



HAWK ENTERPRISES, INC

# MERLIN



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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.

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

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

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.	

Model #	HP1517-180TEXHD MERLIN	HP1520-180TEXHD MERLIN
Part #	F0040-17-1.5TE	F0040-20-1.5TE
Pad Size	17 inch	20 inch
Power Source	115V 60Hz	115V 60Hz
Motor/HP	180 Frame, 1-1/2 HP TEFC AC Dual Capacitor Motor	180 Frame, 1-1/2 HP TEFC AC Dual Ca- pacitor Motor
Amp Draw (Low /High)***	7.9	8.5
Gear Box	3-Idler 11:1	3-Idler 11:1
Brush Rpm (Low / High)	165	165
Cord*/**	2-piece 50' 12-3 SJTOW	2-piece 50' 12-3 SJTOW

**dB Rating: 66 Meets GS42 Requirements**  
*Specifications subject to change without notice.*

**\*230V Available \*\* 75' Cord Available (12-3) \*\*\*100' Cord Available (12-3)**

\*\*\*\* Amp Draw with Appropriate Pad Driver

<p><b>Features</b></p> <ul style="list-style-type: none"> <li>• Twin (dual) capacitor 180 frame TEFC (Totally Enclosed Fan-Cooled) motor keeps out dirt and dust for longer motor life.</li> <li>• Extra heavy duty spring steel cord strain relief with a 2-piece 12-3 power cord</li> <li>• Low current draw</li> <li>• Thumb operated safety switch</li> <li>• Negative pressure on/off switch</li> <li>• Dual steel operating triggers for left or right hand operation</li> </ul>	<ul style="list-style-type: none"> <li>• One-piece industrial powder coated heavy duty steel handle for optimum durability</li> <li>• Welded frame for rugged, reliable performance</li> <li>• 8" Non-marking, 2X8, ball bearing wheels</li> <li>• Multiple position handle adjustment for operator comfort and safety</li> <li>• Comfort style vinyl handle grips for ease of use</li> </ul>
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Revolutionary Design that Utilizes.....

- Floating head to insure 100% pad contact at all times
- Low Profile
- Quick handle/Carriage Removal

# IMPORTANT SAFETY INSTRUCTIONS

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



## WARNING:

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

- Your Merlin is equipped with a safety switch lock and power switch triggers designed for your safety. Do not attempt to bypass or defeat the safety switch lock. Never use any device to lock the power switch triggers in the “ON” position.
- Do not leave the Merlin 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 a service 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 5-6.
- 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 Merlin with wet hands.
- Wind the cord no tighter than is necessary to retain it during storage. Refer to Cord Storage, Page 8.
- 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 Merlin indoors in a cool, dry area.
- Keep your work area well lighted.
- **WARNING:** To avoid electrical shock, use indoor only.



## **WARNING:**

**RISK OF EXPLOSION. FLOOR SANDING MACHINE CAN RESULT IN AN EXPLOSIVE MIXTURE OF FINE DUST AND AIR. USE FLOOR SANDING MACHINE ONLY IN A WELL-VENTILATED AREA, FREE FROM ANY FLAME OR MATCH**

### **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**

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.

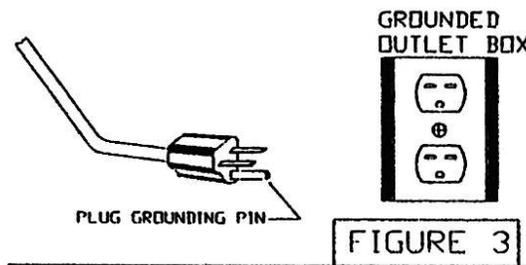
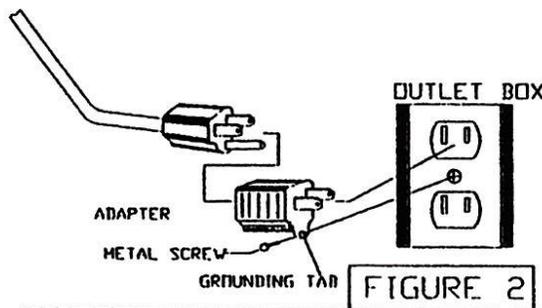
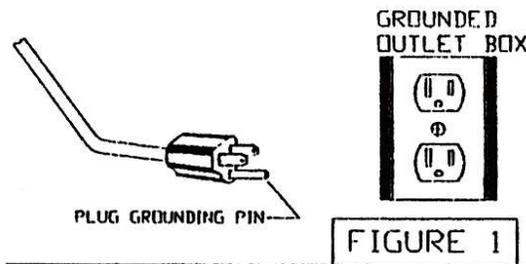
### **FOR FLOOR FINISHING MACHINES RATED 150-220 VOLTS:**

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.



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

## Grounding Instructions (Continued)

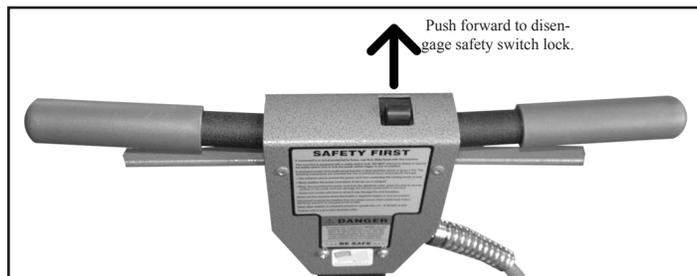


# CONTROLS

## TO TURN THE MACHINE ON

The operating handle must be lowered and locked to the proper 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.



