



Operation and Maintenance Manual

SEM Model 0101 Crusher

(Serial number 3174 and up)



MAN-003 Rev 4 | Created 08/27/2019 | ECN: 00678

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Important Safety Precautions

The SEM Model 0101 crusher incorporates powerful, heavy duty pressing mechanisms.

Serious and permanent injury may result if proper precautions are not followed.

1. This equipment should never be operated by children or individuals who are untrained or incapable of understanding these safety precautions.
2. Do not reach into the crushing chamber for any reason. Never insert fingers, hands, or objects not meant to be crushed into the crushing chamber.
3. Do not operate or come into close proximity to this equipment wearing loose clothing, neckties, dangling jewelry, or long hair, which may become entangled in the crushing chamber.
4. Maintenance or repair of this equipment should be performed only by trained, authorized service personnel.
5. Always disconnect electric power (unplug) before removing or opening any cover or other panels providing access to the internal mechanisms.
6. Always wear gloves when working with the SSD anvil as it has many sharp tines.

1. About Your Crusher

INTENDED USE

The Model 0101 is designed for crushing rotating platter hard drives up to 1.85 inches thick and SSD media if the unit was purchased with the SSD kit option. Trying to crush other objects or material other than rotating platter hard drives or SSD media for units equipped with the SSD kit option will void the warranty. SEM is not responsible for the failure of this unit if a customer uses the unit for something other than what is was intended.

SPECIFICATIONS FOR CE UNITS

This machine was designed with a CE marking for export from the US. A CE machine will have a serial number label with a CE mark present.



Note: The anvil displayed in the units may differ depending on serial number and date.

2. Unboxing and Set-up

1. After removing the crusher from its packaging, place the system on a strong and sturdy surface.

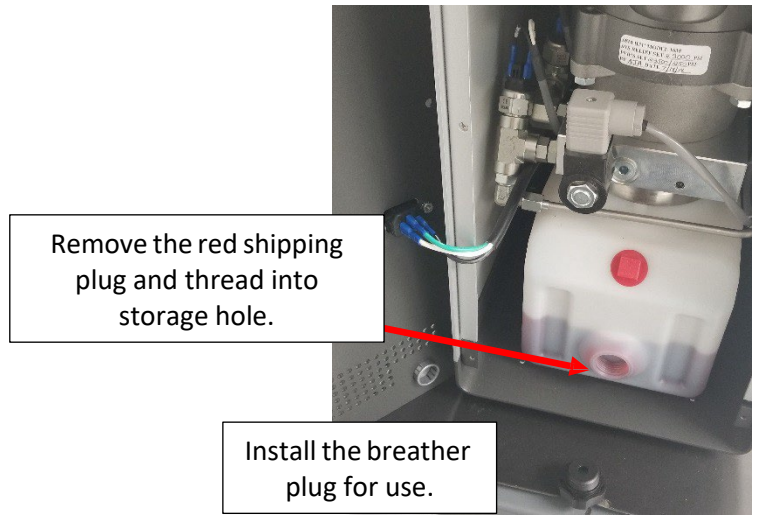
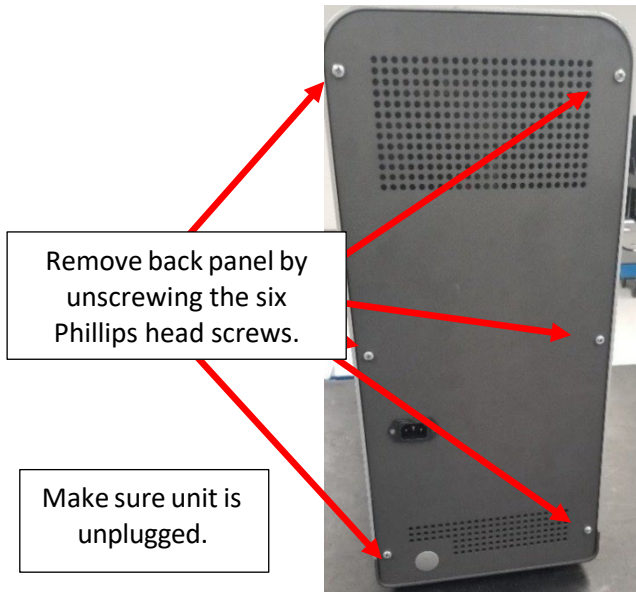
Note: All packaging should be retained by the customer for 30 days from the time of receipt. If this unit needs to be returned for replacement or repair this packaging will be required to do so. Should the packaging have been discarded before the requested 30-day period, packaging costs will be incurred by the customer.

2. Be certain that all paperwork and any loose items that may have been shipped with the crusher have been removed from the packaging and from within the crushing chamber.
 - Important: To avoid fluid from leaking from the reservoir tank during shipment, this crusher was shipped with a red shipping plug installed. Prior to operating this crusher, the red shipping plug must be replaced with the black breather plug (see plug pictures below). **DO NOT OPERATE THE CRUSHER WITH THE RED SHIPPING PLUG INSTALLED IN THE RESERVOIR.**
 - Note: The red shipping plug must be retained by the customer; this item will be required to prevent fluid from leaking from the reservoir tank in the event the unit needs to be moved to another location or shipped in any way.
 - Caution: If shipping, do not over-tighten the shipping plug as you may strip the plastic threads.



3. To replace the red shipping plug with the black breather plug, locate and remove the back panel on the crusher. **THE CRUSHER SHOULD NOT BE PLUGGED INTO AN ELECTRICAL OUTLET WHEN COMPLETING THIS PROCESS.** The back panel is secured by six Phillips head screws. Begin by removing these screws and slide the back panel next to the system.

Caution: The back panel is connected to the unit at the power entry module. DO NOT apply excessive force to the panel when removing. Simply lean the panel on the side of the crusher (see below).



