

# Instruction and Maintenance Manual

ERICO® RAIL GRINDER  
Model SBG200



**ERICO®**

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## WARNING:

1. ERICO products shall be installed and used only as indicated in ERICO product instruction sheets and training materials. Instruction sheets are available at [www.erico.com](http://www.erico.com) and from your ERICO customer service representative.
2. ERICO products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings.
3. All instructions must be completely followed to ensure proper and safe installation and performance.
4. Improper installation, misuse, misapplication or other failure to completely follow ERICO's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death.

## SAFETY INSTRUCTIONS:

All governing codes and regulations and those required by the job site must be observed. Always use safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

For Service, call 1-800-447-RAIL (7245).

# GENERAL SAFETY INFORMATION

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**Read, understand, and follow all safety instructions before operating or performing maintenance on the equipment.**

## DEFINITIONS OF FLAG WORDS:

**DANGER:** Indicates an imminent hazardous situation, which, if not avoided, will result in death or serious injury. Its use is limited to the most extreme situation.

**WARNING:** Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

**CAUTION:** Indicates a hazardous situation, which, if not avoided, will result in minor or moderate injury. It is also used to alert against unsafe practices.

**NOTICE:** Is used only with alerts that warn against property damage.

During the operation of the equipment, the user must be familiar with and follow all applicable statutes, codes, and regulations governing the workplace.



## DANGER

**EXPLOSIVE DISINTEGRATION HAZARD:** Worn or damaged grinding wheels can explosively disintegrate when turning at high speeds causing death or serious injury from flying debris. Prior to use, always check wheel for nicks, flat spots or excessive wear. Worn or damaged wheels must be immediately discarded. Never operate the wheel above its rated speed. Ensure that all guards are in place prior to operating tool. Always operate the grinder in a position that places the guard between the wheel and the operator. New wheels must be run at operating speed for one minute before any actual grinding. Never grind with the side of a conventional straight or Type 1 grinding wheel.



## WARNING

**EYE DAMAGE HAZARD:** Failure to wear approved safety eye protection can result in permanent sight loss from flying debris.

**CLOTHING, JEWELRY AND HAIR ENTANGLEMENT HAZARD:** Loose clothing, jewelry and hair can be entangled on projections or moving parts, and result in fatal or serious injury. If gloves are used, they must be easily removable and of nonslip material. Always allow the grinder wheel to fully stop before setting the grinder down and never touch moving parts.

**HEARING LOSS HAZARD:** Failure to wear approved hearing protection when operating this equipment may result in permanent hearing loss.

**EXPLOSIVE DISINTEGRATION HAZARD:** Damage to flywheel or clutch due to use of improper tools may result in their disintegration when used, resulting in fatal or serious injury.

## GENERAL SAFETY INFORMATION

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### POTENTIAL PHYSICAL HEALTH PROBLEM

**PROTECTION FROM VIBRATION:** Vibrations from hand-held tools of this type may contribute to a condition called Raynaud's Syndrome in certain individuals. Symptoms may include tingling, numbness and blanching of the fingers, usually apparent under exposure to cold. Hereditary factors, exposure to cold and dampness, diet, smoking and work practices are all thought to contribute to the development of these symptoms. **If you experience any of the symptoms of this condition, immediately discontinue use and see your physician about these symptoms.**

**This grinder is classified in the "occasional use" category by many current regulations. To reduce the effects of vibration:**

- a) Keep your body warm in cold weather. When operating the unit, wear gloves to keep the hands and wrists warm.
- b) Refrain from smoking.
- c) After each period of operation, exercise (move arms, etc.) to increase blood circulation.
- d) Take frequent work breaks. Limit the amount of exposure per day.
- e) Keep the grinder well maintained, fasteners tightened and worn parts replaced.



### CAUTION

**HAND INJURY HAZARD:** Do not allow the grinder or other moving parts to make contact with unprotected skin on the hand or elsewhere on the body. Failure to wear gloves may result in cuts and bruises to the hand. Gloves must be easily removable and of a non-slip material.

