

DRAGON

by **CENO**

Operation • Care • Service

Commercial Use Only



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SERVICE INFORMATION

To obtain consistent performance over the life of your equipment, read through these instructions and save them for future reference. If you require service, contact the dealer from which the machine was purchased or an authorized service station. Always refer to your Limited Warranty for complete service information.

SERIAL NO.		MODEL	
VOLTS	PHASE	HZ	
MOTOR	AMPS	H.P.	

The model, type, and serial number are indicated on the data plate on the side of the handle. For prompt and complete service, refer to these numbers when inquiring about service.

Write the model and serial number of your unit in the space provided. Refer to the data plate on unit.	
SERIAL #	MODEL #
Retain this owners manual for future reference.	

IMPORTANT SAFETY INSTRUCTION

When using an electrical appliance, basic precautions should always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING THIS FLOOR MACHINE.



WARNING: ELECTRIC SHOCK CAN CAUSE SERIOUS INJURY OR BE FATAL. PLEASE READE THE FOLLOWING INSTRUCTIONS ON THE USE AND OPERATIONS OF FLOOR FINISHING MACHINES.

- Your floor machine is equipped with a safety switch lock and power switch triggers designed for your safety. Do not attempt to by pass or defeat the safety switch lock. Never use any device to lock the power switch triggers in the "ON" position.
- Do not leave the floor machine plugged in. Turn off the switch and unplug the electrical cord when not in use and before servicing or changing the brushes or pads.

- Do not allow the machine to be used as a toy. Close attention is necessary when used near children. Do not leave the machine connected to an electrical outlet unattended.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Do not use with a damaged cord or plug. If the machine is not working as it should, has been dropped, damaged, or left outdoors, return it to an aservice center before using.
- Use care to keep the electrical supply cord around sharp edges or corners. Keep the cord away from the heated surfaces.
- Connect to properly grounded (3-wire) outlet only. Refer to Grounding Instructions, Page 3.
- Do not use extension cords or outlets with inadequate current carrying capacity.
- Turn off all controls before unplugging.
- Do not unplug by pulling on the cord. To unplug, grasp the plug and pull.
- Do not handle the plug or floor machine with wet hands.
- Wind the cord no tighter than is necessary to retain it during storage. Refer to Cord Storage, Page 5.
- Use extra care when working on or near stairs.
- Do not use in conjunction with flammable or combustible liquids such as gasoline, or use in areas where explosive vapor or dust may be present.
- Store your floor machine indoors in a cool, dry area.
- Keep your work area well lit.
- **WARNING:** To avoid electrical shock, use indoors only.

GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord that has an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

FOR FLOOR FINISHING MACHINES RATED LESS THAN 150 VOLTS



WARNING: DO NOT USE GROUNDING ADAPTERS ON FLOOR MACHINES IN CANADA. CHECK WITH CANADIAN CODES FOR PROPER EQUIPMENT USAGE. IMPROPER USE OF GROUND ADAPTORS CAN CAUSE SERIOUS INJURY, FIRE, OR BE FATAL.

Improper connection of an equipment grounding conductor can result in risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance. If it will not fit the outlet, have a proper outlet installed by a qualified electrician. This appliance is for use on a nominal 120 volt circuit and has a grounding plug that looks like the plug illustrated in Figure 1. A temporary adapter which looks like the adapter illustrated in Figure 2 may be used to connect this plug to a two pole receptacle, as shown, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (Figure 1) can be installed by a qualified electrician. The green colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by metal screw.

FOR FLOOR FINISHING MACHINES RATED 150-220 VOLTS:

If the machine is provided with an attachment plug cap as shown in Figure 3, it is intended for use on a 240 volt (nominal) circuit. No adapter is available for this cap.

