knob on the handle, turn the speed all the way down to 450 RPM.

⚠ WARNING

Do not lift the machine off the ground while starting it. Doing so could cause the diamonds to release from the machine, resulting in damage to the floor or personal injury.

Starting the Machine

To start the machine:

1. Apply downward pressure on the handle to alleviate some pressure off the diamonds; press the green start button.
2. The status on the screen will change from stopped to forward acceleration. The load will increase as indicated by the percentage at the bottom right.
3. Once the machine starts, gently release the downward pressure and start grinding.
4. Use the Speed Control Knob to select desired speed.
5. Once the machine reaches the desired speed, the following screen will appear. The speed will remain constant as long as the load applied remains below 100%. If the machine is running at speed and the load begins to exceed 100%, the machine will reduce its speed as a protective measure to try and alleviate the outstanding load. This happens under demanding conditions and is normal.

Adjusting the Speed

The speed of the machine can be adjusted when the machine is running or stopped. To adjust the speed, rotate the speed control knob on the handle counterclockwise to slow it down or clockwise to speed it up.

Stopping the Machine

To stop the machine, push the stop button on the handle or the STOP button on the VFD.

⚠ DANGER

NEVER open the VFD panel while plugged in or immediately after unplugging the power cord. Severe injury or death may occur.

Installing and Removing the Pad Driver

To install and remove the pad driver on the bottom of the machine, you will need a 9/16” (14 mm) socket wrench, a soft face mallet, and some medium-strength thread locker (blue Loctite 243 or equivalent).

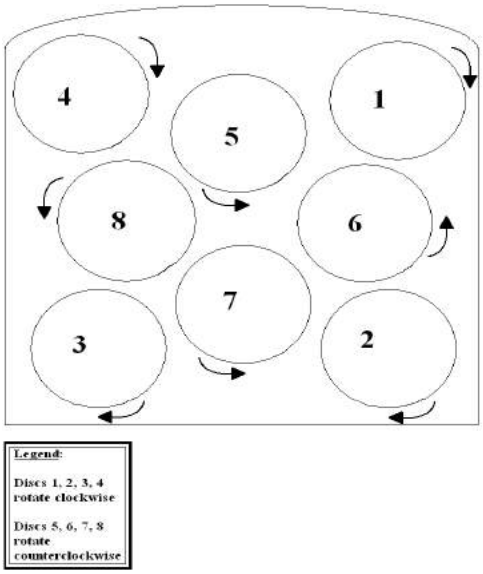
To remove the pad driver:

1. Slip the 9/16”(14 mm) socket wrench over the pad driver bolt and strike the wrench with the soft face mallet in a counter-clockwise direction.
2. When installing a new pad driver or re-installing an existing one, apply a generous amount of thread locker compound to the end of the bolt and fit it through the hole in the pad driver. Reapply thread locking compound every time a pad driver is removed.
3. Line up the bolt to the threaded end of the shaft and start the first couple of threads.
4. Once the bolt is engaged, make sure that the drive shaft tongue is properly seated within the pad driver’s slot before tightening the bolt all the way.

⚠ CAUTION

Failure to seat the pad driver could result in the pad driver slot being stripped out, the threads in the shaft being stripped, the machine leaving heavy tool marks, and the tooling overheating.

Rotation Pattern of Tooling Plates



Bottom of WerkMaster with numbered discs and clockwise and counter-clockwise labeling

CHECKING USAGE TIME

Entering the Programming Menu

The X4 VFD has some options you can select to determine the total time the machine has been energized or the total run time, or view various other parameters. To view these screens, enter the programming menu by pressing and holding the SHIFT button and pressing the program (PROG) button once.

Bypassing the Access Code

The machine is set with an access code to prevent accidental parameter changes that could cause the machine to behave unpredictably, run less efficiently, or cause irreparable damage. The following screen will appear.

NOTE

For your protection and to protect the machines, the access code is not provided. There is no reason to change the programming of the machine as the machine is optimized from the factory to provide maximum performance.

To bypass the access code screen and enter the programming menu, press the ENTER button. Any attempt to enter an access code will be ignored by the VFD

After the access code screen, the following screen will appear.

⚠ NOTE

The number 201 has a “V” before it. All parameter numbers that have a V before them can only be viewed. Any number with a “P” before it can be changed. If you notice a parameter with a P before it, contact customer service as this is a fault that may cause problems.

Viewing the Total Time Energized

Using the arrow button, scroll down until you reach parameter 109. This parameter displays the total time the machine has been in plugged in. You cannot reset this parameter.

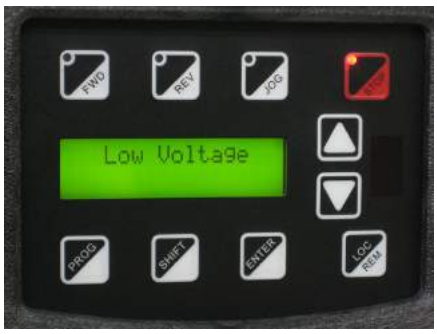
Viewing the Total Run Time

Using the arrow button, scroll down to parameter 108. This parameter displays the total time that the machine has actually been running. This is useful if you want to compare the total run time to the total plugged in time. This parameter is also used for assessing warranty information.

Exiting the Programming Menu

To exit the programming menu, press the program (PROG) button. The main operation screen will appear.

When you unplug the machine, the screen will stay lit for a few seconds. As the VFD drains the power from its internal capacitors, it will display “Low Voltage” until it turns off. This is normal.



VACUUM OR WATER FEATURE

Vacuum

1. Use a 2” vacuum hose between the vacuum port to fit a standard 2” vacuum hose.
2. Run the vacuum **only** while dry grinding.
3. Always refer to vacuum manual.

Water Feature

1. Insert water feature plug into the vacuum port.
2. Ensure the blue flow control valve is in the OFF position.
3. Attach a ¾” male (standard garden hose) to the ¾” female end of water feature. Secure tightly with a new washer to prevent leaks.
4. Turn on water supply. Adjust the blue flow control valve as wet grinding process requires.

⚠ WARNING

ALWAYS refer to the variable speed grinder/polisher manual prior to using the water feature.

MAINTENANCE

⚠ WARNING

Disconnect power before performing any maintenance, cleaning, or repairs to your machine.

Daily

- Wipe down the machine after every job.
- Check grommets and pad drivers for wear.
- Check pins for wear.
- Vacuum, wash and thoroughly dry the underside of the machine.
- Inspect the plug ends for signs of carbon deposits and arcing.
- Check all fasteners and tighten if necessary.