# FUEL

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## DANGER

**DO NOT SMOKE** or bring any flame or sparks near fuel. Failure to observe this precaution can be fatal or result in serious injury.

**EXPLOSION, FLAMMABILITY HAZARD:** Failure to refuel the equipment away from open flame, spark generators, or other ignition sources, including smoking (cigarette or other), will result in a fatal or serious injury accident. Never start the engine in an explosive atmosphere or near flammables.



## WARNING

**EXPLOSION FLAMMABILITY HAZARD:** Failure to remove fuel cap slowly to release pressure and/or re-install fuel cap properly may cause spurting of gasoline onto hot parts of the engine and possible fire resulting in serious or fatal burns. Use only approved safety fuel-containers for storage and transport of fuel.



## CAUTION

### INSTRUCTIONS FOR ADDING FUEL:

Select a safe area for fueling. Move at least 10 feet (3 m) from the fueling spot before starting the engine.

1. Ensure area around fuel cap is free of dirt. Loosen fuel cap slowly.
2. Add fuel to reservoir and avoid spillage by not overfilling.
3. Immediately replace fuel cap and hand tighten. Wipe up any fuel spillage
4. For long-term storage of the grinder, drain and clean the fuel tank and run engine to ensure that no fuel is in carburetor. Store the grinder in the toolbox provided. Ensure the storage area is secure and not accessible to children or other unauthorized persons.

This tool is designed to operate on unleaded gasoline. A high quality/name-brand gasoline is recommended.

The unleaded gasoline requires a minimum octane number 86. Fuels with a lower octane level may result in premature engine failure and may void the warranty.

The chemical composition of the fuel is also important. Various additives may affect seals, fuel lines, diaphragms and metal cast materials. Therefore it is essential that only high quality/name brand fuels be used.

### OXYGENATED FUELS:

The following are maximum recommended percentages of oxygenates:

ETHANOL (ethyl or grain alcohol)	10% max by volume
MTBE (methyl tertiary butyl ether)	15% max by volume
METHANOL (methyl or wood alcohol)	5% max by volume

**Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.**

**RECOMMENDED ENGINE OIL:** We recommend the use of any **high quality/name brand** SAE 10W-30-engine oil.

## SPECIFICATIONS

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**ENGINE: ERICO® Part No. SBG20023**

Type: Single Cylinder, 4-Stroke Engine

Power Head: Honda® GX25/ 1.1Hp

Displacement: 25cc

**IGNITION:**

Spark Plug: CMR5H

Spark Plug Gap: 0.65 mm (.026" in)

**GRINDING WHEEL:**

Type: ERICO Approved (see page 10)

Rated RPM: 10,500 max.

**FUEL/OIL SYSTEM:**

Air Filter: Special filter (Reusable)

Fuel Capacity: 0.55 Liter (0.145 US gal)