To stop the machine, simply release the triggers. The safety switch lock will automatically return to the engaged position.

## GUIDELINES FOR OPERATION

- Your Merlin 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 Merlin will operate differently on various surfaces. For example, there will be much more resistance when the machine is used on a rough surface, than when it is used on a smooth surface. The operator should be prepared to adjust for these differences.
- **BEGIN OPERATING THE MERLIN WITH THE 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.

## ADJUSTMENTS HANDLE ADJUSTMENT

The handle can be adjusted to any desired work position by simply pulling on the pull pin and move the handle to the desired position. Firmly push the pull pin back into the adjustment holes. This will lock the handle in position.

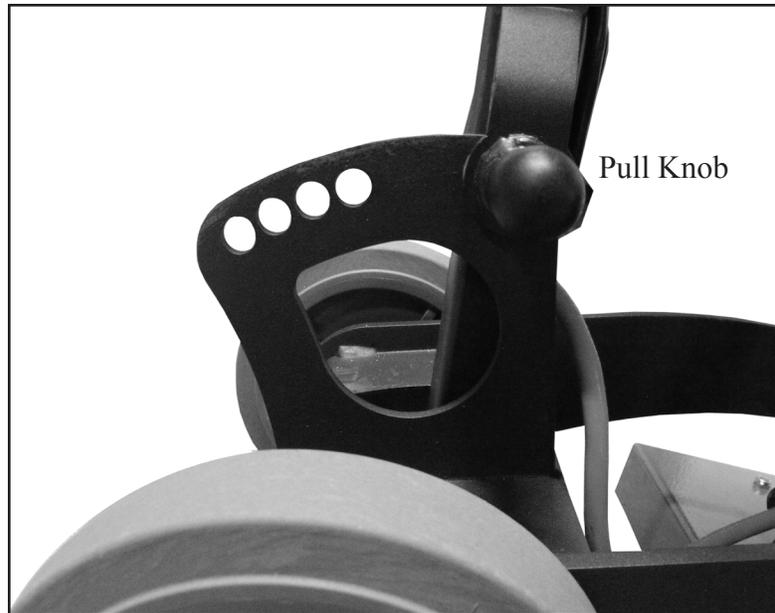


Figure 5

## CORD STORAGE

When not in use, loosely coil the power cord and hang on the handle.



## CLEANUP AND STORAGE

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

*M E R L I N*

*B Y*

*H A W K*

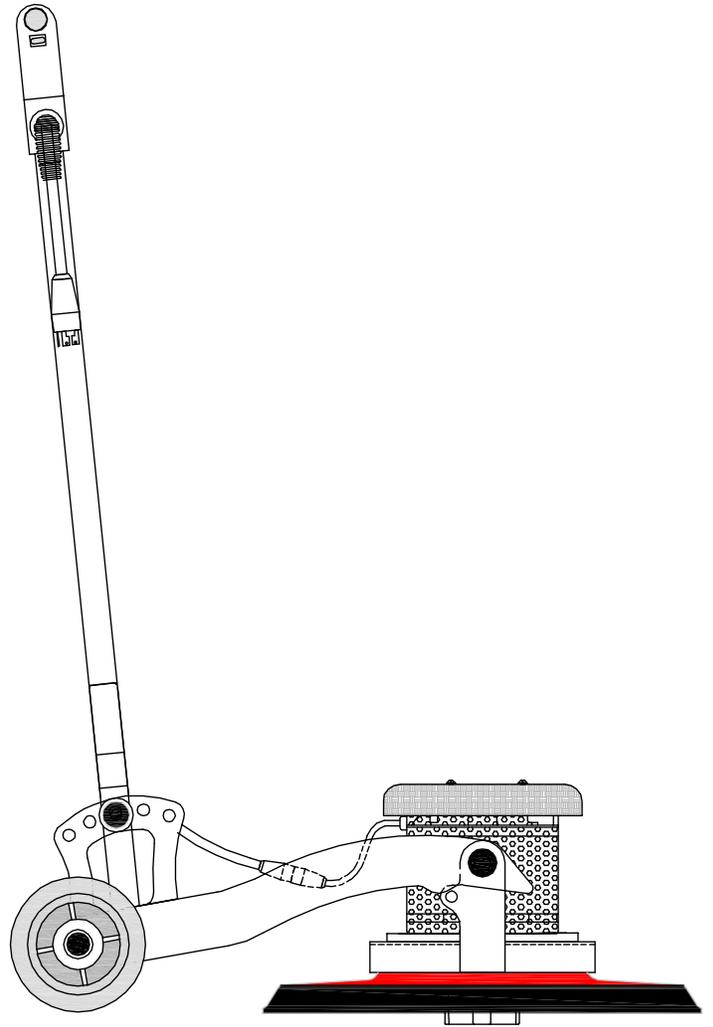
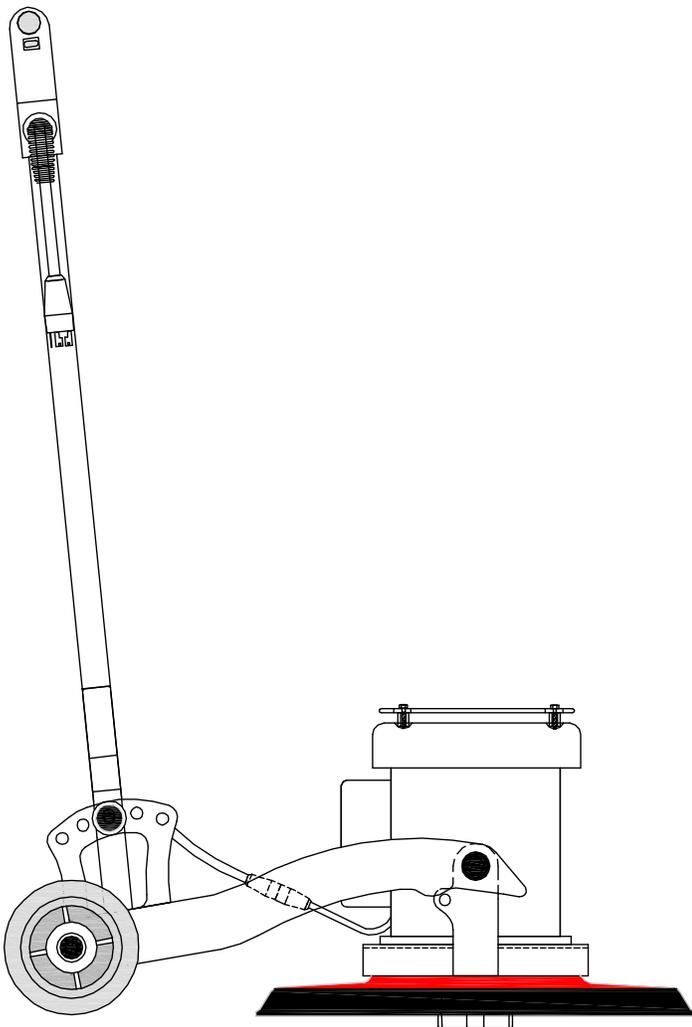