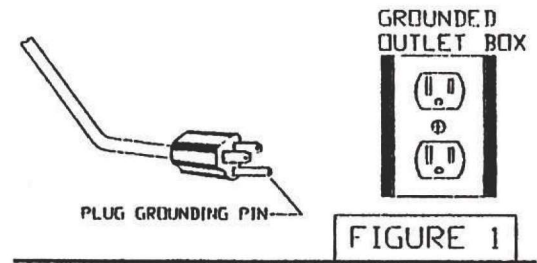


FIGURE 1

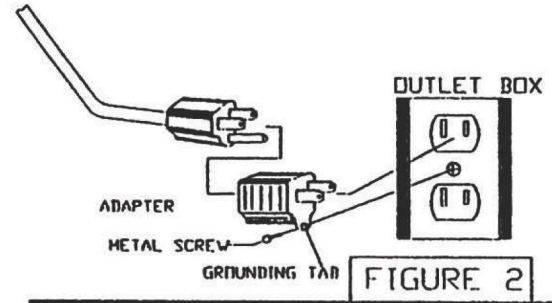


FIGURE 2

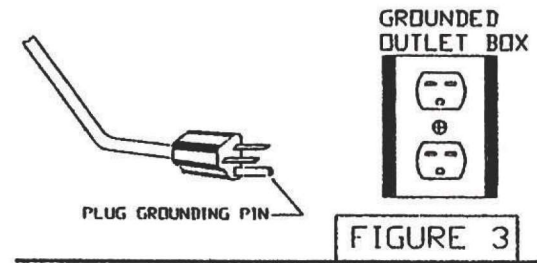


FIGURE 3

OPERATION / ACCESSORIES

CHOOSING THE RIGHT BRUSH AND DRIVE BLOCK

Your floor machine is packed completely assembled and ready for use after you install a brush or drive block.

Your floor machine is designed to be used for many different floor care applications. Make sure you use the correct brush or pad for the type of job you want to perform. (Accessories are available from the dealer from whom the floor machine was purchased. See Optional Accessories, Page 10)

When ordering brushes or drive blocks, refer to the following chart and specify correct brush or block diameter when ordering.

MACHINE SIZE	PAD DRIVER	BRUSH DIAMETER	BLOCK DIAMETER
17"	16"	17"	15"

Clutch plate A0019 is common on all models.

BRUSH AND PAD DRIVER INSTALLATION

NOTE: Disconnect the power cord from the electrical outlet before installing a brush or pad driver.

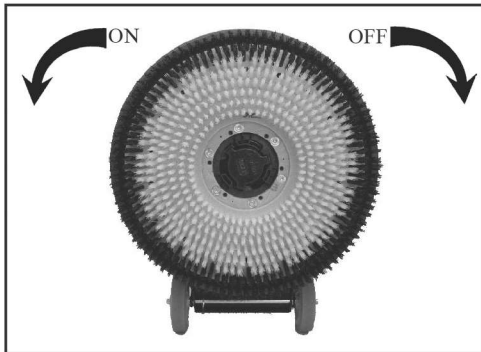


Figure 4

To install a brush or pad driver, leave the handle in the upright position and tip the machine backwards so it rests on its wheels and upper handle section (Figure 4). The brush and pad driver both attach in the same manner; align the cut-outs on the inner ring of the brush or pad driver with the tables on the inside of the ring of the drive hub (Figure 5). Push the brush or pad driver firmly in position, then turn it counter-clockwise until it locks into place. To remove, turn the brush or pad driver clockwise until it stops, and then lift it off. **NOTE:** Always remove the brush or pad driver when the machine is not in use.

NOTE: Disconnect power cord from the electrical outlet before installing or removing brush, pad, or pad driver.

ADJUSTMENTS HANDLE ADJUSTMENT

The handle can be adjusted to any desired work position by simply pushing up on the handle lock (Figure 5). Move the handle to the desired position, then firmly push down on the handle lock which will lock the handle in position.

HANDLE CAM LOCK ADJUSTMENT

With the handle cam lock in the “up” position (unlocked), tighten the adjusting nuts until there is a slight drag when the handle is raised or lowered. The tube should be locked securely when the handle lock is pressed downward (Figure 6).

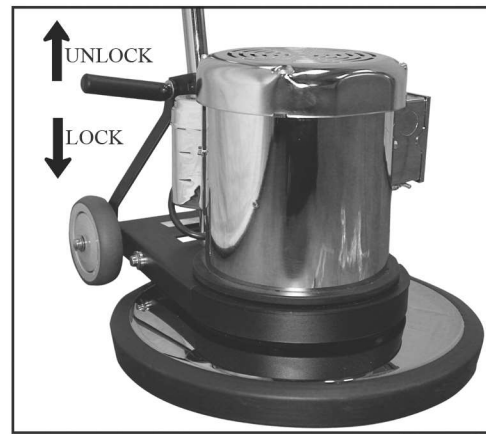


Figure 5

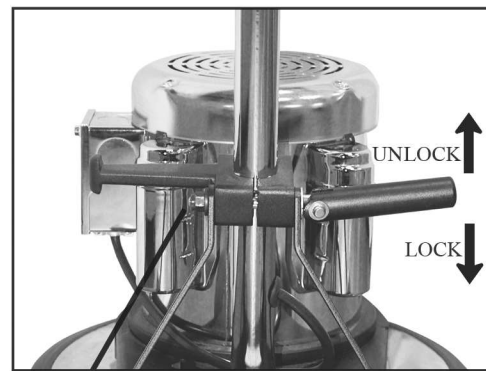


Figure 6

ADJUSTING NUT

CONTROLS ON/OFF POWER SWITCH TRIGGERS

The ON/OFF switch is conveniently located in the form of dual triggers underneath the handle grips.