Engine oil: SAE 10W - 30

**WEIGHT:**

Model SBG200: 13.5 lbs dry weight

## ORDERING SPARE PARTS

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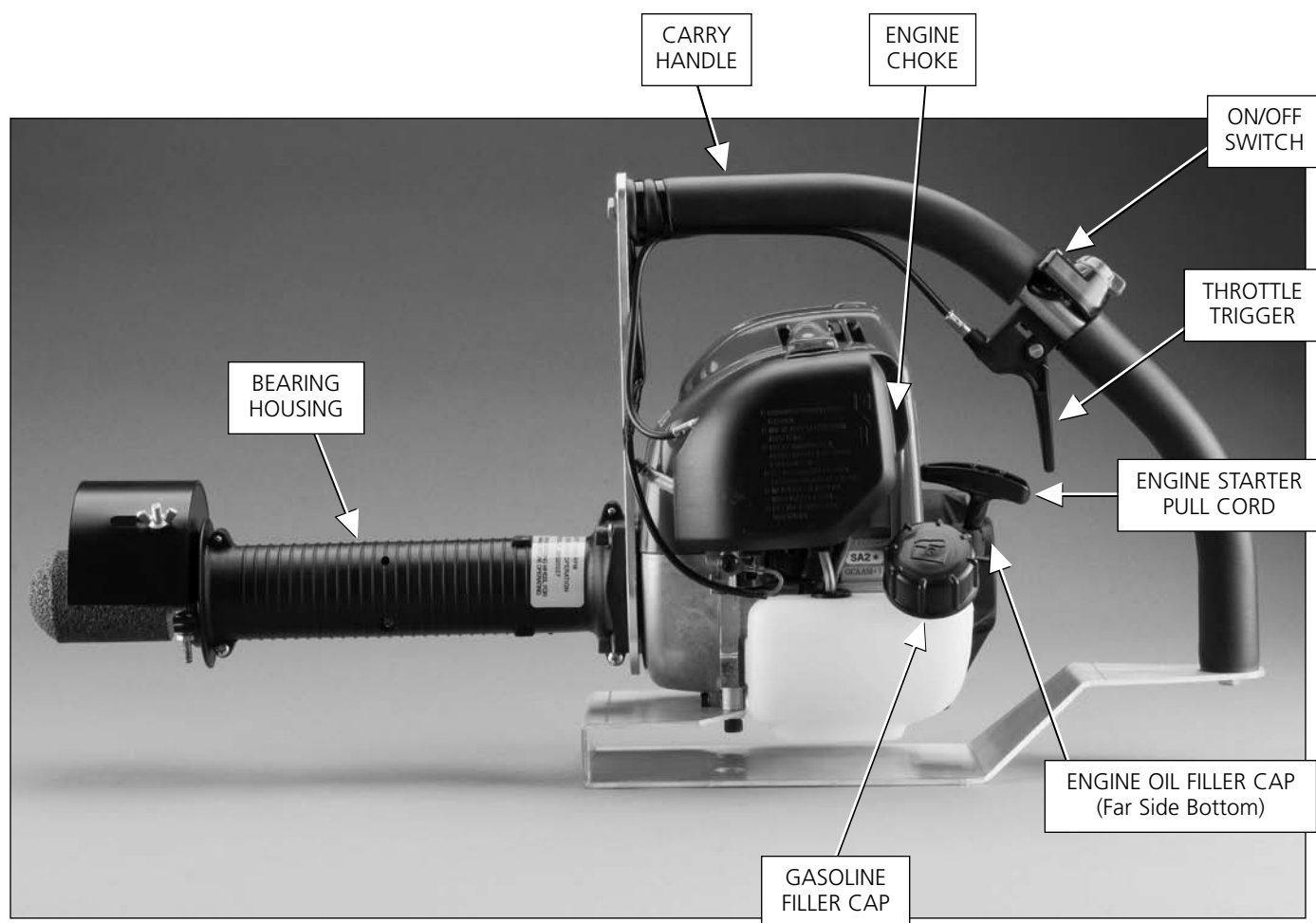
Please provide the Model No. and Item No. as noted on the appropriate exploded views found in this manual.

## WARRANTY SERVICE

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You must use the ERICO factory or an authorized ERICO service center to perform all repairs of grinders. Any repairs made by non-authorized service centers and/or personnel will void all warranties.

## GRINDER PART IDENTIFICATION



# INSTRUCTIONS FOR STARTING

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**"COLD STARTING" PROCEDURES:** The Choke must be in the "CLOSED" position, and the On/Off switch must be in the "ON" position. Push primer button until fuel is seen in the fuel line under the carburetor. Pull the starter cord until the engine starts. Turn the choke to the "OPEN" position once the engine starts.

**"WARM STARTING" PROCEDURES:** If the engine is warm, the choke is not required. With the choke in the "OPEN" position and On/Off switch in the "ON" position, pull the starter cord until the engine starts.