FIGURE (1)

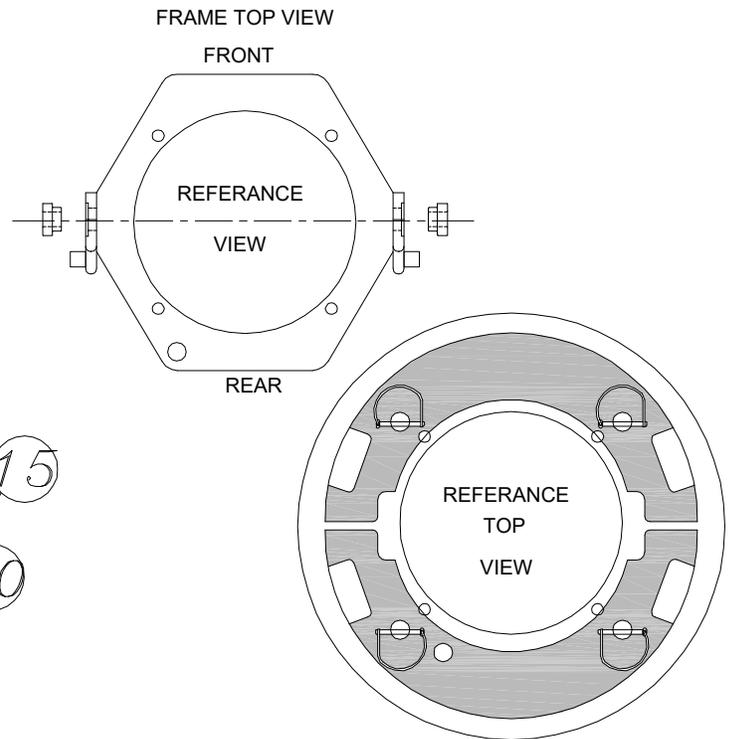
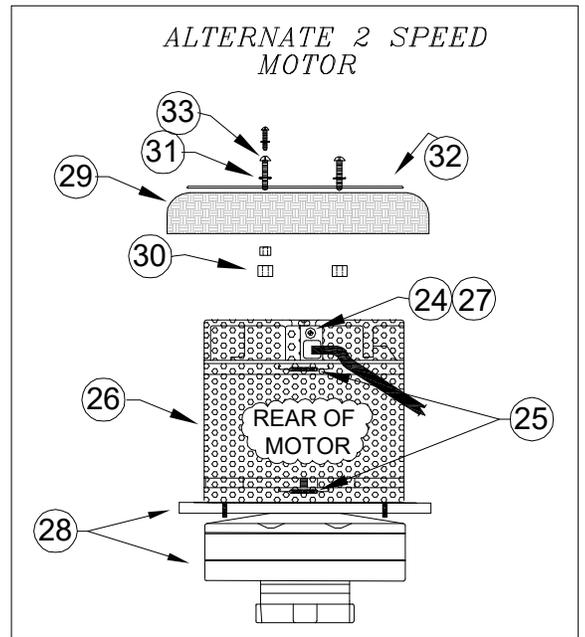