4. Once the red shipping plug has been replaced with the black breather plug, re-secure the back panel by replacing the six Phillips head screws in the following sequence: begin with the two bottom screws, followed by the two top screws, and finally the two middle screws.
 - Note: You may need to squeeze the sides of the top cover to install the middle screws.
 - Reminder: Retain the red shipping plug for future use when transporting the crusher.
5. With the back panel securely fastened, the crusher can now be plugged into the appropriate electrical outlet. The crusher must be installed according to the customer's incoming power.
 - 115V units must be installed on a 110-120V/1/60Hz grounded electrical line service. These crushers are equipped with a 15 Amp three-prong plug (NEMA 5-15P) on the power cord.
 - 230V units must be installed on a 220-240V/1/50Hz grounded electrical line service. These crushers are equipped with a 10 Amp two-prong (SCHUKO) European plug on the power cord. **Note: 230V plugs may vary depending on location.**

3. Configurations

SEM offers two different configurations for the 0101 crusher in either 115V or 230V power:

- Model 0101 HDD
- Model 0101 HDD and SSD Combo

Specifications		
Model	Model 0101 HDD	Model 0101 HDD and SSD Combo
Media Destroyed	Computer rotational platter hard drives up to 1.85" height (3.5" and 2.5" casings accepted)	Computer rotational platter hard drives up to 1.85" height (3.5" and 2.5" casings accepted) SSD boards removed from housings
Destruction Time	8 seconds	Up to 25 seconds
Power Supply	115/230 Volt	
Power Consumption	7.5/5 Amps	
Operating Environment	34°F- 115°F (1°C - 46°C)	
Weight	120 lbs. (54.4 kg)	
Size	19" (48.3 cm) x 10" (25.4 cm) x 22" (55.9 cm)	
Hydropack Fluid	Automatic transmission fluid [Approximately two quarts (1.9 liters)]	


3.1 Determining if Your Crusher is SSD Capable

NOTE: SSD destruction with the Model 0101 is only possible with units that were originally purchased with the SSD kit option. SSD kits cannot be purchased separately and retrofitted to the Model 0101. They must be purchased with the Model 0101 at the time of ordering.

To determine if your crusher is capable of destroying SSD media, look at the serial number label on the back panel. Serial numbers beginning with the prefix SSD are capable of destroying solid state media as well as rotating platter hard drives up to 1.85 inches in thickness when installed with the proper anvil. Serial numbers that **DO NOT** begin with SSD are only capable of destroying rotating platter hard drives up to 1.85 inches in thickness.

Below is an example of a Model 0101 serial number tag that was purchased with the SSD kit.

SSD prefix designating
crusher was purchased
with SSD Kit



MODEL: 0101-SSD
SERIAL NO.: 19287-1
YEAR: 2019

POWER: 115/1/60
AMPS: 7.5
MOTOR: 1/3 HP

MADE IN THE USA

SHREDDERS | CRUSHERS | DISINTEGRATORS | DEGAUSSERS

4. SSD Operation

Note:

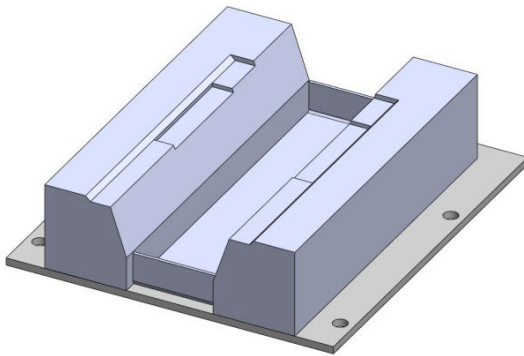
SSD destruction is only possible with the SSD anvil installed.

Warning:

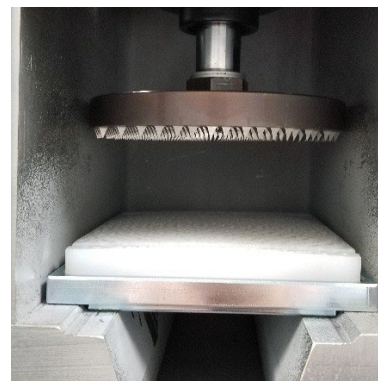
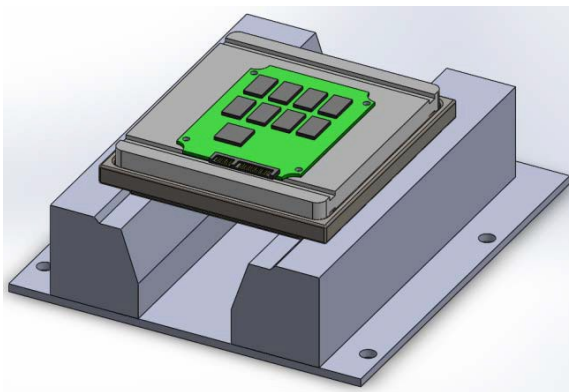
- Gloves are recommended for this operation as the SSD anvil has many sharp tines and the crushed solid state material may also be sharp.
 - Prior to destroying any solid state media, be sure to remove any protruding connectors, capacitors, or batteries.
 - Only devices ordered for SSD destruction can be used as such.
1. To begin crushing solid state media, ensure that the correct anvil is installed within the crushing chamber. Open the access door and look inside of the crushing chamber. The proper anvil for SSD crushing is shown below. If the correct anvil is installed, proceed to Step 3.



2. If the HDD anvil is installed in lieu of the SSD anvil, the anvil will need to be changed. To remove the HDD anvil, see section *HDD Maintenance*. Once the HDD anvil has been removed, see section *SSD Maintenance* for instructions regarding installation of the SSD anvil.
3. With the proper SSD anvil installed, make sure the steel press plate and wear plate are properly positioned inside the bottom of the crushing chamber. Proper positioning of these plates will ensure the anvil is positioned for maximum effectiveness by piercing the data holding integrated circuit (IC) chips of the media. The following pictures provide an example of how the steel press plate, wear plate, and solid state media should be positioned within the crushing chamber. Instructions regarding installing the steel press plate and wear plate can be found in the section named *SSD Maintenance*.



Channels in Cutting Chamber



Solid State Media Placed in Cutting Chamber for Crushing

4. Position the solid state media onto the wear plate. If the SSD has any end-mounted connectors attached, allow them to hang over the edge of the wear plate so the media is as horizontal as possible. See picture.



Solid state media with attached connector overhanging the wear plate to allow the media to rest as horizontal as possible.