To **STOP** the engine, move the On/Off switch to the "OFF" position.

**REMINDERS:** Speed up the engine to full speed just before making grinder wheel contact. Perform all grinding at full throttle so as not to slip the clutch. Get ready to throttle down to idle so as not to over speed the engine when it becomes load free.

**NOTE!** A new grinder must not be run at full throttle with no load until at least 3 full tanks of fuel have been used. This ensures that the engine will not fail prematurely due to higher loads during the break-in period. After the break-in period the engine will start reaching maximum horsepower after 5 full tanks of fuel.

## GRIP ON HANDLES

1. Wear non-slip gloves for maximum grip and protection.
2. Proper grip is important! Maintain a proper grip on the grinder whenever the engine is running and/or the grinding wheel is rotating. Grasp the BEARING HOUSING with your left hand. With your right hand, grasp the CARRY HANDLE (foam handle) so you can control the THROTTLE TRIGGER properly as shown below.



**GRINDING STANCE:** Always keep your weight well balanced when grinding. Since you will exert moderate pressure when grinding, guard against loss of balance by assuring that you are able to pull the grinder free and clear in the event that the grinding wheel slips on the work piece.



# RAIL GRINDING PROCEDURE

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Before grinding, wipe the rail surface clean with a cloth saturated with mineral spirits, followed by a wipe with a clean dry cloth. Surface contaminants such as rust, grease, oil, and water condensation will affect the integrity of a CADWELD® bond. Discard soiled rags and debris in an approved manner.

1. **Wear proper safety equipment!** Gloves made of a non-slip material, eye protection, hearing protection, hardhat, safety shield, steel-toed boots, and other appropriate safety equipment must be used.
2. **Stance:** Take the proper stance in front of the area to be ground with the grinder idling. Rest right arm on knee while in squatting position. Lift with your legs, not your back.
3. **Wheel Position:**
  - Grinding for Head Bonds** Wheel must be used only at the center of the head of the rail, within the confines of the splice plate.
  - Web Grinding** Wheel must be used only at the neutral axis of the rail.
4. **Wheel Guard Adjustment:** If desired, you may adjust the orientation of the wheel guard by loosening the clamping screws and rotating the guard to the desired position. Retighten the screws before grinding. (Note: The guard for the Type 27, cone-shaped wheels, part no. SBG20015G, has an adjustable skirt. The skirt must be adjusted to within 1/8" of the face of the wheel per ANSI® B7.1-2000. The skirt or the entire guard may be removed when using the Type 18 plug wheel as ANSI B7.1-2000 does not require a guard for Type 18 wheels of this size.)
5. **Grip:** Grasp the BEARING HOUSING with your left hand while gripping the CARRY HANDLE (foam handle) with your right hand.
6. Accelerate the engine to full throttle just before wheel touches grinding surface.
7. Begin grinding with the wheel against the rail moving with a side-to-side motion until bright base metal is shown.
8. Allow wheel to do grinding for you. Exert only slight pressure to prevent loading of grinding wheel.
9. Release the THROTTLE TRIGGER as soon as the wheel loses contact with the rail, allowing the engine to idle.

**Note: See instructions provided with ERICO® frame assemblies, molds, and/or welding material for the proper procedure for preparing and installing ERICO's exothermic rail bonds.**