TO TURN THE MACHINE ON

The operating handle must be lowered to the operating position before switching the machine ON. Place both hands firmly on the handle grips with your fingers around the power triggers. Do NOT apply pressure on the triggers before the safety switch lock is disengaged.

Disengage the safety switch lock by pushing it forward with one thumb. Then, while holding the safety switch lock in the disengaged position, squeeze the power triggers toward the handle grips and return your thumb to the handle grip. (See figure 7)

To stop the machine, simply release the triggers. The safety switch lock will automatically return to the engaged position. (See figure 7)

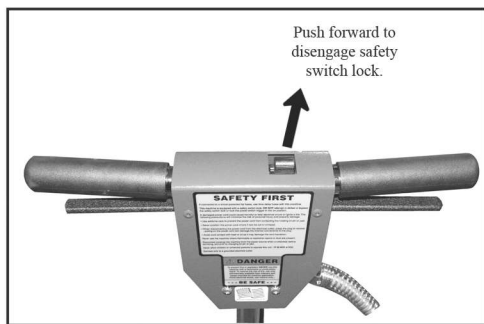


Figure 7

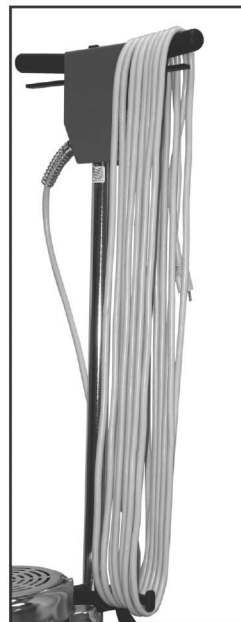
GUIDELINES FOR OPERATON

- Your floor machine is a very sensitive, powerful unit. When in operation, it should be guided gradually and smoothly without sudden or rough motions. You will want to practice with your machine on a smooth surface until you have experience in operating it.
- For ease of operation, always keep the brush or pad surface level, balanced, and flat on the floor at all times.
- Always adjust the operating handle to a comfortable height at which the brush or pad surface is balanced before starting the machine. (See Handle Adjustment Page 4)
- Your floor machine will operate differently on various surfaces. For example, there will be much more resistance when the machine is used with a brush on carpeted surfaces than when it is used with a pad on a smooth surface. The operator should be prepared to adjust for these differences.
- **BEGIN OPERATING THE FLOOR MACHINE WITH THE BRUSH OR PAD SURFACE LEVEL, BALANCED AND FLAT ON THE FLOOR.**
- To move the machine to the right, slowly apply slight upward pressure on the handle.
- To move the machine to the left, slowly apply slight downward pressure on the handle.
- To move the machine forward or backward, keep the brush or pad flat on the floor and push or pull the machine in the desired direction.

DO NOT LET THE MACHINE REST ON THE PAD OR BRUSH FOR AN EXTENDED PERIOD OF TIME. This may alter the shape of the pad or brush which may cause the machine to wobble.