Weekly

- Inspect the handle wires for damage.
- Blow off the VFD heat sink with compressed air.
- Blow out the VFD cooling fin fans with low-pressure compressed air (30 psi or less). Cleaning the fan prevents fan failure and potential VFD overheating.
- Blow off the motor fan with compressed air.
- Re-install the pad drivers using blue thread locking compound.
- Using a soft scrub pad, remove any excess dirt build-up from the bottom plate and back side of the pad drivers.

⚠ CAUTION

DO NOT over-speed the fans with compressed air.

After wet operation, wash bottom of machine thoroughly, failure to do so may result in damaged bearing seals.

DO NOT use any sharp object or abrasive pad to clean the bearing shields. This can compromise the bearing seal.

Monthly

- Check all strain reliefs and make sure they are tight. (Strain reliefs are the plastic nuts that secure the wires that come out of the handle and VFD.)
- Remove the pad drivers and inspect the threads to make sure there are no signs of cross-threading or stripping. Remove excess thread locking compound from bolts using a wire brush or by washing the bolts in a solvent.
- Clean and lubricate wheels.
- Using an extremely light abrasive pad, remove any topical rust from the shafts.

TROUBLESHOOTING

ISSUE	TEST	SOLUTIONS
Machine will not turn on.	Check all power connections. Make sure the source power meets the machine's minimum power requirements (see *Power Cord Minimum Requirements* p. 5).	• Plug in the machine. • Check to see if any breakers or fuses are tripped or blown. • Check to see the handle activation lever is not depressed. • Have a qualified electrician test the source power to see if it meets the machine's minimum power requirements.
Machine turns on but will not start.	Check the VFD display for error codes (*see Appendix p.* p.19).	• If no error code is displayed, check if the handle wire is plugged into the machine. • If the VFD error code is "voltage range," have a qualified electrician test the source power and make the necessary adjustments to the wiring to supply the machine with its required input power.
Machine runs for a short time and then shuts down.	Check the circuit breaker to see if it is tripped or the fuse if it is blown.	• Check to make sure that the power source has the appropriately sized breaker or fuse to meet the machine's minimum power requirements. • Make sure the generator meets the machine's minimum power requirements. • Have an electrician perform a voltage test while the machine is under load to see if the voltage drops below the machine's minimum power requirements.
Pad drivers are not turning or only one pad driver is turning.	Disconnect the power and tilt the machine back. Spin one pad by hand.	• If the pad turns independently, replace the secondary belt. Go to www.werkmaster.com/support. • If all pad drivers turn but the motor fan does not turn, replace the primary belt. Contact technical support: 866.373.9375.
Not all discs are grinding the floor.	Disconnect the power and tilt the machine back. Visually inspect each pad driver height against the adjacent pad driver.	• Make sure all pad drivers are seated properly on the shafts. • Make sure grinding / polishing / sanding media is seated properly on the pad drivers. • Make sure grinding / polishing / sanding media is worn evenly and change out any media if uneven.

ISSUE	TEST	SOLUTIONS
Excessive noise or vibration is felt or heard while running the machine.	Disconnect the power and tilt the machine back. Spin one pad by hand. Listen for a clicking sound or grit-like feeling.	• Check that all tooling is in the correct pin holes on the pad drivers. • Replace the bearings. Contact technical support: 866.373.9375 for instructions.
Tooling becomes dislodged from the machine while operating.	Disconnect the power and tilt the machine back. Remove and inspect all tooling. This includes the pins, tooling plates, and pad drivers.	• If the pin holes are excessively damaged, replace the pad drivers. • If the grommets/bumpers on the pad drivers are damaged, replace the damaged parts. • If the pins on the diamonds or tooling plates are damaged or missing, replace the pins.
The machine handle malfunctions.	Check the handle plug to see if it has come loose.	• Secure the handle plug. If the handle controls are still malfunctioning, contact customer service for instructions.
VFD makes popping noise and starts to smoke. *****Disconnect power immediately!*****	Wait for 1–2 hours, then remove the VFD cover and check electronic components for discoloration, scorching, or swelling.	• Contact a dealer or technical support: 866.373.9375.
VFD screen displays error message or unusual screen display.	Look up the message in the Appendix.	• Contact technical support: 866.373.9375.

VFD ERROR SCREENS AND CODES

VFD Error Screens

Voltage Range Error

The VFD is capable of handling a wide range of input power. The voltage range is:

- 230V models: 200–230V +/-10% (180–253V)
- 460V models: 380–460V +/-10% (342–506V)

If input source power is outside of these ranges, the error on the following screen will appear. The VFD is protected from voltage fluctuations within the specified voltage range.

If a machine is plugged into a power source that is above the machine's maximum voltage capability (for example, 230V model plugged into a 460V generator), this will damage the VFD and void the warranty.

Cooling Fan Error

The X4 VFDs are equipped with one or two electric fans mounted on the back of the VFD's cooling fins (heat sink – HS). When the VFD is plugged in, it will run a self-diagnostic to make sure all internal components are operational and to check the cooling fans. If the fans fail to spin, the error on the following screen will appear. This could happen because of debris jamming the fan blades, heavy contamination, or water inhibiting the power that the fan needs to run. In the event of a cooling fan error, unplug the machine and inspect, clean, and check for free movement of the fan blade.

VFD Error Codes The following table shows the fault codes that may be displayed during X4 AC drive operation, along with suggestions for recovering from the fault condition.

⚠ NOTE

Shaded faults are auto-resettable, except where noted.