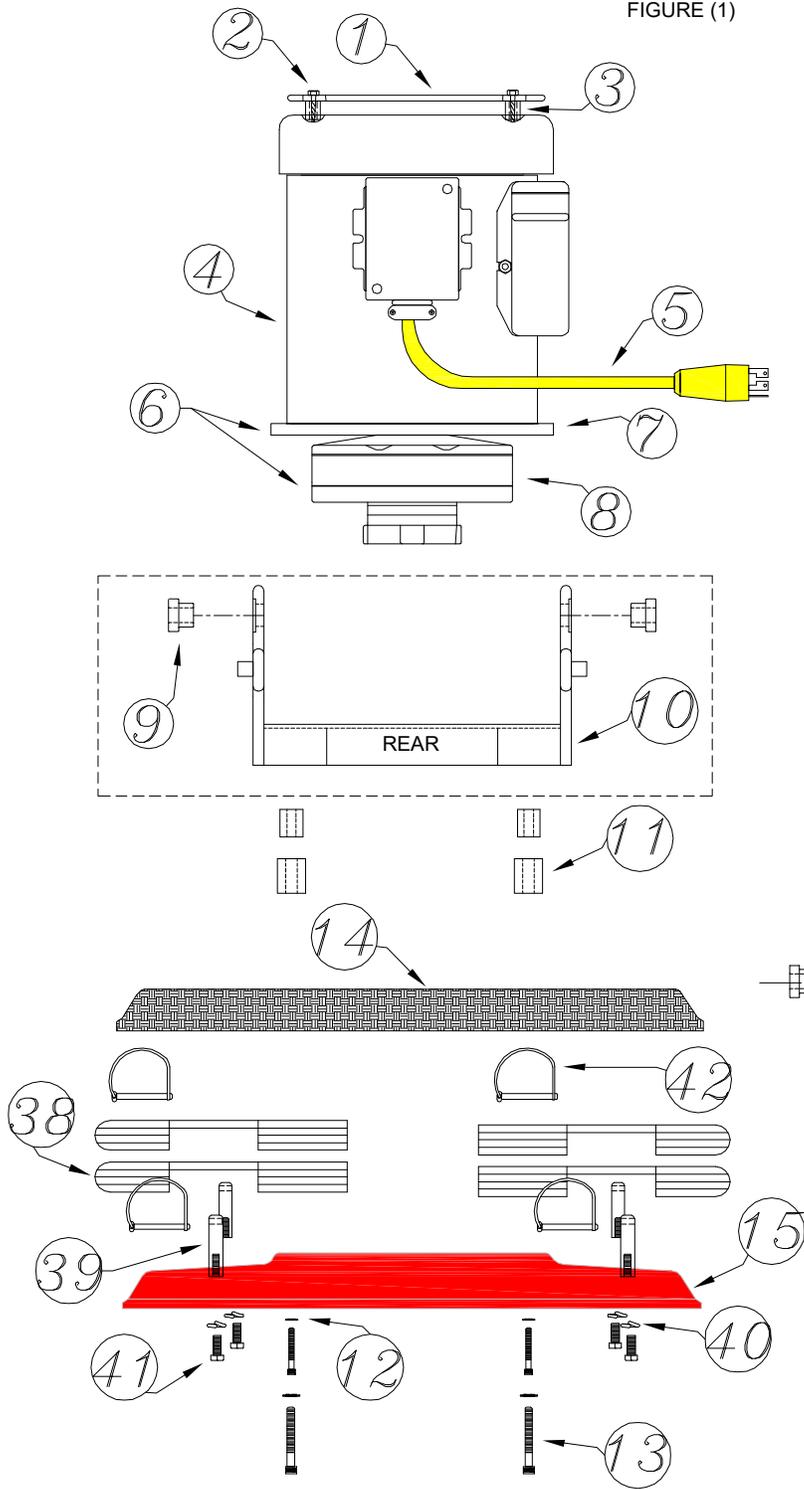
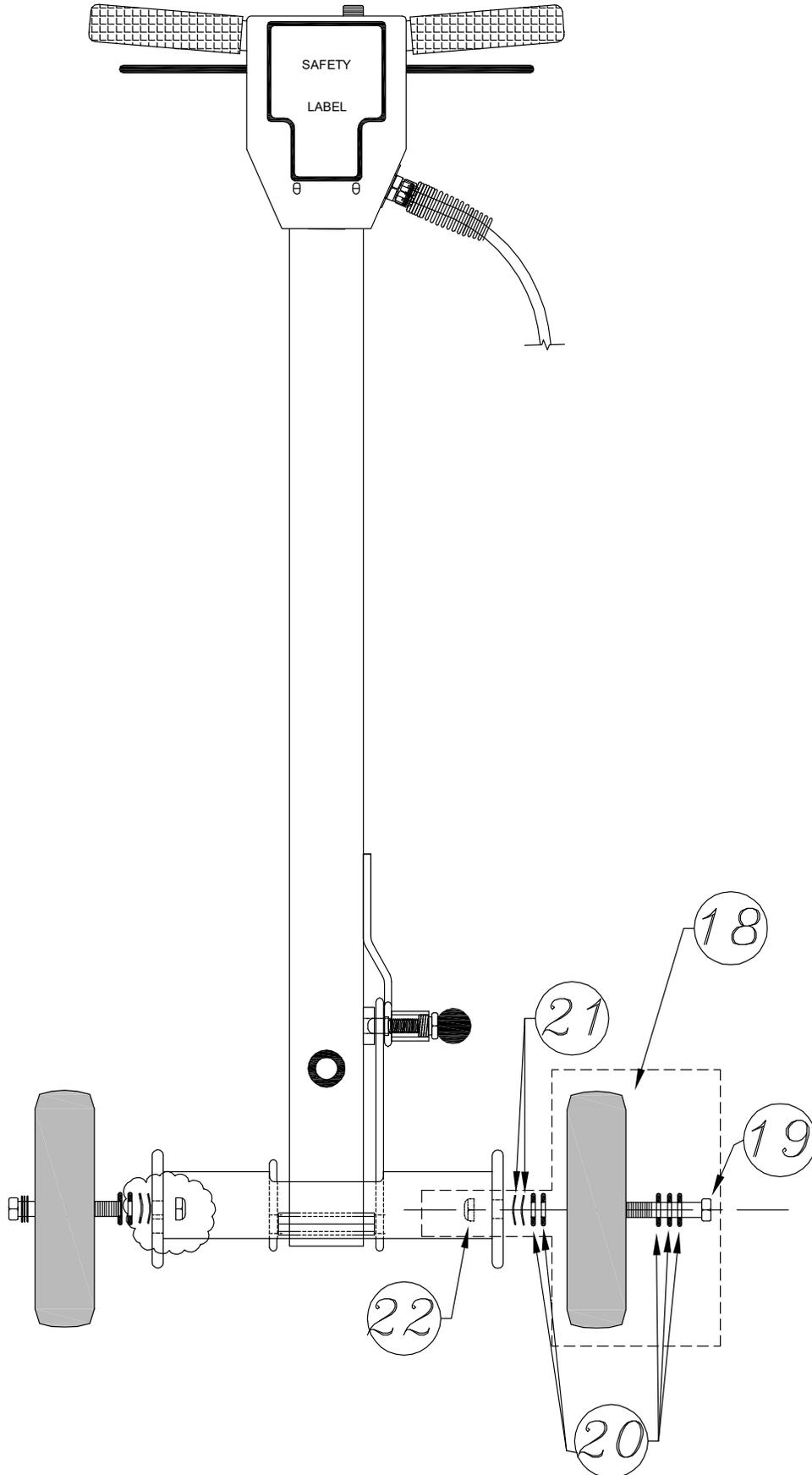