# ENGINE MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3)								
ITEM	Perform at every indicated month or operating hour interval, whichever comes first.	Each use	First month or 10 hours	Every 3 months or 25 hours	Every 6 months or 50 hours	Every year or 100 hours	Every 2 years or 300 hours	Refer to page
● Engine Oil	Check Level	★						27
	Change		★		★			29
● Air Filter	Check	★						32
	Clean			★ (1)				33
● Spark Plug	Check - Adjust					★		34
	Replace						★	
Spark Arrester (optional parts)	Clean					★		40
Engine Cooling Fins	Check				★			37
Nuts, Bolts, Fasteners	Check (Retighten if necessary)	★						—
Clutch Shoes	Check				★ (2)			—
● Idle Speed	Check - Adjust					★ (2)		—
● Valve Clearance	Check - Adjust					★ (2)		—
● Combustion Chamber	Clean	After every 300 hours (2)						—
● Fuel Filter	Check					★		38
● Fuel Tank	Clean					★		38
● Fuel Tubes	Check	Every 2 years (replace if necessary) (2)						—
● Oil Tube	Check	Every 2 years (replace if necessary) (2)						—

- Emission-related items.

(1) Service more frequently when used in dusty areas.

(2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to Honda® shop manual for service procedures.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

**Pages referenced in the maintenance schedule and trouble shooting chart are in the Honda engine owner's manual GX2 provided with your SBG200 rail grinder.**

## Torque Chart: SBG200

Screw	ERICO® Part No.	Item No.	Quantity	Required Torque
3/8-16 x 1	A927D038	12	1	75 in-lbs (8.47 N-m)
1/4-20 x 3/4	A927F179	17	2	
M6-1 x 25	A927K029	13	4	45 in-lbs (5.08 N-m)
M6-1 x 12	A927K097	15	2	
M5-0.8 x 10	A927K099	38	1	
#8-32 x 5/8	A927P028	14	6	8 in-lbs (0.90 N-m)
#10-32 x 1	SBG20015G	33	2	
#10-32 x 1	SBG20027G	Sold Separately	2	
M3-0.5 x 18	A927K061	42	1	
#10-32 x 1/2	A927K098	29	1	60 in-lbs (6.78 N-m)

NOTE:

1. Apply LOCTITE® to fasteners prior to tightening. See torque chart for required torque levels.

## TROUBLE SHOOTING CHART

ENGINE WILL NOT START	POSSIBLE CAUSE	CORRECTION
1. Check control positions.	Choke open.	Move the choke lever to CLOSED position unless engine is warm.
	Ignition switch OFF (on the equipment).	Turn ignition switch to ON.
2. Check fuel.	Out of fuel.	Refuel.
	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 46). Refuel with fresh gasoline.
3. Remove and inspect spark plug.	Spark plug faulty, fouled, or improperly gapped.	Gap or replace spark plug (p. 34).
	Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug. Start engine with throttle lever in FAST position, with choke lever in OPEN position.
4. Take engine to an authorized Honda® servicing dealer, or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

ENGINE LACKS POWER	POSSIBLE CAUSE	CORRECTION
1. Check air filter.	Filter element clogged.	Clean or replace filter element (p. 33).
2. Check fuel.	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 46). Refuel with fresh gasoline.
3. Take engine to an authorized Honda servicing dealer, or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

Pages referenced in the maintenance schedule and trouble shooting chart are in the Honda engine owner's manual GX2 provided with your SBG200 rail grinder.

## CARBURETOR ADJUSTMENTS

The carburetor is designed to provide optimum performance from the factory. The settings of the carburetor are adjusted to ensure that the tool will deliver maximum horsepower, fuel efficiency and operate reliably. There are no user adjustments on this carburetor. The carburetor can be tuned for high altitude operation by a qualified Honda service shop.

# GRINDING WHEEL

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**EXPLOSIVE DISINTEGRATION HAZARD:** Worn or damaged grinding wheels can explosively disintegrate when turning at high speeds causing death or serious injury from flying debris. Prior to use, always check wheel for nicks, flat spots or excessive wear. Worn or damaged wheels must be immediately discarded. Never operate the wheel above its rated speed. Ensure that all guards are in place prior to operating tool. Always operate the grinder in a position that places the guard between the wheel and the operator. New wheels must be run at operating speed for one minute before any actual grinding. Never use the side of a cut-off wheel for grinding. Only use the proper grinding surface of the wheel.