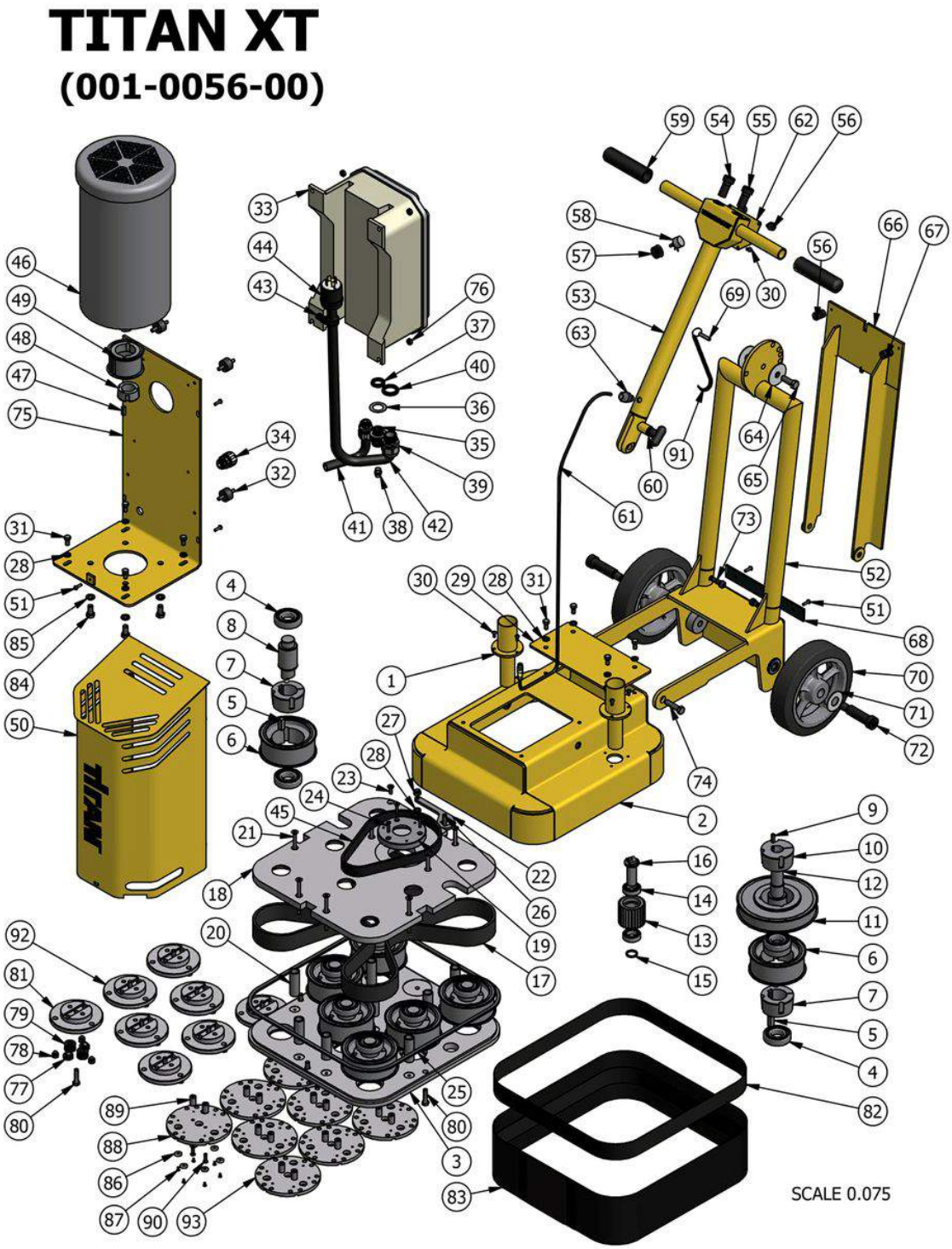
CODE	FAULT DISPLAY	DESCRIPTION	ADV. FAULT CODE	EXPLANATION	SUGGESTIONS FOR RECOVERY
1	System	System fault	0,1,2	Internal microprocessor problem.	Consult the factory for repair or replacement.
			3	Thermistor profile is incorrect.	Consult the factory for repair or replacement.
			0	Memory problem when reflashing the drive's memory.	Reset the drive to factory settings. Consult the factory.
			1,2,3	Conflict in the drive's memory.	Reset the drive to factory settings. Consult the factory.
2	EE Checksum	Checksum error	4	Unable to write an EE parameter after a parameter has been changed through the keypad or SIO.	Reset the drive to factory settings. Consult the factory.
			5	The drive is receiving EE write requests faster than they can be processed. This would typically be caused by writing parameters too frequently through Modbus.	Slow down the frequency of the Modbus writes.
3	Curr Calibr	Current calibration fault	0	Current calibration fault on phase T1/U.	Check the motor connections to the terminal strip of the drive and at the motor. Have motor checked. Consult the factory for repair or replacement of drive.
			1	Current calibration fault on phase T2/V.	
			2	Current calibration fault on phase T3/W.	
4	Power Supp	Power supply fault	0	5 V supply is below 4 VDC for more than 100 ms.	Increase resistance between REF and analog inputs. Check the wiring to REF terminals. Consult the factory.
6	IOC Trip	Instantaneous overcurrent trip	0	Short circuit was detected on power-up.	Remove the short from the power wiring Check for a shorted motor. Consult the factory.
			1	Short circuit was detected during operation.	
7	MOL	MOL contact fault	0	MOL digital input was activated, depending on pull-up or pull-down logic configuration.	Reset the MOL contact or remove the condition causing the MOL contact activation.
8	Model ID	ID # out of range	0,1,2	Control board is not reading the drive ID properly.	Consult the factory for repair or replacement.
10	Res Lockout	Restart lockout	0	The number of fault restarts is greater than the limit defined in the customer parameter.	Check the actual fault in the fault log and use the appropriate remedy.
11	Ground	Ground fault	0	The drive detected a current imbalance between output phases. Imbalance determined to be current flow to ground.	Check for unbalanced currents. Check for grounded motor leads or motor. Consult the factory.
12	Vac Imblnce	Input voltage imbalance	0	The drive detected a single-phase condition or a voltage imbalance outside the drive's rating while running a load that could be damaging to the drive.	Check input voltage and current for imbalance, and correct.