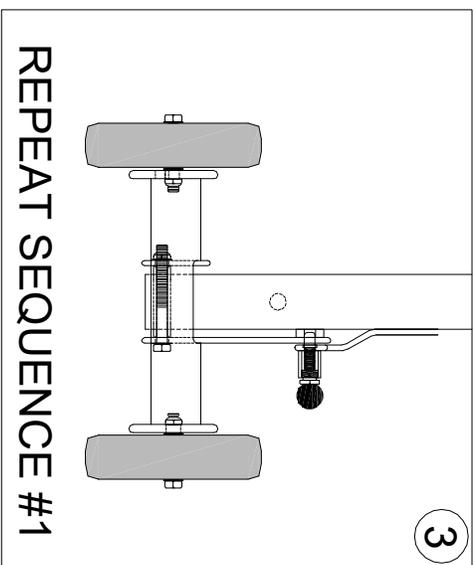
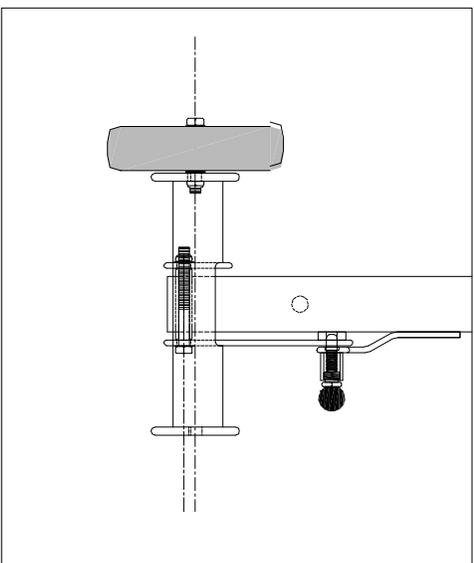
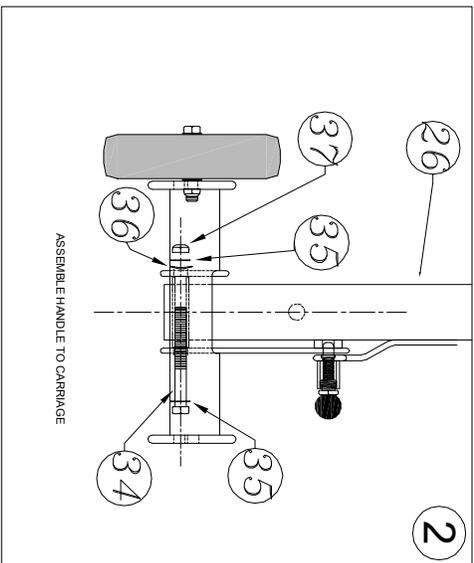
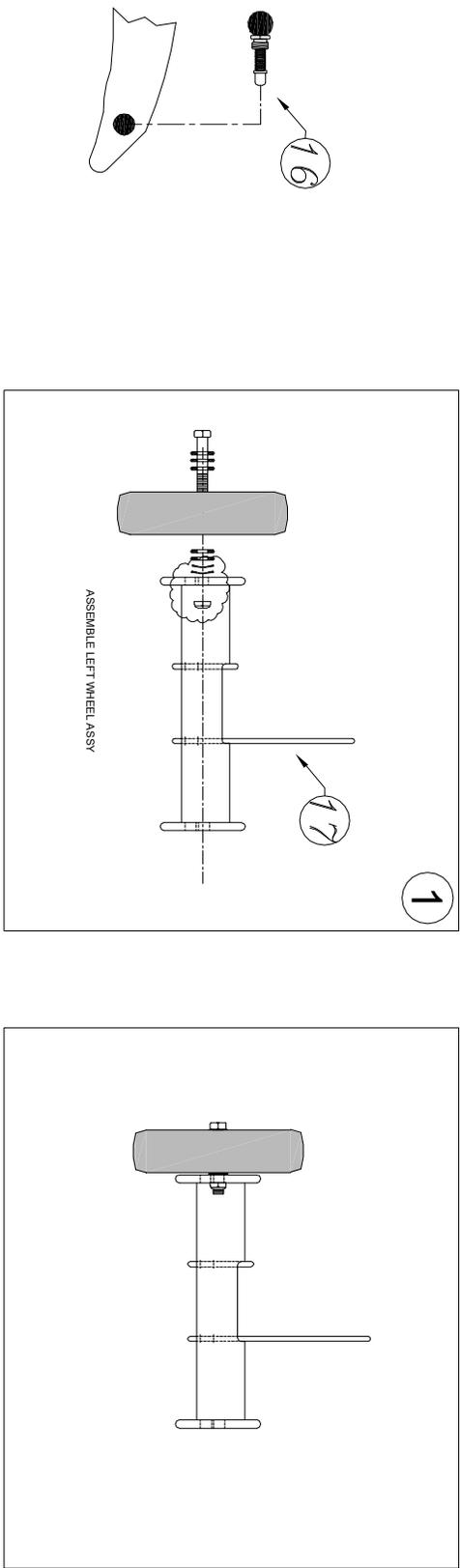
FIGURE (2)  
REAR VIEW