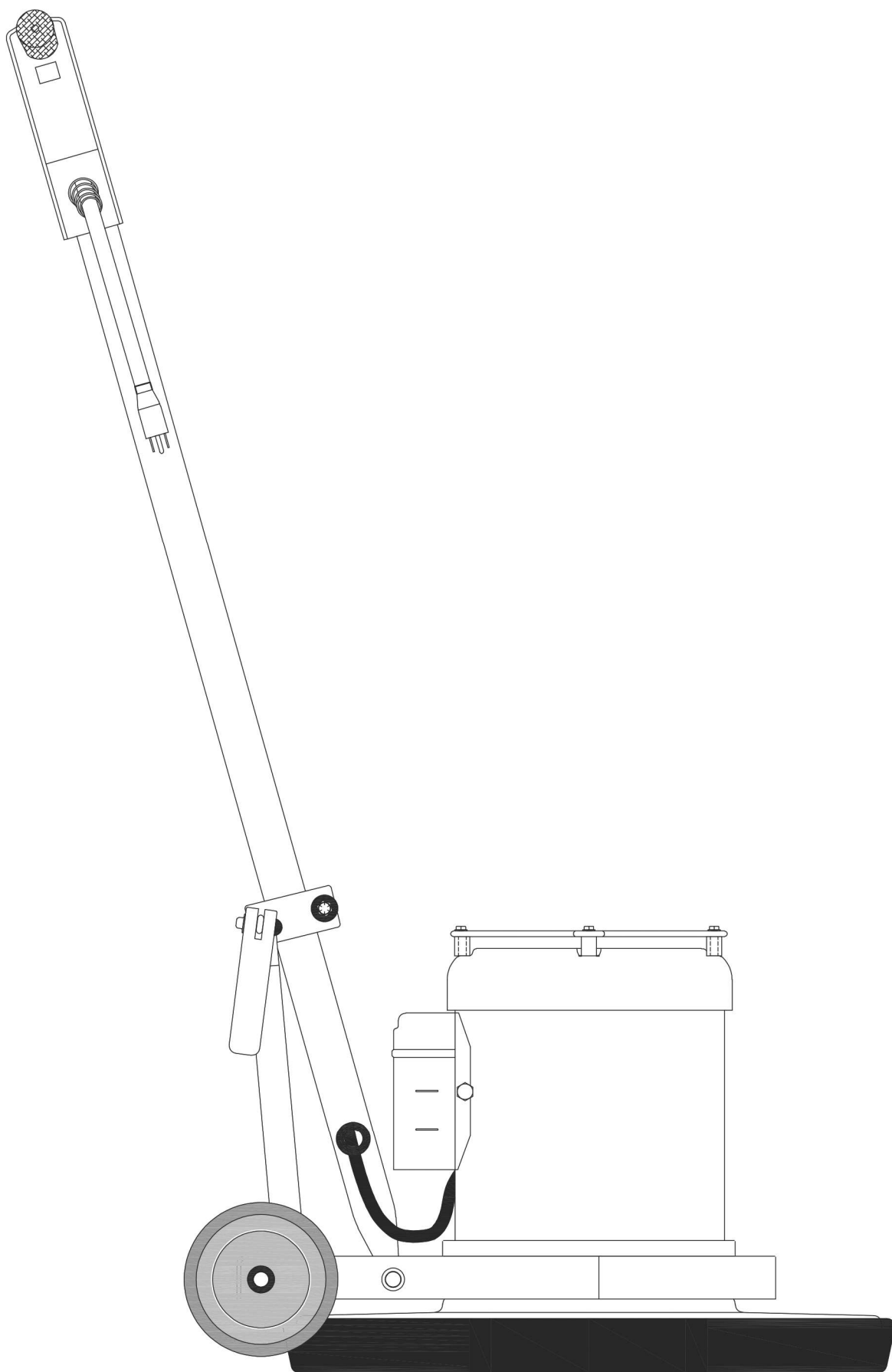
CORD STORAGE

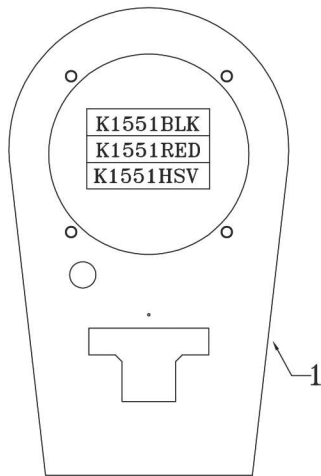
When not in use, loosely wind the power cord around the cord storage hook on the handle shaft and both of the handle grips, as shown:



CLEAN UP AND STORAGE

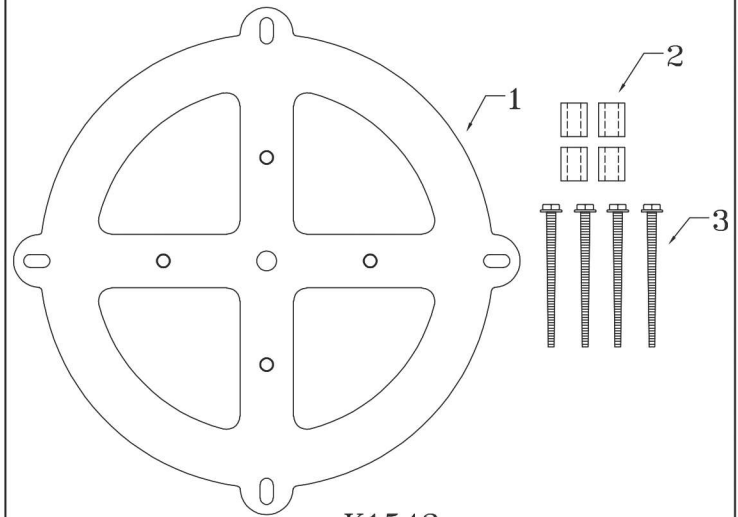
After being used, your floor machine can be wiped clean with a soft, damp cloth and should be stored in a clean, dry place.