5. Close the access door and press the green button labelled RUN. The button will illuminate, the motor will activate, and the hydraulic ram will descend to pierce the SSD within the crushing chamber. When the ram has reached the end of the down stroke, it will start its upward movement. Upon completion of the cycle, the green light will extinguish, and the motor will deactivate.

Note: The unit will not function if the access door is open.

6. The access door to the crushing chamber can now be opened and the SSD can be removed from the crushing chamber.

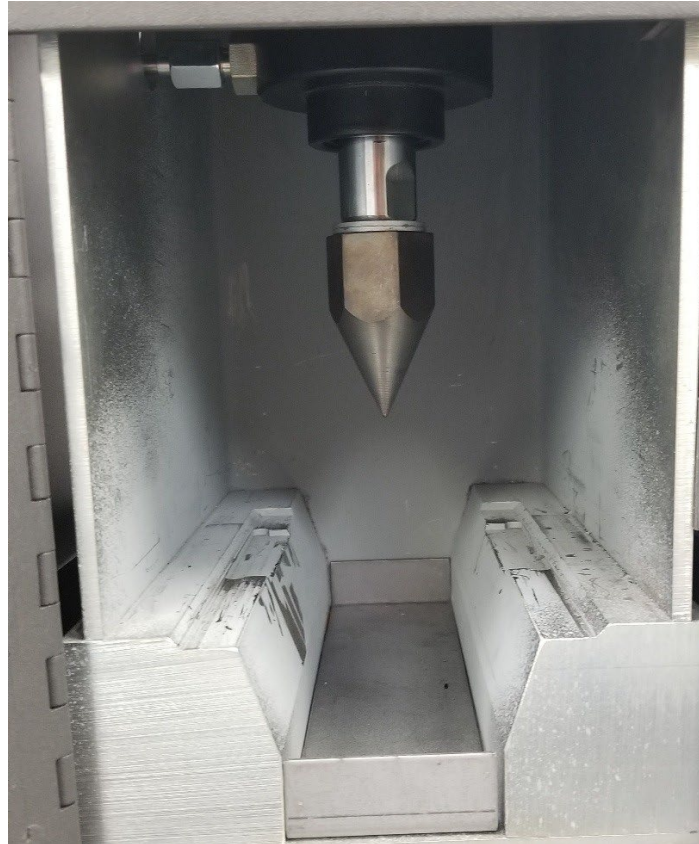
Note: If the media becomes stuck to the bottom of the SSD anvil, use a small screwdriver to pry it away for disposal. Failure to remove media may cause incomplete destruction.

7. In the event of an emergency or to stop the unit, push the red button labeled **STOP**. The button will then illuminate, and the hydraulic ram will return to the start position. When the hydraulic ram is in the start position, the red light will extinguish, and the motor will deactivate.

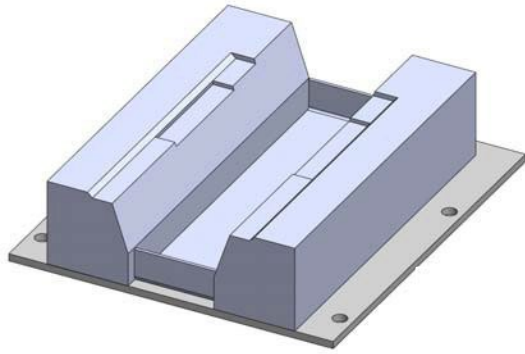
Note: If the access door is opened during the crushing cycle, the hydraulic ram will stop moving. When the access door is reclosed, the operator will need to press the **RUN** button to restart the crushing

5. HDD Operation

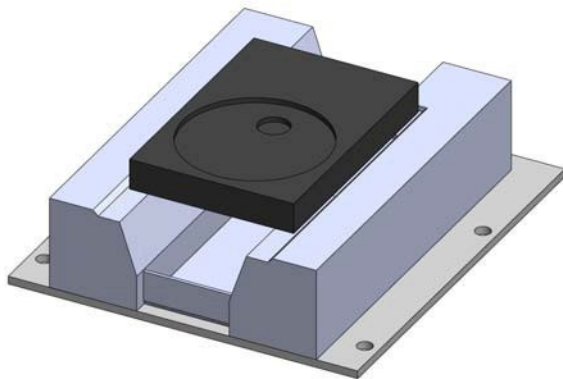
1. To begin crushing rotational platter hard drives up to 1.85" in thickness, ensure the correct anvil is installed within the crushing chamber. Open the access door and look inside the crushing chamber. The proper anvil for HDD crushing is shown below. If the correct anvil is installed, proceed to Step 3.



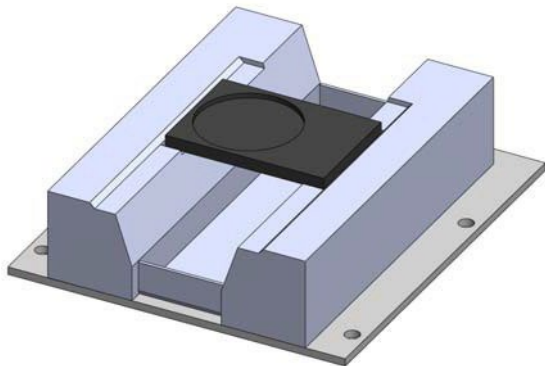
2. If the SSD anvil is installed in lieu of the HDD anvil, the anvil will need to be changed. To remove the SSD anvil, see section *SSD Maintenance*. Once the SSD anvil has been removed, see section *HDD Maintenance* for instructions of how to install the HDD anvil.
3. With the proper HDD anvil installed, look inside the crushing chamber to find the two channels at the bottom of the chamber. These channels properly align the hard drives to be crushed. Proper use of these channels will ensure the anvil is positioned for maximum effectiveness by piercing/bending the data holding platters of the hard drive rather than pushing the center drive hub. The following pictures provide examples of how different hard drives should be positioned within the channels of the crushing chamber.