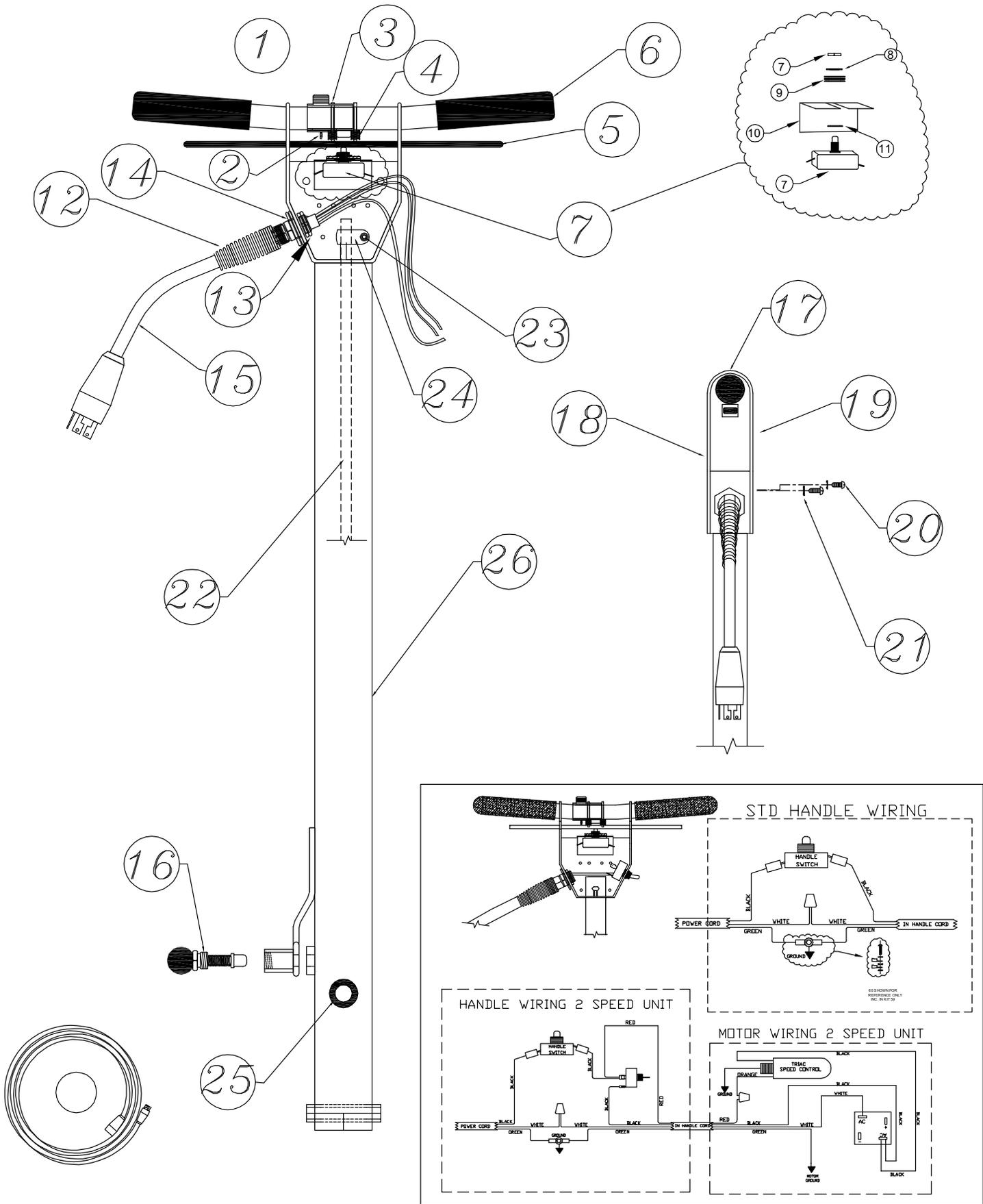


SEE FIGURE (3) FOR ASSY INSTRUCTIONS

FIGURE (3)