CODE	FAULT DISPLAY	DESCRIPTION	ADV. FAULT CODE	EXPLANATION	SUGGESTIONS FOR RECOVERY
13	OverVoltage	Overvoltage condition	0	The drive detected an overvoltage condition during power-up *(not auto-resettable)*.	Verify that incoming line power is within the drive's specifications. Add a reactor or transformer to correct.
			1,3	The drive detected an overvoltage condition during a running condition.	Verify incoming line power and check for regenerative load. Reduce Regen load or add dynamic braking resistors. Regen Current Limit may help; consult the factory.
			2	The drive detected an overvoltage condition on power-up on the load side.	Verify that incoming line power is within the drive's specifications. Add a reactor or transformer to correct.
15	Dyn Brake	Dynamic brake overload	0	DB circuit is active on power-up *(not auto-resettable)*	Check for a failed braking transistor. Consult the factory.
			1	DB circuit is being activated for too long, possibly causing the resistor to overheat or fail.	Reduce the braking cycle or increase capacity. Activate the current limit; consult the factory.
			2	DB circuit is overloaded because of too large a regenerative load.	Reduce the braking cycle or increase capacity. Activate the current limit; consult the factory.
			3,4,5	DB circuit is faulty on power-up *(not auto-resettable)*.	
18	OverCurrent	Overcurrent condition	0	The drive detected an overcurrent condition on power-up *(not auto-resettable)*.	Check for a failed output power device or shorted motor.
			1	The drive detected an overcurrent condition during operation. The current has exceeded the safe operation point of power devices.	Reduce the load on the motor. Verify that Motor FLA is programmed correctly. Check for mechanical binding and shock loading.
19	Over Temp	Over-temperature condition	0	The temperature of the heat sink exceeded a temperature limit.	Check that ambient temperature does not exceed the drive's rating. Check fan operation (if the drive has fans installed).
			1	The temperature of the control board exceeded a temperature limit.	Check that ambient temperature does not exceed the drive's rating. Check fan operation (if the drive has fans installed).
			2	The drive detected that the heat sink thermistor sensor is faulty or not connected properly.	Check the thermistor connections or replace. Consult the factory.
			3	The drive detected that the control board thermistor sensor is faulty or not connected properly.	Check the thermistor connections or replace. Consult the factory.
20	Motor TOL	Motor timed overload trip	0	The drive detected an overload that exceeds the customer's defined overload setting.	Check load current demand. Verify that Motor FLA is programmed to the correct value. Verify that TOL characteristic is correct for the application.
21	Low Temp	Low temperature	0	The temperature of the heat sink fell below -10° C.	Verify that ambient temperature is within the drive's specifications; increase the ambient temperature if necessary.
22	Ref Loss	Speed reference loss	0	The drive detected that the analog input was configured to fault if the input current went below the level specified by customer parameters.	Check the physical connections for a reference signal. Check that the programming for a 4–20 mA signal is correct. Verify that the signal to the drive is correct.

CODE	FAULT DISPLAY	DESCRIPTION	ADV. FAULT CODE	EXPLANATION	SUGGESTIONS FOR RECOVERY
23	Brk Wire	Broken wire detection	0	The drive detected that the potentiometer circuit wiring opened and generated a fault.	Check the wiring for loss of connection to control terminals. Check that a potentiometer of the proper value is installed.
24	Keypad Loss	Keypad loss	0	Problem with the keypad or a keypad connection. The drive detected that it could not read any key presses.	Check the connection from the keypad to the control board. Note that the keypad is not designed for remote mounting.
			1	Problem with the keypad or a keypad connection, or wrong keypad was used. Keypad ID for an X_4 could not be read.	
			2	Problem with the keypad or a keypad connection. The drive detected that it could not write to the LCD.	
25	Comm Loss	Communication loss	0	The drive is in a serial link control path and the amount of time since the last Modbus comm. exceeded the time set in parameter 903 (SIO Timer).	Check the connections to the Modbus port. Adjust the value of parameter 903 (SIO Timer) as needed.
26	Regen Time	Regen timeout	0	The drive took more time to decelerate to a stop than is allowed. The timeout is determined by the longest deceleration ramp time (Decel1 or Decel2) plus the Regen timeout parameter.	Reduce the amount of regenerative energy or increase the Regen timeout parameter.
27	Pwr Bridge	Power bridge fault	0,1,2	The drive detected a failure in the output power devices.	Check for a failed input power device.
28	Drive TOL	Drive timed overload	0	The drive detected an overload that exceeded the drive rating.	Check that load conditions do not exceed the drive's rating (120% for 60 seconds from nameplate current rating for normal duty and 150% or rated current for 60 seconds heavy duty).
29	Stuck Key	Stuck key error	0	Key press was detected upon power-up. This would occur because of a defective keypad or because someone was holding down a key when powering up the drive.	Check for a stuck keypad and repair or replace. Consult the factory.
30	Param Range	Parameter out of range	0	One of the customer parameters is out of range.	Check for a parameter value saved out of the standard range. Reset parameters to the factory default. Consult the factory.
31	Pwr Wiring	Power wiring error	0	Problem with the drive wiring.	Check that input power wiring is not connected to load power terminals. Consult the factory.
			1	IOC fault was detected during the power wiring test.	
32	Low Voltage	Low voltage trip	0	Power dip occurred when the drive was operating, and the drive was not able to ride through the power dip before shutting off outputs.	Verify that input line power is within the drive's specifications. Add a transformer or reduce demands to the power feed. Consult the factory.
33	1Ph Overload	1Ph overload	0	Bus voltage ripple was outside the limit of the drive (when parameter 517 Single-Phase is configured for single-phase operation).	Check that input power demand does not exceed the drive's capacity for single-phase operation. Consult the factory.
34	RS Meas. Fail	Stator resistance measurement failed	0	The drive could not measure the stator resistance properly.	Try the routine again and if the fault occurs twice, consult the factory.

CODE	FAULT DISPLAY	DESCRIPTION	ADV. FAULT CODE	EXPLANATION	SUGGESTIONS FOR RECOVERY
35	Fan Loss	Loss of fan control or operation	0	Problem with the heat sink fan.	Consult the factory.
			1	Problem with the internal fan. This occurs only on Size 4 and 5 models. All other models display a fan error warning. Note that this is lack of fan control, so the fan can be spinning and this fault will still occur. This can happen if the fan is on and should not be, or if the fan feedback signals are obstructed from getting to the control board.	