## GRINDING WHEEL REMOVAL

1. **On the cup grinding wheel part no. SBG20015 only:** Using a 5/32" allen wrench (supplied), remove the retaining bolt and washers from the tip of the shaft/wheel. This is a left hand thread. Turn clockwise to loosen.
2. **On all grinding wheels:** With the motor pointing away (as shown), and using a 5/8" open-end wrench (supplied), hold the shaft and rotate wheel counter clockwise to loosen and remove.
3. **On all grinding wheels:** Inspect all replacement wheels, and ensure that they have not been dropped and/or abused.
4. **On all grinding wheels:** Install the new wheel and hand tighten. Do not use pliers or other devices to grip the wheel, as damage may occur.
5. **On the cup grinding wheel part no. SBG20015 only:** Reinstall oversized washer, lockwasher and retaining bolt. The bolt has a left hand thread, turn counter clockwise to tighten per recommended torque (see Torque Chart, page 5).



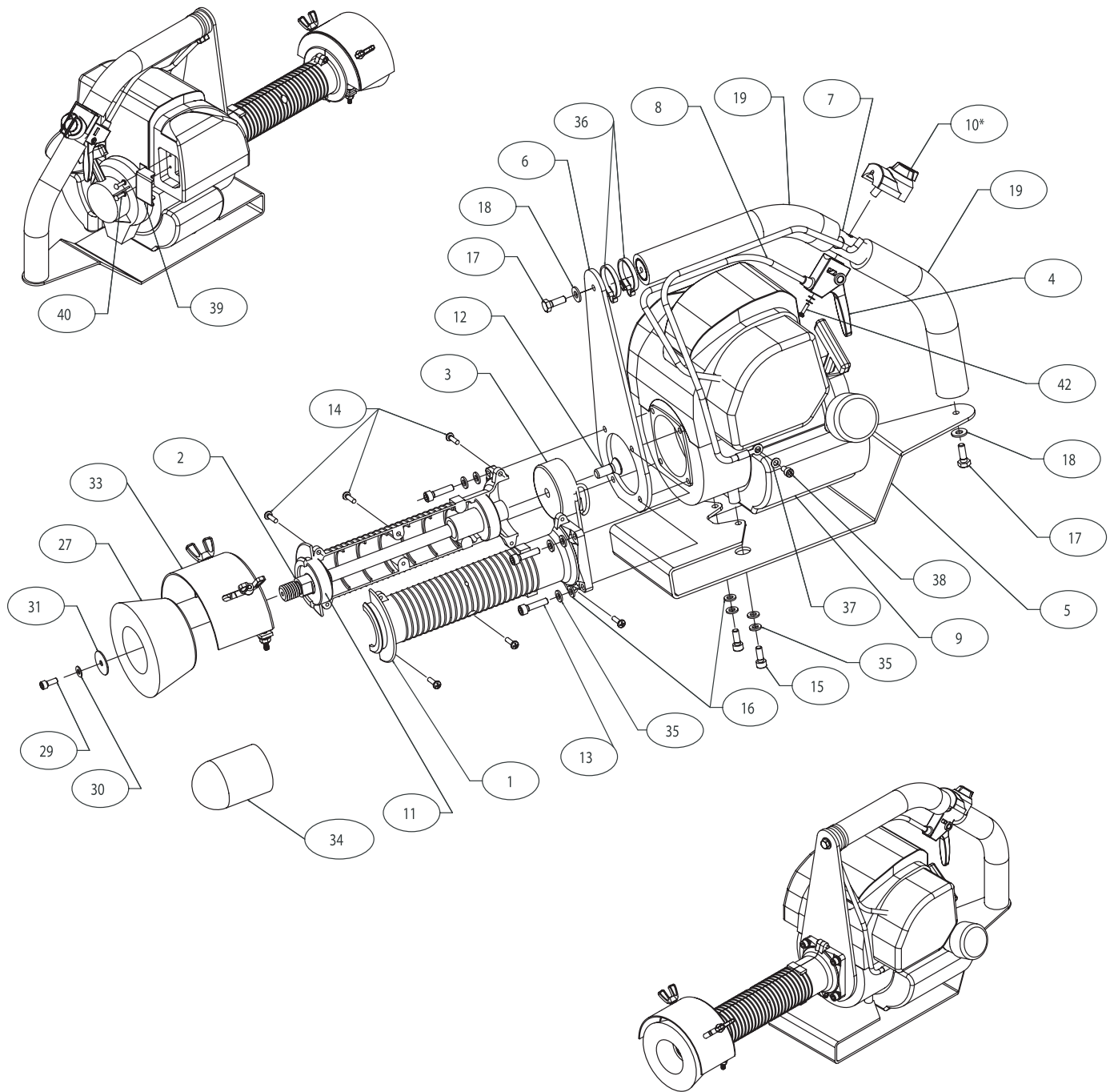
## SBG200 RAIL GRINDER PART LIST

Item	ERICO® Part No.	Quantity	Description
	SBG200		Rail grinder assembly
1	SBG20001	2	Bearing housing
2	SBG20002	1	Drive shaft
3	SBG20003	1	Clutch guard
4	SBG20007	1	Throttle trigger
5	SBG20008	1	Base plate
6	SBG20009	1	Front plate
7	SBG20010	1	Handle assembly
8	SBG20014	1	Throttle cable
9	SBG20023	1	Engine
10	SBG20024	1	On/Off switch