# INSTALLATION SEQUENCE OF WHEELS AND HANDLE ASSEMBLY





1/18/2016

DETAIL NUMBER	PART NUMBER	MERLIN HANDLE DESCRIPTION	QTY. REQ'D
KIT2006		SAFETY SWITCH KIT	1
1	INC IN KIT2006	SAFETY SWITCH	1
2	INC IN KIT2006	SPRING 2.0L X .025 X .026	1
KIT3011BLK		TRIGGER REPLACEMENT KIT 14 INCH	1
3	INC IN KIT3011BLK	ROLL PIN 1/8 X 1.75L	2
4	INC IN KIT3011BLK	SPRING - TRIGGER	2
5	INC IN KIT3011BLK	TRIGGER 14 INCH BLK	1
KIT2011BLK		HANDLE GRIP KIT	1
6	INC IN KIT2011BLK	HANDLE GRIP - BLK	2
KIT1005		MAIN ON/OFF SWITCH REPLACEMENT KIT	1
7	INC IN KIT1005	MAIN ON/OFF SWITCH	1
8	INC IN KIT1005	WASHER INTERNAL TOOTH - LOCK	1
9	INC IN KIT1005	FLAT WASHER ZN	5
10	INC IN KIT1005	SWITCH INSULATION	1
11	INC IN KIT1005	FLAT WASHER 5/16 ZN	1
KIT2005		STRAIN RELIEF REPLACEMENT KIT	1
12	INC IN KIT2005	STRAIN RELIEF ASSY	1
13	INC IN KIT2005	NUT - APPLETON .50	1
14	INC IN KIT2005	WASHER FLAT .890 X 1.5 X .104 ZN	1
KIT1033		PIGTAIL 21" L 14-3 YELLOW & STRAIN RELIEF KIT	1
15	INC IN KIT1033	PIGTAIL 21" L 14-3 YELLOW	1
	INC IN KIT1033	KIT2005 STRAIN RELIEF KIT	1
KIT3018		MERLIN SPRING KNOB ASSY	1
16	INC IN KIT3018	SPRING KNOB ASSY	1
KIT3008RED	INC IN KIT3008RED	SWITCH BOX COVER KIT - RED	1
17	INC IN KIT3008RED	SWITCH BOC COVER - RED	1
18	INC IN KIT3008RED	LABEL SWITCH BOX COVER - FRONT	1
19	INC IN KIT3008RED	LABEL WARNING - REAR	1
20	INC IN KIT3008RED	SCREW 10-24 X .50	2
21	INC IN KIT3008RED	WASHER #10 EXT TOOTH LOCK	2
KIT1028		INHANDLE CORD KIT	1
22	INC IN KIT1028	INHANDLE CORD	1
23	INC IN KIT1028	INHANDLE LOOP CLAMP	1
24	INC IN KIT1028	SCREW 10-24 X .50	1
25	INC IN KIT1028	GROMETT	1
KIT1029		MERLIN HANDLE ASSY.	1
26	INC IN KIT1029	MERLIN HANDLE ASSY. COMPLETE (SEE NOTE)	1
	(NOTE)	(LESS INHANDLE CORD) KIT1028	1
	(NOTE)	(LESS PIGTAIL) KIT1027YEL	1