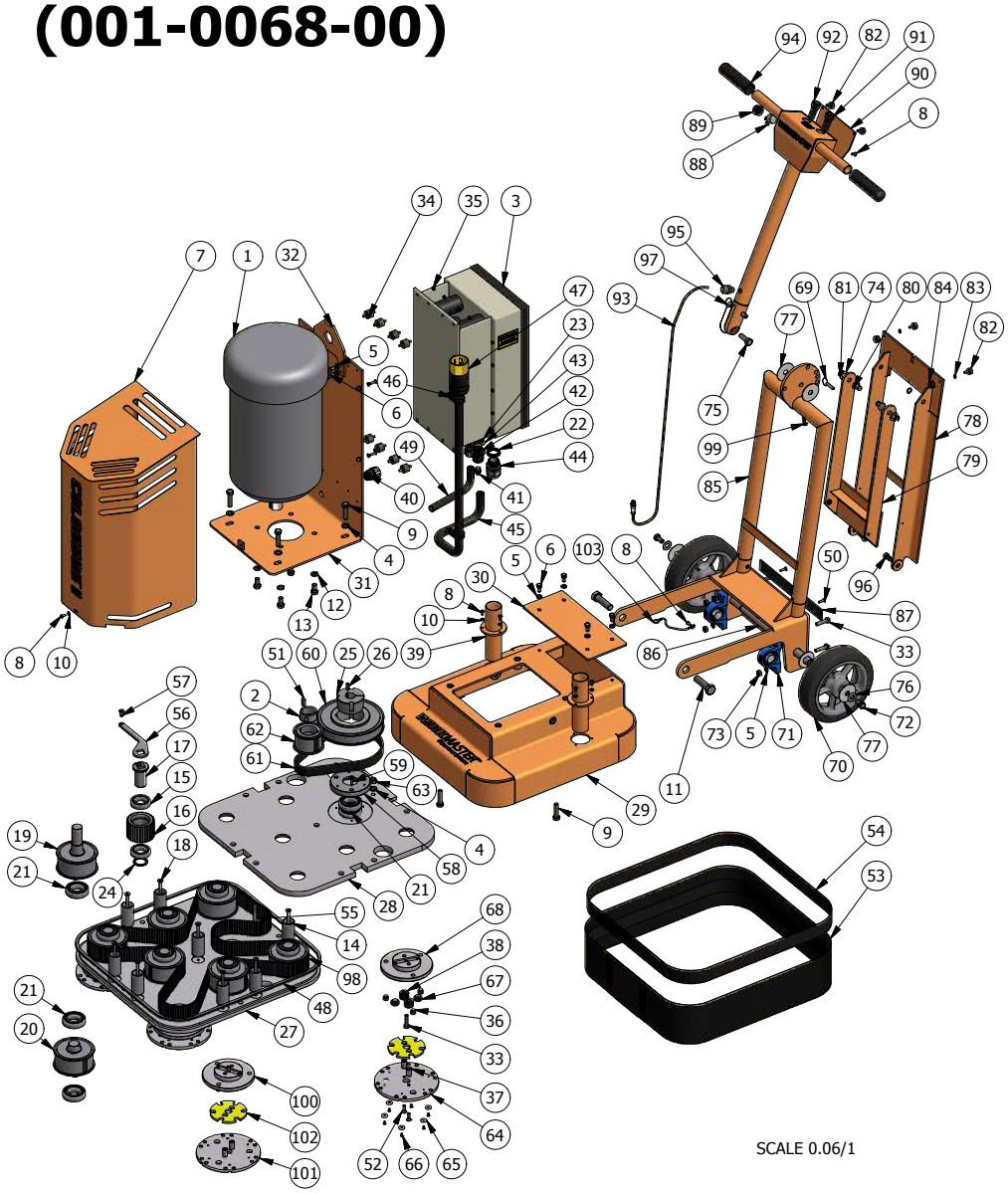
EXPLODED VIEW AND PARTS LIST – TITAN XT



ITEM	QTY	PART NUMBER	DESCRIPTION **TITAN XT**
1	1	110-0088-00	Vacuum Tube Assembly
2	1	100-0631-00	Cover
3	1	100-0625-00	Drive Train, Lower Plate
4	17	500-0013-00	Bearing
5	8	550-0022-00	Key
6	8	500-0254-00	Sprocket
7	8	500-0255-00	Bushing
8	7	100-0578-01	Drive, Short Shaft
9	1	550-0007-00	Key Stock
10	1	500-0248-00	Bushing
11	1	500-0252-00	Sprocket
12	1	100-0577-03	Drive, Long Shaft
13	1	500-0256-00	Sprocket
14	2	500-0006-00	Bearing
15	1	100-0628-00	Idler Shaft Spacer
16	1	100-0627-00	Offset Idler Shaft
17	1	520-0041-00	Belt
18	1	100-0626-00	Drive Train, Upper Plate
19	1	100-0585-01	Bearing Plate
20	8	100-0629-00	Drive Train Spacer
21	8	590-0120-00	Fastener
22	1	100-0651-00	Idler Wrench
23	1	590-0245-00	Fastener
24	3	590-0169-00	Fastener
25	1	008-0343-00	Weather Strip
26	1	590-0260-00	Fastener
27	1	590-0261-00	Lock Nut
28	9	590-0142-00	Lock Washer
29	1	100-0635-00	Belt Check Mounting Plate
30	9	590-0114-00	Fastener
31	8	590-0124-00	Fastener
32	4	540-0151-00	Vibration Dampener
33	1	540-0133-00	VFD
34	2	540-0156-00	Strain Relief
35	1	540-0072-00	Strain Relief
36	2	590-0047-00	Washers
37	1	540-0073-00	Strain Relief
38	1	540-0002-00	Mating Receptacle
39	1	540-0068-00	Strain Relief
40	1	540-0069-00	Strain Relief
41	1	540-0218-00	Conduit
42	1	540-0008-00	Cable
43	1	540-0268-00	Cable Retainer
44	1	540-0060-00	Plug
45	1	520-0042-00	Belt
46	1	530-0005-00	Motor
47	1	550-0021-00	Key Stock
48	1	500-0066-00	Bushing
49	1	500-0253-00	Sprocket
50	1	120-0002-02	Motor Shroud Assembly
51	7	590-0115-00	Fastener
52	1	130-0091-00	Handle
53	1	130-0093-00	Handle Assembly
54	1	540-0005-00	Start Button
55	1	540-0006-00	Stop Button
56	4	540-0179-00	Threaded Bumper
57	1	540-0117-00	Potentiometer
58	1	540-0116-00	Potentiometer
59	2	580-0122-00	Handle Grip
60	1	580-0089-00	T-Handle Assembly

ITEM	QTY	PART NUMBER	DESCRPTION **TITAN XT**
61	1	540-0003-00	Cords
62	1	100-0188-01	Handle Junction Box
63	1	540-0144-00	Strain Relief
64	2	590-0232-00	Washer
65	1	590-0237-00	Fastener
66	1	130-0094-00	Handle Assembly
67	2	540-0240-00	Bumper
68	1	100-0650-00	Handle Protection Plate
69	1	580-0070-00	Quick Release Pin
70	2	580-0095-00	Wheel
71	2	590-0234-00	Washer
72	2	590-0263-00	Fastener
73	2	590-0192-00	Fastener
74	2	590-0159-00	Fastener
75	1	100-0454-01	Motor Mounting Plate
76	4	590-0134-00	Fastener
77	16	008-0208-00	Bumper
78	2	008-0154-00	Bumper
79	16	008-0189-00	Shear Pin Grommet
80	12	590-0128-00	Fastener
81	8	008-0363-01	Pad Driver
82	1	008-0357-00	Velcro Loop
83	1	008-0358-00	Dust Skirt
84	4	590-0009-00	Fastener
85	4	590-0063-00	Washer
86	48	580-0033-00	Magnet
87	48	590-0182-00	Fastener
88	8	008-0362-00	Plate
89	16	008-0142-03	Shear Pins
90	16	590-0019-00	Fastener
91	1	580-0104-00	Chain
92	8	008-0354-01	Pad Driver Plate Assembly
93	8	008-0361-00	Plate Assembly