Channels
in
Crushing
Chamber



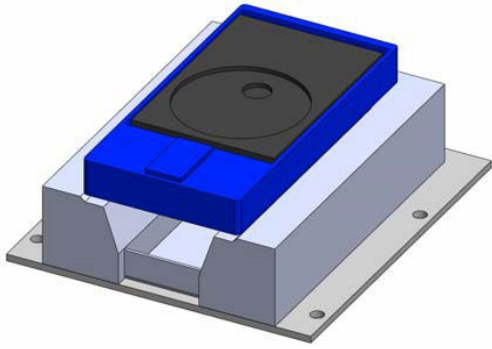
Desktop
PC 1"
Thick Drive



Notebook
Laptop
Drive



Note: The crushing chamber was designed to allow hard drives with caddies or rails typically used in rack mount or server systems to be crushed without having to remove them from the caddy. However, be sure to align all hard drive platters with the anvil before crushing.



Drive
Mounted
in Caddy



4. With access door closed, press the green **RUN** button. The button will illuminate and the motor will activate. The ram will then descend to pierce the hard drive in the crushing chamber. When the ram has reached the end of the down stroke, it will start its upward motion.
5. Upon completion of the cycle, the green button will extinguish and the motor will deactivate. The hard drive can now be removed from the chamber.

In case of emergency: Push the red button labeled **STOP**. The button will then illuminate and the ram will return to the start position. When the ram is in the start position, the red button will extinguish and the motor will deactivate.

Note: If the access door is opened during the crushing cycle, the ram will stop moving. When the access door is reclosed, the operator will need to press the **RUN** button to restart the crushing cycle.

Warning: The debris that falls into the collection drawer must be removed to ensure proper performance of the system. SEM recommends the drawer be emptied after the crushing of each hard drive. If the drawer is not emptied, it could cause the hydraulic cylinder to fail and will void the warranty.

5.1 Overloading

Should too much material be fed into the system, the high-pressure switch will engage and send the hydraulic ram back to the start position.

Note: If this happens, the system will not have completed a full cycle. As such, the hard drive may need to be sent through the crushing process again. This may happen when crushing 1.85" hard drives. You may want to remove and rotate the drive by 180° and send it through another crushing cycle.

6. SSD Maintenance

SEM recommends the SSD anvil be replaced as needed depending on type and quantity of media being destroyed.



Warning:

If the anvil is not replaced, it could cause damage to the hydraulic ram and void the warranty.

Prior to removing or installing the SSD anvil, make sure the crusher's power cord has been unplugged from the electrical outlet.

It is also recommended to use gloves when removing or installing the SSD anvil as the SSD anvil has many sharp tines.

6.1 Removing the SSD Anvil

The following is a list of tools required:

- 7/8" open-end wrench
- 1-1/4" open-end wrench
- 3/8" hex wrench
- Gloves

1. De-energize the unit by unplugging the power cord from the electrical outlet.
2. Open the access door. Using the 1-1/4" open-end wrench, place the open-end wrench onto the anvil and turn both the anvil and hydraulic ram shaft until the two flat edges on the hydraulic ram shaft are perpendicular to the door opening. This will allow the 7/8" open-end wrench to slide onto the flats of the hydraulic ram shaft. Align the wrenches as shown below.

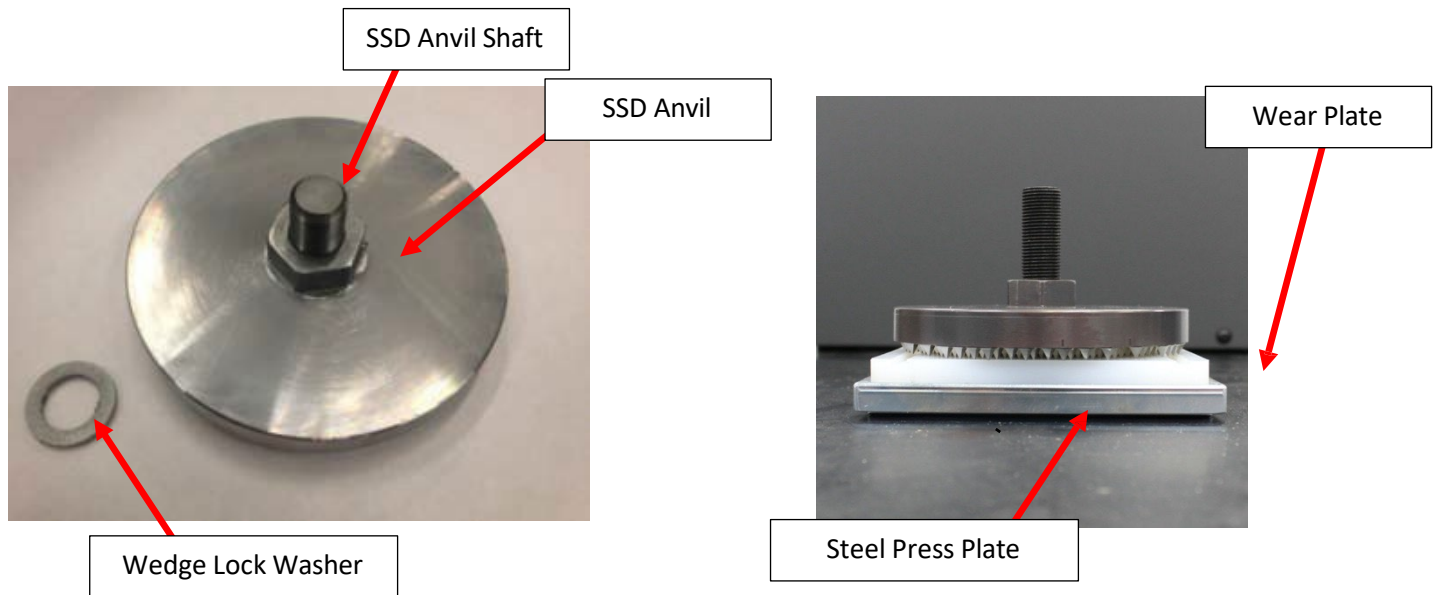


3. Turn the anvil left and the piston right to loosen.
4. Once loosened, unscrew the SSD anvil from the hydraulic ram shaft by hand. **Gloves should be worn for protection against the sharp tines of the anvil.**
5. Remove the threaded shaft from the hydraulic ram shaft using the 3/8" hex wrench to loosen it.