11	A930U009	2	Bearing
12	A927D038	1	Screw, 3/8-16 x 1 in.
13	A927K029	4	Screw, M6 x 25 mm
14	A927P028	6	Screw, #8-32 x 5/8 in.
15	A927K097	2	Screw, M6 x 12 mm
16	A929A054	6	Flat washer, 6 mm
17	A927F179	2	Screw, 1/4-20 x 3/4 in.
18	A929E008	2	Belleville washer, 1/4 in.
19	SBG20026	2	Grip
20	SBG20029	1	Carrying case
21	B295X37	1	Precaution label
22	B295X38	1	Equipment safety label
23	B295X130	1	SBG200 label
24	B295X131	1	Recommended wheels label
25	B295X132	1	Service tag label
26	SBG200M	1	Instruction manual
27	SBG20015	1	Grinding wheel, Type 11 cup
28	G144A3	1	Wrench, 5/8-15/16
29	A927K098	1	Screw, #10-32 (LH) x 1/2 in.
30	A929B043	1	Lock washer, #10
31	A929A113	1	Fender Washer, #10
32	T391	1	Allen wrench, 5/32
33	SBG20015G	1	Grinding wheel guard (Type 11 & 18R)
34	SBG20018	3	Grinding wheel, Type 18R plug
35	A929B044	6	Lock washer, M6
36	A172A	2	Tie wrap
37	A929B045	1	Lock washer, M5
38	A927K099	1	Screw, M5 x 10 mm
39	SBG20028	1	Exhaust guard
40	A930A015	2	Rivet, 1/8 x 1/8 in.
41	B295X136	1	On/Off switch label
42	A927K061	1	Screw, M3 x 0.5 x 18 mm

**Note:** Items 20-26, 28, 32, and 41 are not shown in the assembly drawing.

# SBG200 RAIL GRINDER EXPLODED VIEW

\*INCLUDES WASHERS



## NOTES:

1. Apply LOCTITE® to fasteners prior to tightening. See torque chart for required torque levels.
2. Items 20-26, 28, 32, and 41 not shown.