COLOSSOS XT
(001-0068-00)



ITEM	QTY	PART NUMBER	DESCRIPTION **COLOSSOS XT**
1	1	530-0007-01	Motor
2	1	500-0079-00	Bushing
3	1	540-0078-00	VFD
4	5	590-0144-00	Lock Washer
5	12	590-0142-00	Lock Washer
6	8	590-0124-00	Fastener
7	1	120-0003-02	Motor Shroud Assembly
8	10	590-0114-00	Fastener
9	8	590-0159-00	Fastener
10	13	590-0140-00	Fastener
11	2	590-0166-00	Fastener
12	4	590-0050-00	Lock Washer
13	4	590-0217-00	Fastener
14	8	100-0176-00	Drive Spacer
15	2	500-0197-00	Bearing
16	1	500-0247-00	Idler Sprocket
17	1	100-0609-02	Offset Idler Shaft
18	8	590-0120-00	Fastener
19	1	500-0267-00	Sprocket
20	7	500-0266-00	Sprocket
21	17	500-0013-00	Bearing
22	1	540-0069-00	Strain Relief
23	1	540-0073-00	Strain Relief
24	1	100-0120-01	Drive, Idler Shaft Spacer
25	1	500-0248-00	Bushing
26	1	550-0007-00	Key Stock
27	1	100-0573-01	Drive Train, Lower Plate
28	1	100-0572-01	Drive Train, Upper Plate
29	1	110-0072-01	Cover Assembly
30	1	100-0115-01	Belt Check Plate Cover
31	1	100-0137-03	Motor Mounting Plate
32	1	100-0216-03	Lifting Lug, Motor Mounting Plate
33	12	590-0128-00	Fastener
34	8	540-0152-00	Vibration Dampener
35	8	590-0133-00	Fastener
36	24	008-0154-00	Bumper
37	16	008-0143-03	Shear Pins
38	16	008-0189-00	Shear Pin Grommet
39	2	110-0073-00	Vacuum Tube Assembly
40	2	540-0156-00	Strain Relief
41	1	540-0002-00	Mating Receptacle
42	1	540-0072-00	Strain Relief
43	2	590-0047-00	Reducing Washer
44	1	540-0268-00	Strain Relief
45	1	540-0319-00	Cable
46	2	540-0268-00	Cable Retainer
47	1	540-0066-00	Plug
48	1	008-0319-00	Weather Strip
49	1	540-0266-00	Conduit
50	8	590-0115-00	Fastener
51	1	550-0009-00	Key Stock
52	16	590-0055-00	Fastener
53	1	008-0309-01	Dust Skirt
54	1	008-0320-00	Velcro Loop
55	1	590-0244-00	Fastener
56	1	100-0611-00	Idler Wrench
57	1	590-0193-00	Fastener
58	1	100-0585-01	Bearing Plate
59	3	590-0169-00	Fastener
60	1	500-0252-00	Sprocket
61	1	520-0042-00	Belt

62	1	500-0253-00	Sprocket **COLOSSOS XT**
63	8	590-0258-00	Fastener
64	8	008-0360-00	Plate, Plug 'N Go
65	48	580-0033-00	Magnet
66	48	590-0182-00	Fastener
67	16	008-0208-00	Bumper
68	8	008-0359-02	Pad Driver
69	1	580-0070-00	Quick Release Pin
70	2	580-0095-00	Wheel
71	2	500-0198-00	Bearing
72	2	590-0132-00	Fastener
73	4	590-0135-00	Fastener
74	2	590-0230-00	Flat Washer
75	1	590-0237-00	Fastener
76	2	590-0000-00	Flat Washer
77	4	590-0232-00	Washer
78	1	130-0071-02	Handle, Main Frame
79	2	130-0073-02	Handle, Extender Assembly
80	2	100-0555-01	Hitch
81	2	580-0098-00	Retaining Ring
82	4	540-0179-00	Threaded Bumper
83	2	590-0147-00	Flat Washer
84	2	540-0240-00	Bumper
85	2	130-0076-02	Handle Assembly
86	1	100-0226-02	Handle, Wheel Axle
87	1	100-0558-01	Protection Plate
88	1	540-0116-00	Potentiometer
89	1	540-0117-00	Potentiometer Knob
90	1	100-0215-01	Handle Cover Plate
91	1	540-0006-00	Stop Button, Red
92	1	540-0005-00	Start Button, Green
93	2	540-0003-00	Cord
94	2	580-0122-00	Handle Grip
95	1	540-0144-00	Strain Relief
96	2	590-0192-00	Fastener
97	1	580-0190-00	Quick Release Pin
98	1	520-0041-00	Belt
99	1	580-0104-00	Chain
100	8	008-0368-00	Plate Assembly
101	8	008-0367-00	Pad Driver Plate Assembly
102	8	008-0310-01	Compression Foam
103	1	540-0308-00	Grounding Wire Assembly

GLOSSARY

Line Voltage This is the voltage of a power source when it has no load applied to it. It can also be called "nominal voltage" as the voltage expressed is usually a guideline voltage.

Load Voltage This is the voltage of a power source when a load has been applied to it. As a load is applied to the power source, the resistance of the line is easier to examine. When a voltage-measuring device such as a multimeter is used during operation of the machine, you can clearly see that the voltage drops as soon as a load is applied and rises back when the load is taken off.

Pigtail Pigtails are plug ends with unfinished bare wire on one end used for hooking up to panels. Pigtails are used when the source power is unknown, when connecting to the power grid of an unfinished building that has no power receptacles, and when running certain generators. Many pigtails are available or can be made up by an electrician.

RPA Rear pivoting assembly.

VCT Vinyl composition tile.

VFD A variable frequency drive (VFD) is a system for controlling the rotational speed of an alternating current electric motor by controlling the frequency of the electrical power supplied to the motor. A variable frequency drive is a specific type of adjustable-speed drive. Variable frequency drives are also known as adjustable-frequency drives (AFD), variable-speed drives (VSD), AC drives, microdrives, or inverter drives. Because the voltage is varied along with frequency, these are sometimes also called variable voltage variable frequency (VVVF) drives.