FRAME STD MACHINE

DET. NO.	DESCRIPTION	QTY.
1	SEE TABLE FRAME STANDARD MACHINE	1



K1543

GUARD TEFC MOTOR COVER FAN KIT

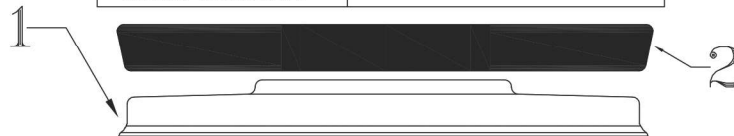
DET. NO.	DESCRIPTION	QTY.
1	CROSS BRACKET FOR BRUTE MOTOR	1
2	SPACER - NYLON .50 OD X .25 X .625L	4
3	SCREW 2 1/2 L SHD SHEET METAL #12	4

BRUSH CVR W/ BUMPER KIT PART NUMBER

K1513BLK	K1515CRM	K1517BLK	K1520BLK
K1513RED		K1517RED	K1520RED
K1513HSV		K1517HSV	K1520HSV
K1513MDB		K1517MDB	K1520MDB
K1513RYB		K1517RYB	K1520RYB
		K1517CRM	K1520CRM
		K1517BH***	K1520BH***

BUMPER ONLY KIT PART NUMBER

K154013B	
K154015B	
K154017B	K154017G ***
K154020B	K154020G ***



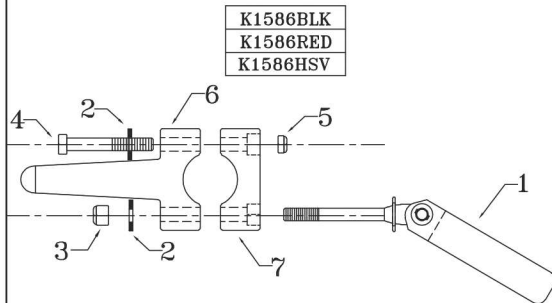
OTHER COLORS AVAILABLE UPON REQUEST.
MINIMUM ORDER REQUIREMENTS APPLY

DET. NO.	PART NO.	DESCRIPTION	QTY.
1	SEE TABLE	BRUSH COVER W/BUMPER	1
2	SEE TABLE	BRUSH COVER BUMPER	1

BRUSH COVER KIT

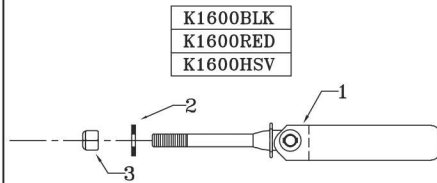
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HANDLE LOCK LOCK CLAMP ASSY



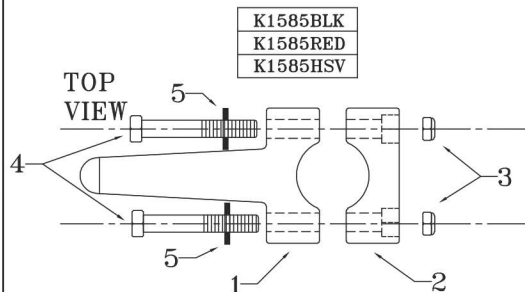
DET. NO.	DESCRIPTION	QTY.
1	SEE TABLE HANDLE LOCK CAM	1
2	WASHER FLAT BLK OXIDE 3/8	2
3	NUT HEX NYLCK 3/8 X 16	1
4	BOLT 3/8-16X2-1/2 GR8 BL	1
5	NUT LOCK THN FLEX .375-16	1
6	SEE TABLE CORD HOOK	1
7	SEE TABLE CORD HOOK CAP/HDL LOCK CLAMP	1

CAM LOCK ASSY

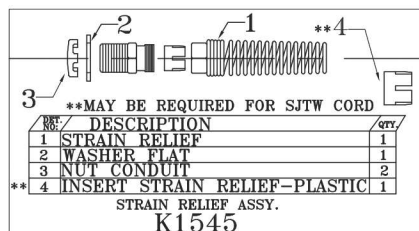


DET. NO.	DESCRIPTION	QTY.
1	SEE TABLE CAM LOCK ASY.	1
2	WASHER FLAT BLK	2
3	NUT HEX NYLCK 3/8 X 16	1

CORD HOOK BODY AND CAP ASSY

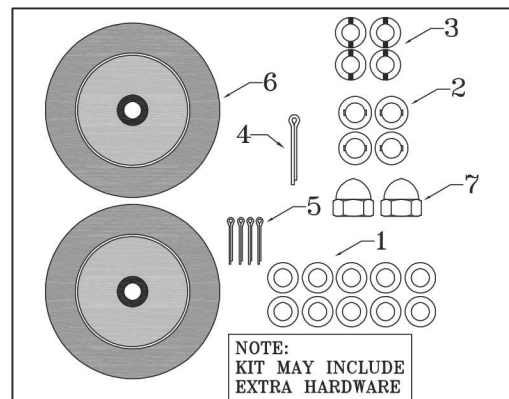


DET. NO.	DESCRIPTION	QTY.
1	SEE TABLE CORD HOOK	1
2	SEE TABLE CORD HOOK CAP	1
3	NUT NYLOC .375-16 ZN	2
4	BOLT .375-16 X2.0L GR8 BLK	2
5	WASHER .375 FLAT BLK	2