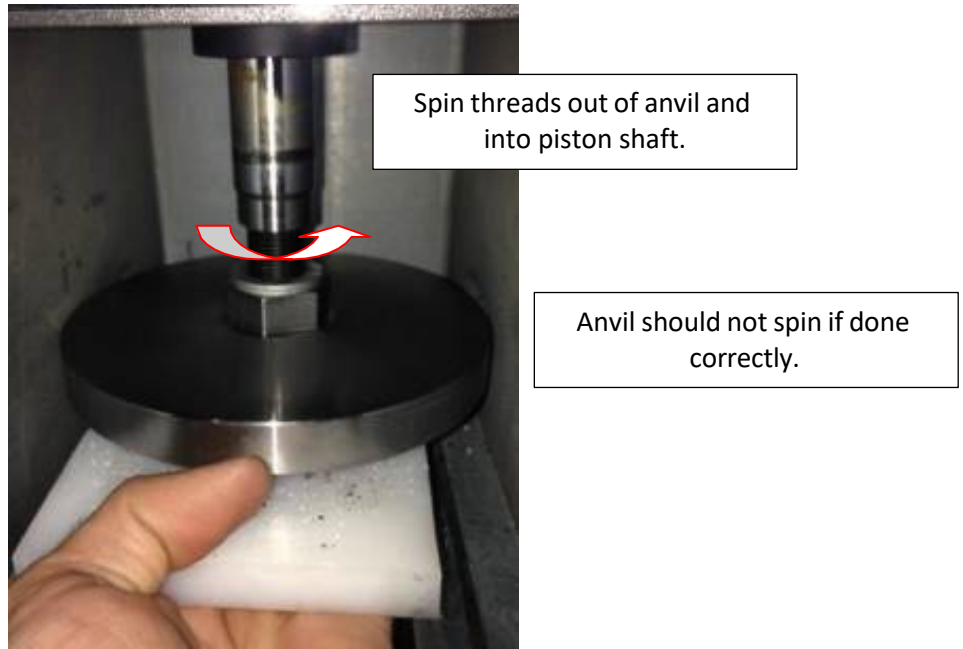
6.2 Installing the SSD Anvil

The SSD Anvil Kit consists of the following items:

- 1 SSD Anvil
- 1 SSD Anvil Shaft
- 1 Wedge Lock Washer
- 1 Steel Press Plate
- 1 Wear Plate



1. Place the hex socket of the threaded anvil shaft into the anvil and thread in completely by hand.
2. Place the wedge lock washer onto the anvil shaft.
3. Place the SSD anvil onto the wear plate to protect hands from the sharp tines of the anvil.
Gloves should also be worn for protection.
4. Hold the SSD anvil assembly and wear plate in the crushing chamber and align the anvil shaft with the hydraulic ram shaft. See the following pictures.

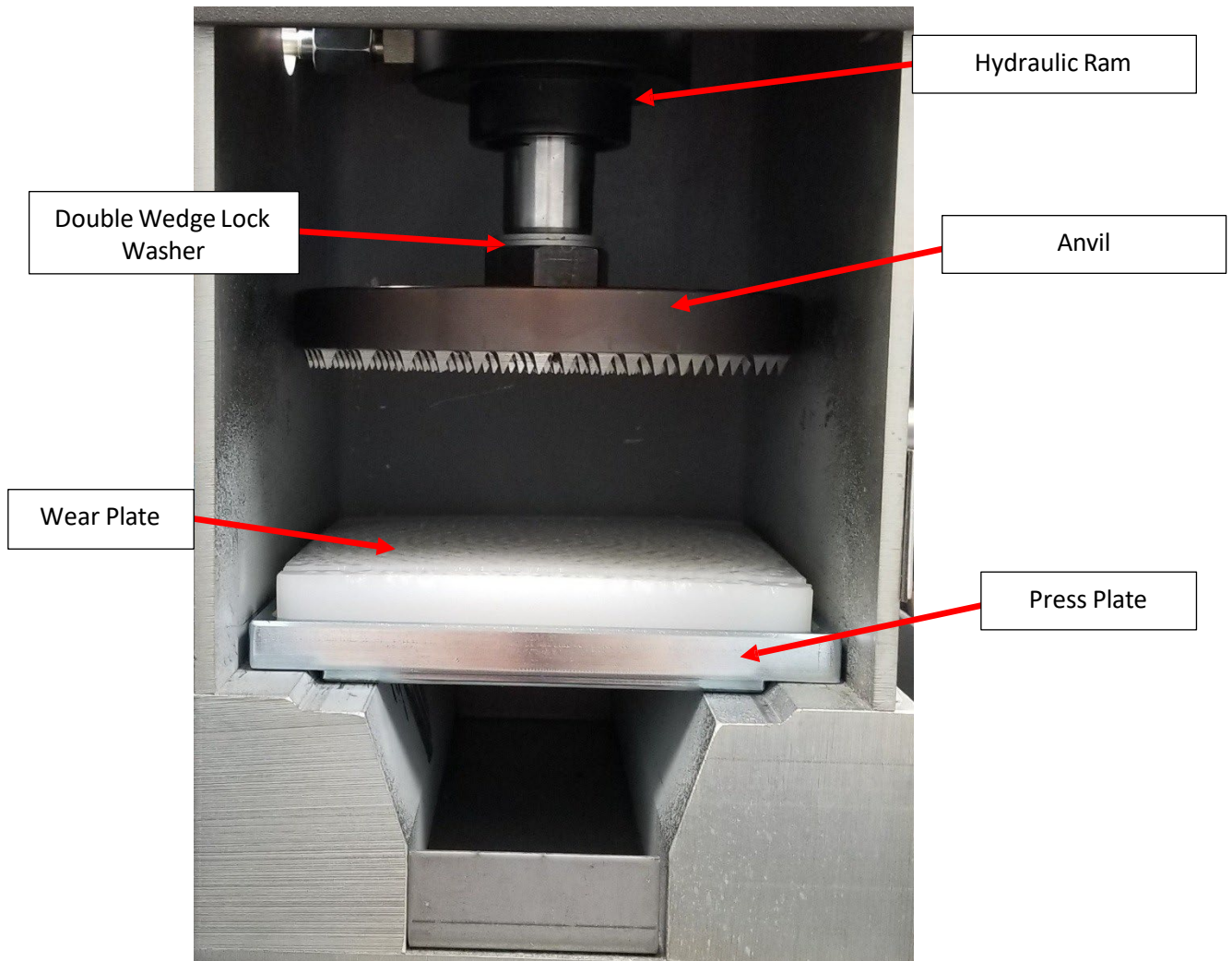


5. With the two shafts aligned, begin to thread the anvil shaft into the hydraulic ram shaft by spinning the threaded portion until a few threads catch in the shaft. Lower the press plate and let the anvil hang on the threaded shaft. Holding the shaft, spin the anvil completely into shaft before spinning threaded shaft into the hydraulic ram shaft until it is hand tightened. The SSD anvil will tighten itself with continued use. See picture of SSD anvil installed tight.