WARRANTY INFORMATION

WerkMaster Grinders & Sanders Inc.,herein referred to as WerkMaster, warrants that each new machine, manufactured by WerkMaster to be free from defects in material and workmanship in normal use and service for a period of three (3) years from date of shipment to the original Purchaser or Distributor.

Terms & Conditions

WerkMaster will, at its option, repair or replace, at the WerkMaster factory or at a point designated by WerkMaster, any part which shall appear to the satisfaction of WerkMaster inspection to have been defective in material or workmanship. WerkMaster reserves the right to modify, alter and improve any part or parts without incurring any obligation to replace any part or parts previously sold without such modified, altered or improved part or parts.

This warranty is in lieu of and excludes all other warranties, expressed, implied, statutory, or otherwise created under applicable law including, but not limited to the warranty of merchantability and the warranty of fitness for a particular purpose. In no event shall the Seller or the Manufacturer of the product be liable for special, incidental, or consequential damages, including loss of profits, whether or not caused by or resulting from the negligence of Seller and/or the Manufacturer of the product unless specifically provided herein.

In addition, this warranty shall not apply to any products or portions thereof which, at WerkMaster's discretion, have been subjected to abuse, misuse, improper installation, maintenance, or operation, electrical failure or abnormal conditions, and to products which have been tampered with, altered, modified, repaired, reworked by anyone not approved by the Seller, or used in any manner inconsistent with the provisions of the above or any instructions or specifications provided with or for the product.

Except for conditions or warranties which may not be excluded by law, the Seller makes no warranty of its own on any item warranted by WerkMaster, and makes no warranty on other items unless it delivers to the Purchaser a separate written warranty document specifically warranting the item. The Seller has no authority to make any representation or promise on behalf of WerkMaster or to modify the terms or limitations of this warranty in any way.

Delivery, Damages, Shortages

Seller shall use reasonable efforts to attempt to cause the Products to be delivered as provided for in these Terms & Conditions. Delivery to the initial common carrier shall constitute the delivery to the Purchaser. Seller's responsibility, in so far as transportation risks are concerned, ceases upon the delivery of the Products in good condition to such carrier at the F.O.B. point and all the Products shall be shipped at the Purchaser's risk. Seller shall not be responsible or liable for any loss of income and/or profits, or incidental, special, consequential damages resulting from Seller's delayed performance in shipment and delivery.

Return of Defective Products

Defective or failed material shall be held at the Purchaser's premises until authorization has been granted by Seller to return or dispose of Products. Products that are to be returned for final inspection must be returned Freight Prepaid in the most economical way. Credit will be issued for material found to be defective upon Seller's inspection based on prices at time of purchase.

FORCE MAJEURE

Seller's obligation hereunder are subject to, and Seller shall not be held responsible for, any delay or failure to make delivery of all or any part of the Product due to labor difficulties, fires, casualties, accidents, acts of the elements, acts of God, transportation difficulties, delays by a common carrier, inability to obtain Product, materials or components or qualified labor sufficient to timely perform part of or all of the obligations contained in these terms and conditions, governmental regulations or actions, strikes, damage to or destruction in whole or part of manufacturing plant, riots, terrorist attacks or incidents, civil commotions, warlike conditions, flood, tidal waves, typhoon, hurricane, earthquake, lightning, explosion or any other causes, contingencies or circumstances within CANADA not subject to the Seller's control which prevent or hinder the manufacture or delivery of the Products or make the fulfillment of these terms and conditions impracticable. In the event of the occurrence of any of the foregoing, at the option of Seller, Seller shall be excused from the performance under these Terms and Conditions, or the performance of the Seller shall be correspondingly extended. This document sets forth the terms and conditions pursuant to which the purchaser("Purchaser") will purchase and WerkMaster ("Seller") will sell the products, accessories, attachments (collectively "the Products") ordered by the Purchaser. These terms and conditions shall govern and apply to the sale of Seller's Products to Purchaser, regardless of any terms and conditions appearing on any purchase order or other forms submitted by Purchaser to Seller, or the inconsistency of any terms therein and herein.

To get the best protection from your WerkMaster Warranty be sure to register your product(s) online at www.werkmaster.com/warranty.

WerkMaster Grinders and Sanders Inc.
6932 Greenwood Street, Burnaby, BC V5A 1X8
tel: 604.629.8700 | toll free: 1.866.373.WERK | fax: 604.444.4231
www.werkmaster.com | email: info@werkmaster.com

swm/08/17

Operation and Safety Guide
TITAN XT ™

Vendor Website: www.werkmaster.com

Technical Support: 866.373.9375

⚠ WARNING

SAFETY TOPICS:

Read the Operator's Manual or the Operation and Safety Guide and all safety precautions before attempting to operate WerkMaster machines. Failure to follow the safety precautions could result in severe personal injury or death.

SAFETY CHECKLIST:

WARNING: ALWAYS turn off the equipment and unplug the power cord when changing discs/tooling, before servicing, and when not in use.

1. Before connecting the equipment to a power source make sure that it is the correct voltage.
2. Ensure all cords on the equipment are securely fastened and in good repair.
3. Ensure all extension cords and power outlets are rated for the intended use, are in good repair, and are properly grounded (3 prong configuration).
4. Never operate the equipment under the influence of drugs or alcohol or when extremely fatigued.
5. If the equipment doesn't start or stops unexpectedly, first check power source and all electrical connections then go to www.werkmaster.com, or call Technical Support: 866.373.9375.

WARNING: Never turn on the equipment while it is tilted back. Discs/tooling attached to the bottom could eject and become a lethal projectile.

Wear appropriate personal safety equipment such as hearing and eye protection and a dust mask or respirator.

Tool Application: The TITAN XT ™ can be used to grind and/or polish various floor surfaces.