DET. NO.	DESCRIPTION	QTY.
1	STRAIN RELIEF	1
2	WASHER FLAT	1
3	NUT CONDUIT	2
** 4	INSERT STRAIN RELIEF-PLASTIC	1

STRAIN RELIEF ASSY.
K1545

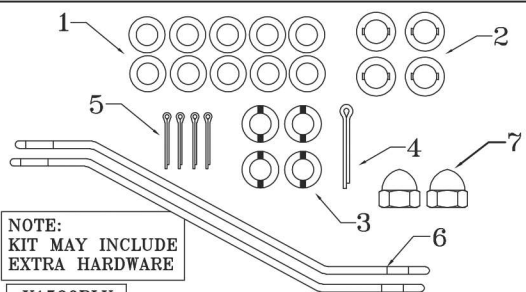


NOTE:
KIT MAY INCLUDE
EXTRA HARDWARE

DET. NO.	DESCRIPTION	QTY.
1	WASHER FLAT ZN	10
2	NUT PUSH 1/2 BRIGHT NICKEL	4
3	WASHER SPRING	4
4	COTTER PIN 5/32 X 1.5 L	1
5	COTTER PIN 3/32 X 1.0 L	4
6	WHEEL 5 INCH GRAY W/BB	2
7	ACORN NUT 1/2-13 BLK	2

K1541B-5

WHEELS & HDWR KIT LESS AXLE STD. UNIT



NOTE:
KIT MAY INCLUDE
EXTRA HARDWARE

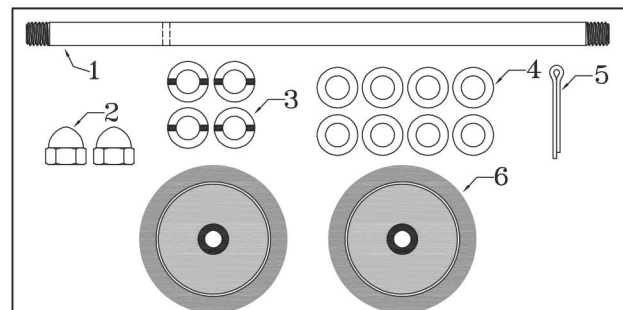
DET. NO.	DESCRIPTION	QTY.
1	WASHER FLAT ZN	10
2	NUT PUSH 1/2 BRIGHT NICKEL	4
3	WASHER SPRING	4
4	COTTER PIN 5/32 X 1.5 L	1
5	COTTER PIN 3/32 X 1.0 L	4
6	SEE TABLE CONNECTING LEG	2
7	ACORN NUT	2

K1590BLK

K1590RED

K1590HSV

CONNECTING LEG KIT- STD UNIT



DET. NO.	DESCRIPTION	QTY.
1	AXLE THREADED	1
2	ACORN NUT	2
3	WASHER SPRING	4
4	WASHER FLAT	8
5	COTTER PIN	1
6	WHEEL DAW3000	2

AXLE THREADED - WHEEL STD. UNIT

K1541A-8

K0600BLK
K0600CRM

PART NO. DESCRIPTION QTY
1 SEE TABLE **MOTOR 1.5 TEFC 115/230 60hz** 1

K0300BLK
K0300CRM

PART NO. DESCRIPTION QTY
1 SEE TABLE **MOTOR 1.5 TEFC W/4HD GEARBOX** 1

24.00"

****MAY BE REQUIRED FOR SJTW CORD**

DESCRIPTION QTY
1 POWER CORD 12-3 24" 1
2 SCREW 10-24 X 1.0 TT 1
3 STAR LOCK WASHER #10 3
4 NUT 1/2 CONDUIT 1
5 WASHER FLAT 1
6 STRAIN RELIEF 1
7 INSERT STRAIN RELIEF-PLASTIC 1
8 WAGO CONNECTOR 1
9 1

POWER CORD PIGTAIL 12-3 X 24"
K3015E

POWER CORD
IN-HANDLE CORD
IN-HANDLE CORD FROM MOTOR

NOTE:
DETAILS 3 & 4 ARE USED AS REQUIRED FOR PROPER SWITCH OPERATION. SEE SWITCH INSTRUCTION BULLETIN INCLUDED WITH SWITCH KIT.