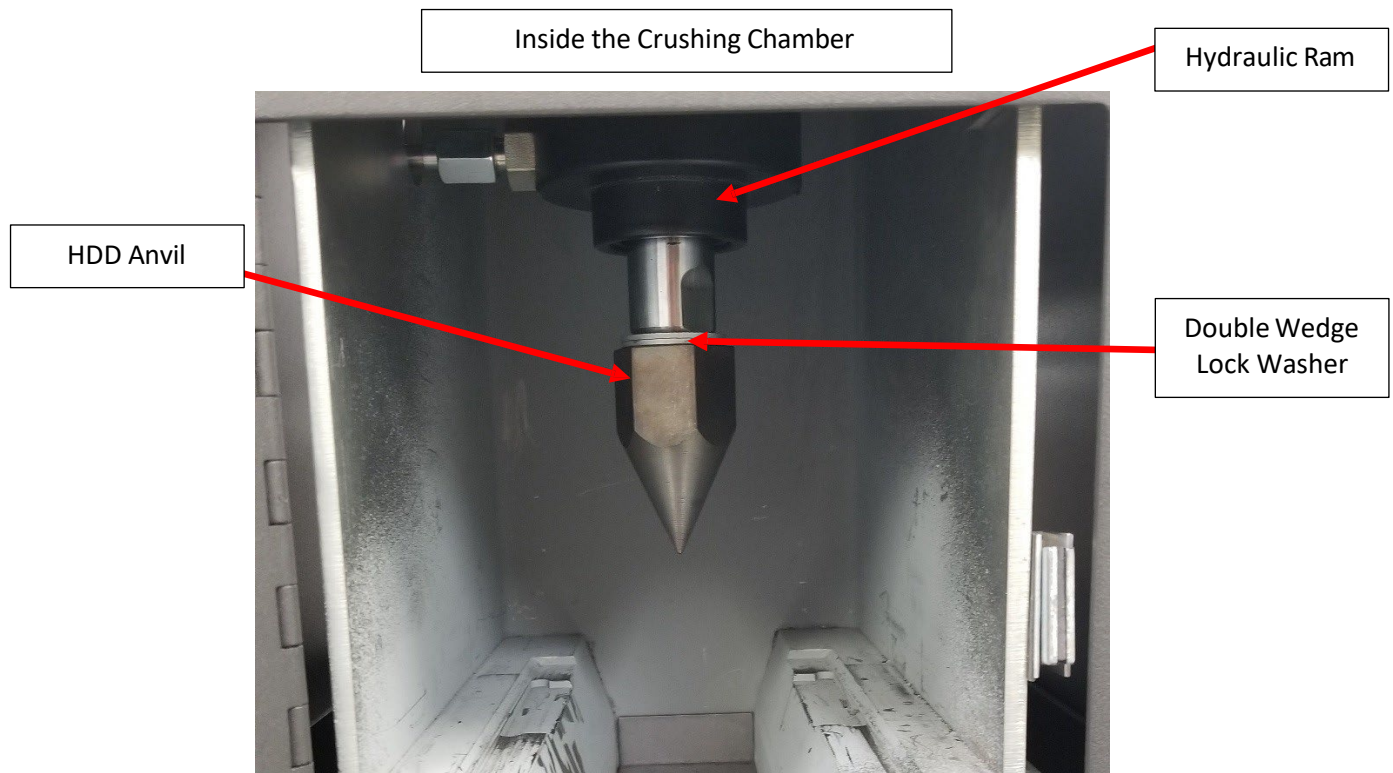


6. Place the wear plate inside the recessed area on top of the steel press plate.

7. With the wear plate on top of the steel press plate, slide the steel press plate into the bottom of the crusher chamber all the way to the back of the machine. This plate will only fit inside the chamber in one direction. The grooved milled out sections on the bottom of the steel press plate will fit between the channels at the bottom of the crushing chamber. The following picture shows both plates installed within the crushing chamber.



7. HDD Maintenance



SEM recommends the HDD anvil be replaced yearly or as needed depending on the type and quantity of hard drives being destroyed.

Warning: If the anvil is not replaced, it could cause damage to the cylinder and void the warranty.



New HDD Anvil



Worn HDD Anvil

7.1 Removing the HDD Anvil

Tools and proper protection equipment required:

- 7/8" open-end wrench
- 1-1/4" open-end wrench
- Gloves

1. De-energize the unit by unplugging and removing the power cord.
2. Open the access door. Place the 1-1/4" open-end wrench onto the anvil and turn both the anvil and hydraulic ram shaft until the two flat edges on the hydraulic ram shaft are perpendicular to the door opening.
3. Slide the 7/8" open-end wrench onto the flats of the hydraulic ram shaft. See pictures.



Turn anvil with 1-1/2" open-end wrench



Align wrenches as shown

4. Turn the anvil left and the piston right to loosen.
5. Once loosened, unscrew the HDD anvil from the hydraulic ram shaft by hand.

7.2 Installing the HDD Anvil

1. Place the wedge lock washer over the threaded portion of the HDD anvil to be installed, then screw the HDD anvil into the bottom of the hydraulic ram shaft until the wedge lock washer touches the base of the hydraulic ram shaft.