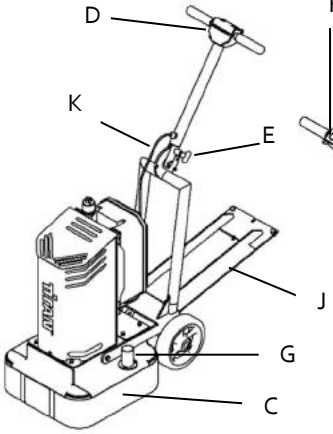


Fig 1

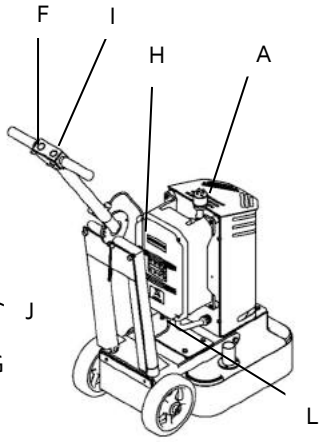


Fig 2

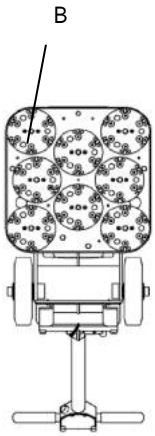


Fig 3

Tool Operation:

Step	Action
1	Unplug the power cord from the twist lock plug (A). Ensure the handle is in its full upright position (Fig 1). Tilt the machine back (Fig 3) by releasing and stepping on the step down plate (J) and pulling down on the handle. Choose the appropriate tooling holder attachment – 6 3/4" magnetic Plug 'N Go plate (B) for Metal Bond tools or 6 3/4" Foam/Velcro Adapter plate for polishing resins. Insert the 2 shear pins into the rubber grommets. Attach the corresponding tooling to the plates.
2	Slowly lift the equipment back to the upright position using the step down plate (J) to prevent the TITAN XT from hitting the floor. Loosen and lower the dust skirts (C) so that it is just above the working surface. Ensure the 8 pin connector cord (K) is securely fastened to the mating receptacle (L).
3	Adjust the handle to a comfortable operating position by pulling and releasing the pop pin at the swivel joint (E). Connect the vacuum hose(s) to the vacuum pipes (G) located on either side. Plug the power cord into the twist lock plug (A). The display/keypad (H) will light up. Turn the speed control knob (D) till the display/keypad reads 450 RPM.
4	Grasp the handle bars. To start the equipment press the green START button (I). Adjust the speed (D) as required. To stop the equipment press the red STOP button (F).
5	When the equipment is in operation it should move smoothly and without chattering. If chattering or excessive vibration occurs stop the machine equipment, unplug the power cord, tilt the machine back and check at all the Plug 'N Go/Adapter plates are installed correctly and the tooling is seated properly.
6	Move the equipment continuously in any direction using a circular motion. Be sure keep it moving at all times to prevent unwanted marks. View training videos at www.werkmaster.com.

Operation and Safety Guide
COLOSSOS XT ™

Vendor Website: www.werkmaster.com

Technical Support: 866.373.9375

WARNING

SAFETY TOPICS:

Read the Operator's Manual or the Operation and Safety Guide and all safety precautions before attempting to operate WerkMaster machines. Failure to follow the safety precautions could result in severe personal injury or death.

SAFETY CHECKLIST:

WARNING: ALWAYS turn off the equipment and unplug the power cord when changing discs/tooling, before servicing, and when not in use.

1. Before connecting the equipment to a power source make sure that it is the correct voltage.
2. Ensure all cords on the equipment are securely fastened and in good repair.
3. Ensure all extension cords and power outlets are rated for the intended use, are in good repair, and are properly grounded (3 prong configuration).
4. Never operate the equipment under the influence of drugs or alcohol or when extremely fatigued.
5. If the equipment doesn't start or stops unexpectedly, first check power source and all electrical connections then go to www.werkmaster.com, or call Technical Support: 866.373.9375.

WARNING: Never turn on the equipment while it is tilted back. Discs/tooling attached to the bottom could eject and become a lethal projectile.

Wear appropriate personal safety equipment such as hearing and eye protection and a dust mask or respirator.

Tool Application: The COLOSSOS XT ™ can be used to grind and/or polish various floor surfaces.

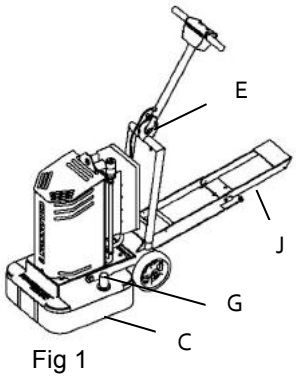


Fig 1

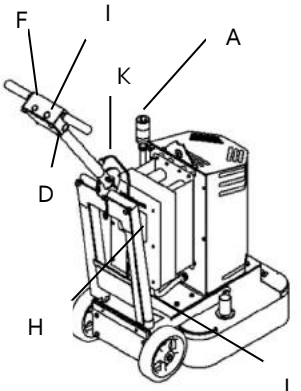


Fig 2

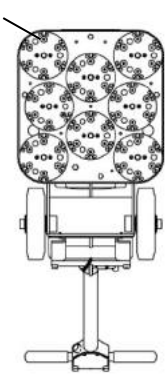


Fig 3

Tool Operation:

Step	Action
1	Unplug the power cord from the twist lock plug (A). Ensure the handle is in its full upright position (Fig.1). Tilt the equipment back (Fig.3) by releasing and unfolding the step down plate (J). While stepping on the step down plate pull down on the handle. Choose the appropriate tooling holder attachment – 8" magnetic Plug 'N Go plate (B) for Metal bond tools or 8" Foam/Velcro Adapter plate for polishing resins. Insert the 2 shear pins into the rubber grommets. Then attach the corresponding tooling to the plates.
2	Slowly lift the equipment back to the upright position using the step down plate (J) to prevent the COLOSSOS XT from hitting the floor. Loosen and lower the dust skirts (C) so that it is just above the working surface. Ensure that the 8 pin connector cord (K) is securely fastened to the mating receptacle (L).
3	Adjust the handle to a comfortable operating position by pulling out and re-inserting the release pin at the swivel joint (E). Connect the vacuum hose(s) to the vacuum pipes (G) located on either side. Plug the power cord into the twist lock plug (A). The display/keypad (H) will light up. Turn the speed control knob (D) till the display/keypad reads 450 RPM.
4	Grasp the handle bars. To start the equipment press the green start button (I). Adjust the speed (D) as required. To stop the equipment press the red stop button (F)
5	When the equipment is in operation it should move smoothly and without chattering. If chattering or excessive vibration occurs stop the machine, unplug the power cord, tilt the machine back and verify that all the Plug 'N Go/Adaptor plates are installed correctly and the tooling is seated properly.
6	Move the equipment continuously in any direction using a circular motion. Be sure keep it moving at all times to prevent unwanted marks. View training videos at www.werkmaster.com.