DESCRIPTION QTY
1 MAIN ON/OFF SWITCH 1
2 WASHER ZN INTERNAL TOOTH-LOC 1
3 WASHER FLAT 5/16 USS ZINC 1
4 WASHER ZINC PLATED STEEL 2
5 SWITCH INSULATOR 1

MAIN SWITCH ASSY. KIT
K1001

FRONT PRODUCT LABEL
REAR SAFETY LABEL

K1549BLK K1549MDR
K1549RED K1549RYE
K1549HSV K1549CRM

DESCRIPTION QTY
1 SWITCH BOX COVER (SEE TABLE) 1
2 LABEL REAR SAFETY WARNING 1
3 FRONT LABEL 1
4 WASHER #10 EXT TOOTH LCK 2
5 SCREW 10-24 X .50L TT 2

SWITCH BOX KIT - STD

TRIGGER REPLACEMENT KIT 14 INCH

DESCRIPTION QTY
1 TRIGGER 1
2 SPRING TRIGGER 2
3 ROLL PIN 2

50.00"

EXTENSION CORD 12-3 X 50' SJTW
K3030E-50YEL-1

SAFETY SWITCH KIT

DESCRIPTION QTY
1 SAFETY SWITCH 1
2 SPRING 2.0" LONG 1

HANDLE GRIP KIT - BLACK
DESCRIPTION QTY
1 HANDLE GRIP - BLACK 2

K1546
K1542BLK

POWER LOCK KIT FOR WEIGHTED UNITS

DESCRIPTION QTY
1 POWER LOCK - BLK 1
2 CORD HOOK CAP - BLK 1
3 CORD HOOK BODY - BLK 1
4 BOLT 3/8-16 X 2.0L GR8 1
5 BOLT 3/8-16 X 3.25L GR8 1
6 WASHER FLAT 3/8 BLK 3
7 NUT 3/8-16 NYLOC THNN 3
8 WASHER NYLON FLAT .932 OD 1