## ACCESSORIES

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Cup Grinding Wheel Part No. SBG20015



Plug Grinding Wheel Part No. SBG20018



Grinding Wheel Guard for above Part No. SBG20015G (not pictured)  
(for use with SBG20015 & SBG20018)

Cut-off Wheel Part No. SBG20027  
Cut-off Wheel Adapter Part No. SBG20019  
Cut-off Wheel Guard Part No. SBG20027G  
Kit w/Wheel & Guard Part No. SBG200COFF



Grinder Case Part No. SBG20029



# ERICO® RAIL PRODUCTS LIMITED WARRANTY

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## SBG200 Series Rail Grinder

ERICO Inc. will repair or replace, at its option, any part that is proven to be defective in material or workmanship under normal use during the applicable warranty time period. Warranty repairs and replacements will be made without charge for parts or labor. Anything replaced under warranty becomes the property of ERICO Inc. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

### Length of limited warranty from date of original purchase:

- 12 months on all components of SBG200 style grinder except Honda® engine.
- 12 months Honda factory warranty on GX25 engine. (See GX25 engine Warranty from Honda for specifics)
- 24 months Honda factory warranty on emission control system parts. (See Emission Control System Warranty from Honda for specifics).

This warranty is not transferable and does not cover damage caused by unreasonable use, including the failure to provide necessary maintenance. In addition, this warranty does not cover general check-ups on electrical equipment, tune-ups on gasoline engines or replacement of non-defective parts (such as electrical ignition, cables, sparkplugs, filters, grinding wheels, etc.) that may wear and need to be replaced with reasonable use within the warranty period or which may require replacement in connection with normal maintenance.

Proof of purchase is required. This may be in the form of a purchase order number and date, or ERICO order number. Also, the part number and serial number notation will be required.

You must at your own expense arrange to deliver or ship the product for warranty repairs.

OTHER THAN THE LIMITED WARRANTY SET FORTH ABOVE, ERICO MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO ORAL OR WRITTEN INFORMATION OR REPRESENTATION GIVEN BY ERICO OR ITS AGENTS, AFFILIATES, REPRESENTATIVES OR EMPLOYEES SHALL CREATE ANY WARRANTY OR OBLIGATION, AND PURCHASER AGREES THAT IT SHALL NOT RELY ON ANY SUCH INFORMATION OR REPRESENTATION WITH RESPECT TO THE PRODUCT.

ERICO SHALL NOT BE LIABLE UNDER ANY THEORY OF LIABILITY, HOWEVER ARISING, INCLUDING BUT NOT LIMITED TO NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE FOR ANY COSTS OF COVER OR FOR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING WITHOUT LIMITATION CLAIMS BY THIRD PARTIES AGAINST THE PURCHASER, OR CLAIMS OF CONTRIBUTION OR INDEMNITY) ARISING OUT OF THE PURCHASE OF, USE OF, OR INABILITY TO USE THE PRODUCT, EVEN IF ERICO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. ERICO'S TOTAL LIABILITY TO PURCHASER AND ANY THIRD PARTIES FOR ANY LOSSES OR DAMAGES, REGARDLESS OF THE BASIS OF THE LIABILITY, ARISING IN CONNECTION WITH THE PRODUCT SHALL IN NO EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE ACTUALLY PAID BY THE PURCHASER FOR ONE OF THE PRODUCTS.

### How to obtain warranty service:

Warranty service can be obtained by calling the Rail Electrical Sales Dept at ERICO, 1-800-447-RAIL (7245) and requesting a Returned Materials Authorization number. Other instructions will be given at that time.

This warranty affords you specific legal rights, and you may also have other rights, which vary, from state to state.

ERICO Products, Inc. (d/b/a ERICO, Inc.), 34600 Solon Road, Solon, OH 44139, gives this limited warranty.



# ERICO®



[www.erico.com](http://www.erico.com)



## AUSTRALIA

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## BELGIUM

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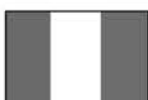
## SWEDEN

Box 211  
201 22 Malmö  
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Phone 46-40-611-13-60  
Fax 46-40-611-94-15



## CHILE

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## ITALY

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## CHINA

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## MEXICO

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## THAILAND

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