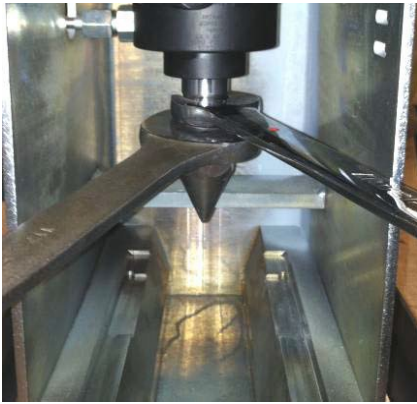
Note: Do not tighten the anvil by hand once the lock washer touches the base of the hydraulic ram shaft.

2. Place the 7/8" and 1-1/4" open-end wrenches on the HDD anvil and hydraulic ram shaft as shown below.

Note: It may be necessary to turn the anvil with the 1-1/4" open-end wrench to align the 7/8" open-end wrench onto the flats of the hydraulic ram shaft.

3. Using the details above, torque the anvil and push the open-end wrenches together to tighten. Proper setting for the anvil will be 1/6 – 2/6 of a turn after hand tightening. If needed, mark the anvil before tightening with the wrenches. See following pictures.

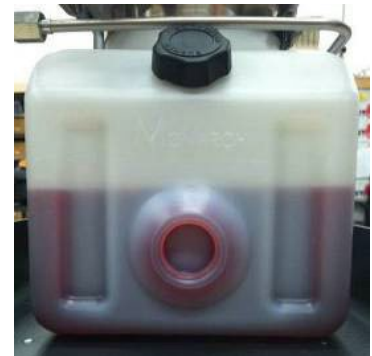
Note: Using anything other than open-end wrenches will not provide the required torque for tightening the anvil.



8. Fluid

The Model 0101 crusher has two quarts (1.9L) of automatic transmission fluid in the reservoir. SEM recommends the fluid be changed yearly to maintain optimal performance.

Note: Fluid should be changed by a SEM authorized technician only. See *Preventative Maintenance Options* for more information.



9. Troubleshooting

Problem: Unit is plugged in but will not turn on.

Solution: First check the functionality of the power outlet. If it is producing power, de-energize the unit by removing the power cord and check the circuit breaker inside the crusher.

To locate the circuit breaker inside the crusher, remove the front cover and check if the breaker is in the off position. If it is in the off position, reset it by flipping the switch on the breaker. If the crusher still does not turn on, contact SEM customer service.

Problem: Anvil will not move down when pushing the ***RUN*** button.

Solution: Be sure the front access door is closed and check to make sure there is power at the electrical outlet. If there is still an issue, contact SEM customer service.

Problem: Crushing capacity has dropped or the machine jams easily.

Solution: Contact SEM customer service.

10. Preventative Maintenance Options

SEM provides a Return to Factory Service program for the Model 0101 crusher. The program includes the following:

1. Check the overall operation of the system including all safety switches.
2. Drain and replace the hydraulic fluid.
3. Replace and install a new anvil.
4. Clean the entire system.
5. Perform final test to ensure proper operation.

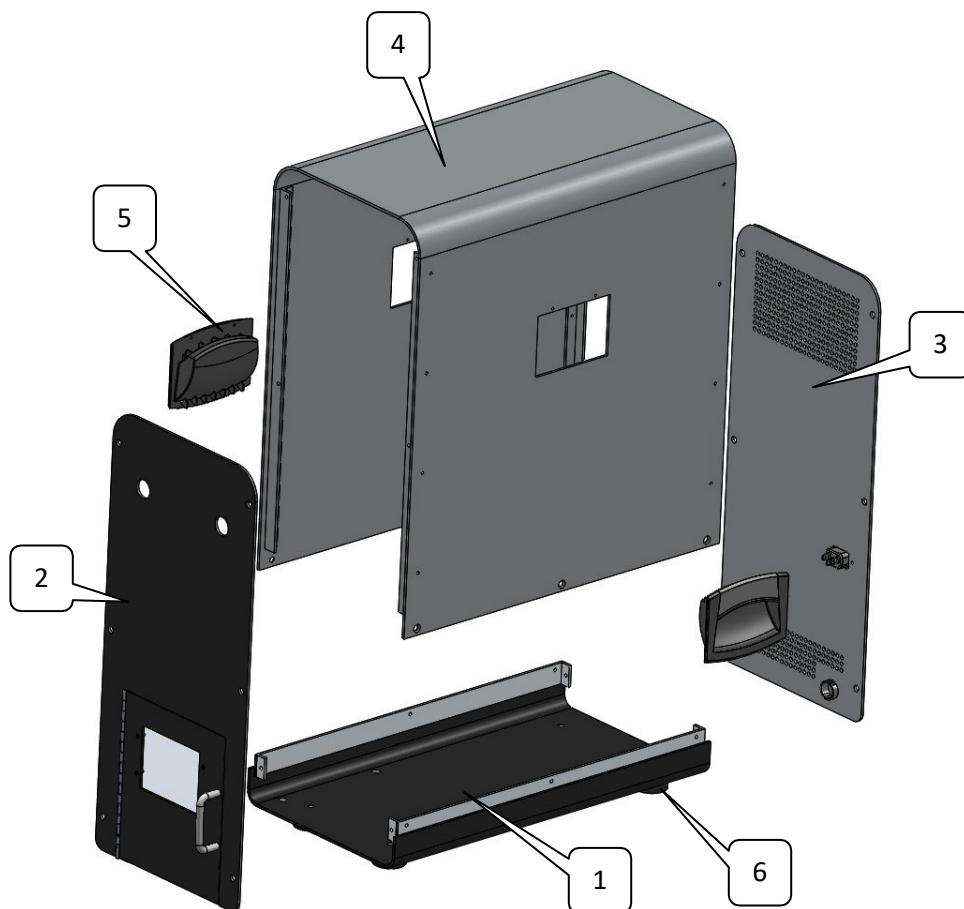
Note: Spare replacement parts are not included. All parts are genuine factory parts. SEM will contact the user for authorization prior to the implementation of any out of warranty parts.

SEM provides preventative maintenance contracts for many of its products. Contact SEM for a preventative maintenance contract to fit your needs at (800) 225-9293.