K1586BLK-1

STATIONARY SWITCH - 180F
K0601

START CAP
708 - 850 uF

DESCRIPTION QTY
1 START CAPACITOR 708 - 850 uF 1

K0600

RUN CAP
65 uF

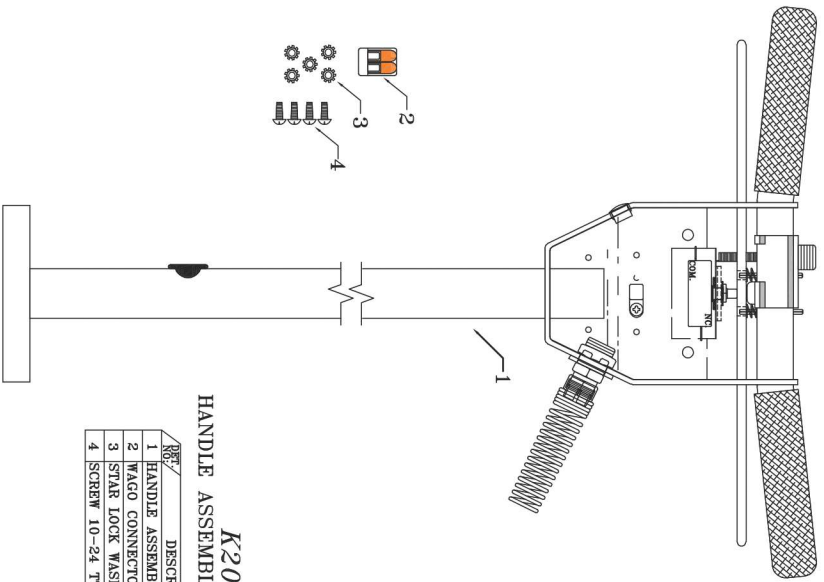
DESCRIPTION QTY
1 RUN CAPACITOR 65 uF 1

K0600A

GEARBOX 180 FRAME TEFC MOTOR
GEARBOX COMP. 180F TEFC MOTOR
K1561-180

DESCRIPTION QTY
1 SPACER STEEL RING 1
2 WASHER RETAINER THICK 1
3 COUPLER (STEEL) - XHD GEARBOX 1

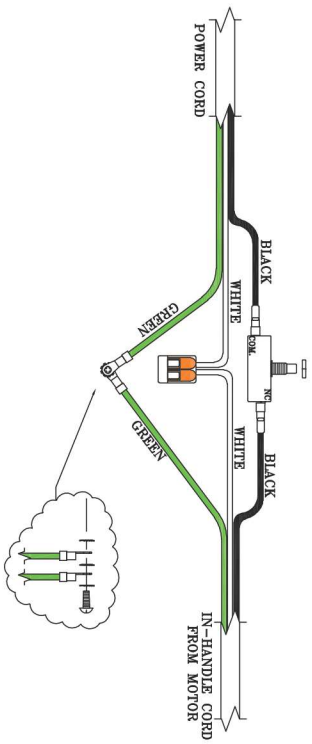
K1560CXHD



K2001STD
HANDLE ASSEMBLY PARTIAL- STD. UNIT

REF.	DESCRIPTION	QTY.
1	HANDLE ASSEMBLY PARTIAL	1
2	WAGO CONNECTOR	1
3	STAR LOCK WASHER #10	5
4	SCREW 10-24 TT	4

03/21



REF.	DESCRIPTION	QTY.
1	HANDLE ASSEMBLY COMPLETE	1

03/21

LIMITED WARRANTY

Your equipment which has been manufactured, tested and inspected in accordance with carefully specified engineering requirements, is warranted to be free from defects in material and workmanship. This Limited Warranty is, however, subject to the Following qualifications, conditions and limitations which are set forth to provide you and all users of the equipment with information concerning the duration, extent, availability, and applicability of this Limited Warranty, the procedure to be taken to obtain its performance, and other information concerning the **Limited Warranty policy**.

The Limited Warranty is extended to the original end user as follows:

Machines: 3 year parts replacement and 1 year service labor warranty.

Replacement parts guaranteed for 90 days from date of installation against defects in material and workmanship.

This Limited Warranty will not cover damage attributable to the following:

- (1) Improper, unreasonable or negligent use or abuse of the equipment
- (2) Abrasions or punctures of the equipment.

The start date of the Limited Warranty coverage shall be the purchase date of the original end user or six months from the date the machine was shipped from the Factory, whichever comes first.

PARTS OF EQUIPMENT NOT COVERED BY THE LIMITED WARRANTY

Certain parts of equipment require replacement in the ordinary use due to normal wear by reason of their characteristics. Normal wear items such as cords, switches, bumpers, bearings, etc. are excluded from the Limited Warranty.

EXCEPTIONS AND EXCLUSIONS FROM THE LIMITED WARRANTY

This equipment is required to be used on electric current as indicated on the data plate. Otherwise damage, defects, malfunctions or other failure of the equipment arising from use on electric current not as indicated are excepted and excluded from this Limited Warranty. Defects, malfunctions, failure or damage of the equipment caused by improper, unreasonable or neglect use or abuse while in possession of the purchaser are likewise excluded from this warranty. If repair is done on your equipment by anyone other than those designated as authorized to perform such work without first having obtained factory instructions, **GUNDLACH TOOLS** at its sole option, may determine that this warranty will not apply and that reimbursement for such repair will not be made because of the failure to comply with such factory specified instructions.

PROCEDURE TO BE TAKEN TO OBTAIN PERFORMANCE OF LIMITED WARRANTY REPAIR

To secure repair of the equipment or any warranted parts under this Limited Warranty, the following procedure should be taken. The inoperative equipment or warranted parts, together with satisfactory evidence of the purchase date, must be delivered, with shipping and delivery charges prepaid, to one of the following:

- (1) The dealer from whom purchased;
- (2) Any distributor's service department in the United States;
- (3) Any authorized service station in the United States.

If you are unable to locate any of the foregoing, you may write or otherwise communicate with your distributor before repair service is performed by anyone else. In such event, your distributor will provide either the location or a closely available distributor service department, or an authorized service station or other factory instructions. Upon compliance with the above procedure, all warranted defects will be repaired, at no additional charge or costs to the customer, and the repaired product returned to the customer, with all shipping and delivery charges pre-paid. In following the procedures set forth, PLEASE MAKE CERTAIN to state the model, type and serial number as shown on the data plate of the equipment.

REPLACEMENT

In the event of a defect, malfunction or failure of your equipment or any warranted part to conform with this warranty, your distributor may, at its sole option and own expense, replace the equipment or any warranted part with another new, identical or reasonably equivalent model or part in lieu of repairing the defect.

NO REFUND OF PURCHASE PRICE

Your distributor will not, as a matter of its Limited Warranty policy, refund the customer's purchase price.

LIMITED WARRANTY REGISTRATION CARD FOR YOUR EQUIPMENT AND REQUEST FOR INFORMATION

Your distributor from whom you purchased your equipment is responsible for the registration of your Limited Warranty with the factory. Any information or questions you may have concerning your equipment or this Limited Warranty may likewise be secured from the factory. This Limited Warranty will give you specific legal rights, and you may also have other rights which vary from state to state.

GUNDLACH TOOLS • 211 North 21st Street • Belleville, IL 62226 • 800-233-8665 • gundlachtools.com