1/18/2016

DETAIL NUMBER	PART NUMBER	MERLIN MACHINE DESCRIPTION	QTY. REQ'D
KIT2022		MOTOR FAN GUARD KIT 180F TEFC	1
1	INC IN KIT2022	GUARD	1
2	INC IN KIT2022	SCREW 2.5L X #12 SCK HD SHT MTL	4
3	INC IN KIT2022	SPACER	4
KIT1022BLK-P		MOTOR 180F TEFC W/ GEARBOX & PIGTAIL INSTALLED	1
4	INC IN KIT1022BLK-P	MOTOR 180F TEFC	1
5	INC IN KIT1022BLK-P	PIGTAIL	1
6	INC IN KIT1022BLK-P	GEARBOX XHD 3 IDLER	1
7	KIT1025	GEARBOX XHD 3 IDLER (FLANGE ONLY)	1
8	KIT1018	GEARBOX XHD 3 IDLER ONLY (NO FLANGE)	1
KIT2023		PULL PIN BUSHING KIT	1
9	INC IN KIT1023	PULL PIN BUSHING	2
KIT2024		MERLIN HEAD - STD UNIT BLK KIT	1
KIT2023	INC IN KIT1024	PULL PIN BUSHING KIT	1
10	INC IN KIT1024	MERLIN HEAD - STD UNIT BLK	1
KIT2015		BRUSH COVER MTG. KIT	1
11	INC IN KIT2015	SPACER BRUSH COVER	4
12	INC IN KIT2015	WASHER INTERNAL TOOTH 5/16	4
13	INC IN KIT2015	SCREW SOCKET CAP 6/16-18 X 2.0L	4
KIT3017RED		BRUSH COVER / BUMPER KIT - 17 INCH	1
14	INC IN KIT3017RED	BUMPER 17 INCH BLACK	1
15	INC IN KIT3017RED	BRUSH COVER 17 INCH RED	1
KIT3020RED		BRUSH COVER / BUMPER KIT - 20 INCH	1
14	INC IN KIT3020RED	BUMPER 20 INCH BLACK	1
15	INC IN KIT3020RED	BRUSH COVER 20 INCH RED	1
KIT2028		MERLIN SPRING KNOB ASSY	1
16	INC IN KIT2028	SPRING KNOB ASSY	1
17	SUB-W0016-CARBLK	MERLIN CARRIAGE WDMT BLACK	1
KIT1025		WHEEL KIT - MERLIN (2 REQ'D)	2
18	INC IN KIT1025	WHEEL -- MERLIN 8 X 2	1
19	INC IN KIT1025	BLOT 1/2-13 X 4.5L GR8 ZINC	1
20	INC IN KIT1025	WASHER FLAT	5
21	INC IN KIT1025	WASHER WAVE	2
22	INC IN KIT1025	NUT 1/2-13 NYLOC	1
KIT1014		MOTOR 1.5 HP 115/50-60C W/ 3 IDLER XHD GEARBOX & SCREEN	1
23	INC IN KIT1014	KIT1021 MOTOR ONLY 2 SPEED 115V 50/60CY W/SCREEN INSTALLED	1
24	INC IN KIT1014	SCREW 10-24 X .50L THRID ROLL ZN	1
25	INC IN KIT1014	SCREEN RETAINING SPRING	2
26	INC IN KIT1014	MOTOR SCREEN	1
27	INC IN KIT1014	WASHER #10 INTERNAL LOCK ZN	1
28	INC IN KIT1014	KIT1020 (XHD) 2 SPEED GEARBOX	1
KIT3002BLK		MOTOR DRIP COVER / MTG KIT	1
29	INC IN KIT3002BLK	MOTOR DRIP COVER - BLACK	1
30	INC IN KIT3002BLK	SPACER .500 X .625L	3
31	INC IN KIT3002BLK	WASHER LOCK #10 EXT	3
32	INC IN KIT3002BLK	LABEL MOTOR	1
33	INC IN KIT3002BLK	SCREW 10-24 X 1.0 TT	3
KIT2026		HANDLE MTG. HDWR KIT	1
34	INC IN KIT2026	BOLT 1/2-13 X 4.5L BR8 ZN	1
35	INC IN KIT2026	WASHER FLAT ZN	2
36	INC IN KIT2026	WASHER WAVE ZN	2
37	INC IN KIT2026	NUT 1/2-13 NYLOC ZN	1
KIT2027		WEIGHT KIT (4) 20 LB. W/MTG. HDWR & LINCH PINS	1
38	INC IN KIT2027	WEIGHT 20 LBS. BLK	4
39	INC IN KIT2027	WEIGHT PIN ZN	4
40	INC IN KIT2027	WASHER LOCK 3/8 SPLIT ZN	4
41	INC IN KIT2027	BOLT 3/8-16 X 7/8L ZN	4
42	INC IN KIT2027	LINCH PIN W/BAIL LOCK	4

# Accessories for Every Application



### Hawk Scrapers (Surface Prep):

17" HP0033  
20" HP0034



### Orbitec Diamond Driver:

17" HP0017  
20" HP0020



### Weighted Diamond Pad Driver:

17" A0010WTDPD (46#)  
20" A0011WTDPD (64#)



### Diamond Pad Driver

17" A0010DPD  
20" A0011DPD



### Pad Driver:

17" A0010  
20" A0011



### Grit Brush:

17" A0008  
20" A0009



### Sand Paper Driver:

17" A0014-HD  
20" A00014-1HD



Dust Pickup System  
HP0031-DC17-BRUTEKIT  
HP0031-DC20-BRUTEKIT

3" DIAMONDS	30	50	100	120	200	220	400	800	1500	1800	3000	3500	8500
Rosox Resin	X	X					X	X		X		X	X
Turbo Cat	X	X	X		X								
Typhoon	X	X		X		X	X	X				X	X
Concrete Flex	X	X	X		X		X	X	X		X		
Granite Polish	X	X	X		X		X	X	X		X		
Marble Flex		X	X		X		X	X	X				

## LIMITED WARRANTY

Your HAWK 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 HAWK equipment with information concerning the duration, extent, availability, and applicability of this HAWK Limited Warranty, the procedure to be taken to obtain its performance, and other information concerning the **HAWK Limited Warranty policy**.

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

Non-wear items: 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, isolators, compensators, capacitors 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, HAWK ENTERPRISES 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 HAWK distributor's service department in the United States;
- (3) Any HAWK authorized service station in the United States.

If you are unable to locate any of the foregoing, you may write or otherwise communicate with HAWK ENTERPRISES before repair service is performed by anyone else. In such event, HAWK ENTERPRISES will provide either the location or a closely available HAWK distributor service department, or HAWK 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 HAWK equipment or any warranted part to conform with this warranty, HAWK 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. **DO NOT** return any equipment or part to the factory without prior authorization.

### NO REFUND OF PURCHASE PRICE

HAWK ENTERPRISES **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 HAWK 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 HAWK ENTERPRISES 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.

Genuine

Commerical

Products by:

Hawk Enterprises of Elkhart



Elkhart, IN USA