11. Electrical Schematics

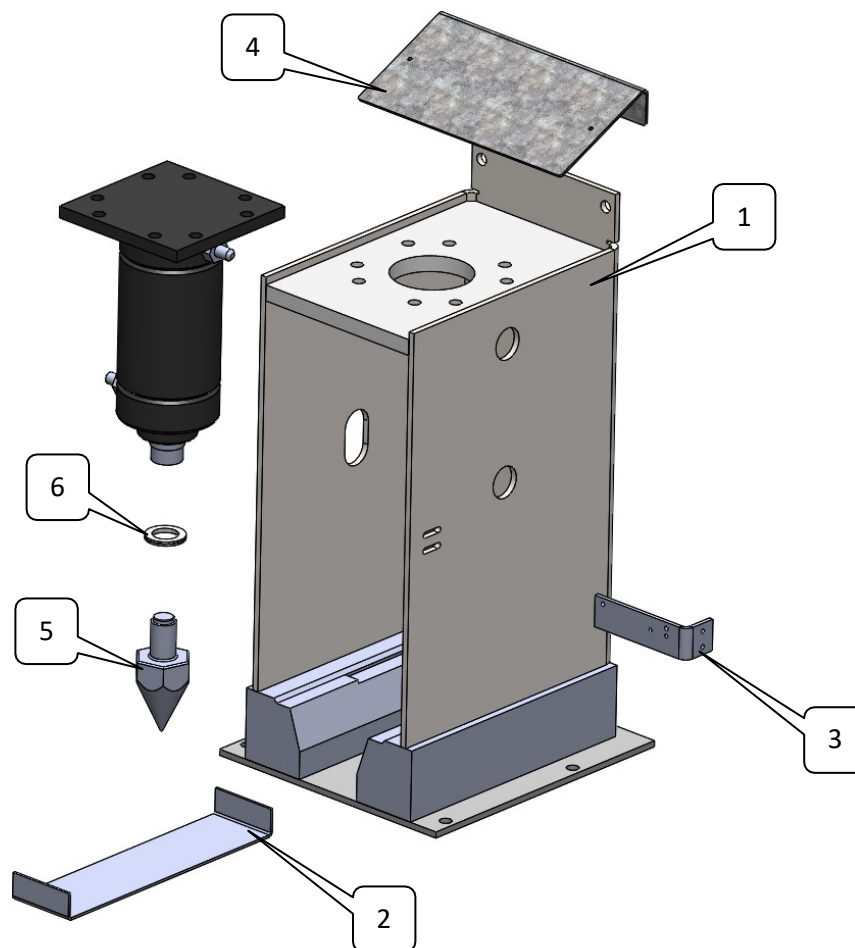
A PDF version of the schematics can be provided for all voltages upon request. Contact SEM for more information.

12. Cabinet Exploded View



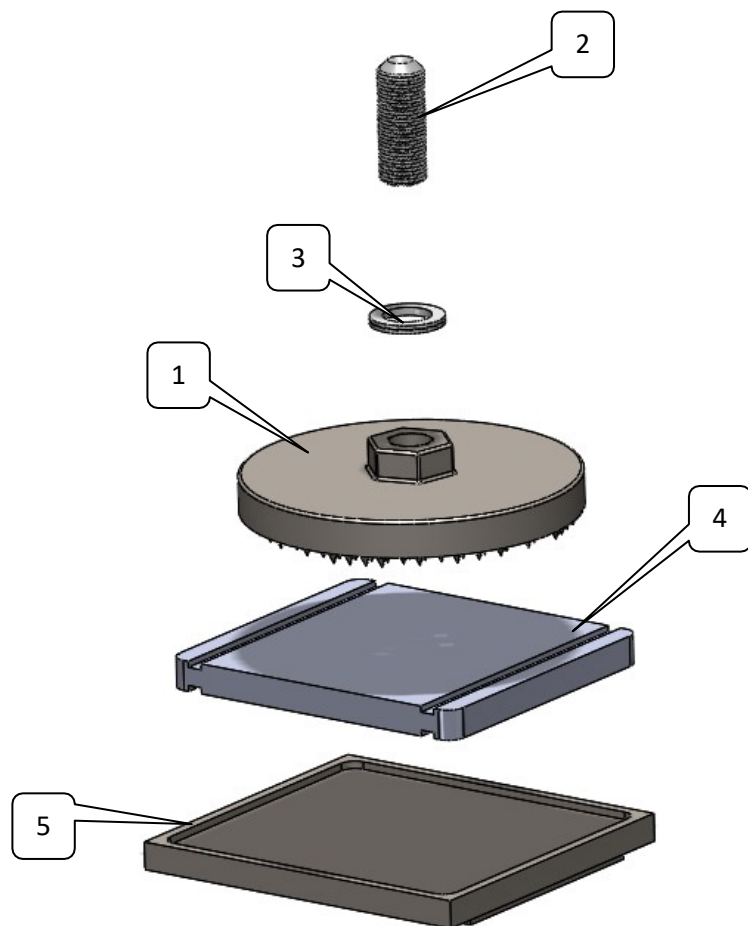
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	850HDCHOUSASSY-1	BOTTOM PLATE	1
2	850HDCHOUSASSY-2	FRONT ASSEMBLY	1
3	850HDCHOUSASSY-3	BACK COVER	1
4	850HDCHOUSASSY-4	TOP COVER	1
5	850HDCHANDLE	HANDLE	2
6	850HDCFOOTMT	RUBBER FOOT	4

13. Tower Exploded View



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	850HDCTOWER-6	TOWER ASSEMBLY	1
2	850HDCTOEW-7	DRAWER	1
3	850HDCTOWER-8	LIMIT SWITCH BRACKET	1
4	850HDCTOWER-4	E-MOUNT	1
5	850HDCANVIL	HDD ANVIL	1
6	850HDCWASHER	DOUBLE WEDGE LOCK WASHER	1

14. SSD Kit Exploded View



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	01-8339	SSD ANVIL	1
2	MC91375A861	HEX SOCKET SET SCREW	1
3	850HDCWASHER	DOUBLE WEDGE LOCK WASHER	1
4	01-8304-10	WEAR PLATE	1
5	01-8304	PRESS PLATE	1



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