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Operating Instructions

BMP-200-X

May 2006

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Important Information



DO NOT OPERATE THIS EQUIPMENT WITHIN AN ENCLOSED AREA. The exhaust from the internal combustion engine contains carbon monoxide, an odorless and deadly poison. If using equipment indoors, proper and adequate ventilation is required. An approved OSHA air-monitoring system must be in place at all times. **Avoid inhalation of exhaust gas.**

Carbon monoxide gas is toxic. Breathing it can cause unconsciousness and may KILL you. Avoid any areas or actions that expose you to carbon monoxide.

Do to the use of the equipment; suitable protective clothing must be worn or bodily harm may occur. The machine operator must wear eye protection, gloves, earplugs and non-slip safety shoes.

When doing work that causes dust, wear an appropriate respiratory mask that will protect you from the type of dust you are working in.

Before operation please read about this topic and other important safety information that is contained within the enclosed *Engine Owners Manual*.

**READ AND UNDERSTAND BEFORE
ATTEMPTING TO OPERATE THIS EQUIPMENT**

Safety Communication

Safety Instructions are preceded by a graphic alert symbol of DANGER, WARNING, or CAUTION



Imminent hazard which, if not avoided, will result in death or serious injury.



Imminent hazard which, if not avoided, can result in death or serious injury.



Hazards which, if not avoided, could result in serious injury and or damage to the equipment.

General Instructions

Maintain the machine in safe operating condition with all guards in place and secure all mechanical fasteners tight

Ensure all controls in working order and the machine is configured for the job application.

Be sure all safety decals can be clearly read and understood. Replace damaged or missing decals immediately.

Equipment should only be operated by trained personnel in good physical condition and mental health.

Never operate this machine while under the influence of drugs, alcohol or when taking medications that impair the senses or reactions, or when excessively tired or under stress.

Avoid deck inserts, pipes, columns, openings, electrical outlets, or any objects protruding from slab surface.

Maintain a safe operating distance to other personnel. It is the **operators' responsibility** to keep other people (workers, pedestrians, bystanders, etc.) at a safe distance during operation.

Block off the work area in all directions. Failure to do so may result in others being injured by flying debris or exposing them to harmful dust and noise.

For the operator's safety and the safety of others, always keep all guards in place during operation.

Never let equipment run unattended.

(PPE) Personal Protection Equipment



Proper safety attire must be worn when operating this machinery.



The operator must wear approved safety equipment appropriate for the job such as hard hat and safety shoes when conditions require.



Ear protection must be worn at all times when this machine is in use. During normal use, sound levels exceed 92dB.



Eye protection must be worn at all times when this machine is in use. Use only ANSI approved safety glasses to help prevent eye injury.



Operator must wear appropriate clothing and footwear. Steel toe safety shoes should be worn.

Do not wear loose clothing or jewelry that can get tangled or caught in moving parts. Keep body parts and loose clothing away from moving parts. Failure to do so could result in dismemberment or death.

General Operation

Stop motor/engine when adjusting or servicing this equipment. Maintain a safe operating distance from flammable materials.

Sparks from the cutting-action of this machine can ignite flammable materials or vapors.

Check motor rotation.

DO NOT use if drum rotation is incorrect - have a qualified electrician make the necessary change in the main control panel or motor connection box.

Before Starting the Machine

Perform a visual inspection of the entire machine and all daily maintenance according to the *Maintenance Schedule*.

Locate and be familiar with all engine/motor and operating controls.

For Gasoline models, obtain the *Engine Manufacturer's Owner's Manual*. Read it and understand it before continuing. Follow the engine manual for break-in instructions.

Use the correct cutters for the job. Be sure cutter drum is balanced, the number, size and type of cutter wheels are correct.

Be sure all fasteners are tight and secure, check for signs of metal cracking or fatigue, inspect for damage to electrical wiring, damage to fuel lines, check bearings, etc.

Be sure all guards are in place.

Inspect work area to determine the presence and location of deck inserts, pipes, columns and objects protruding from the slab surface so that they may be avoided during operation.

Safety warnings and guidelines do not by themselves eliminate danger. They are not given as substitutes for proper accident prevention and good judgment.

Electrical Powered Equipment



For Electric Models - Electric motors must be properly grounded at all times. Check the outlet box to be sure the electrical service is properly grounded. Be sure adequate power is available. Insufficient power will cause a motor to overheat and burn out.

Use only grounded extension cords correctly sized for the current draw and voltage drop (amp rating and length). Never use frayed, damaged, taped or under rated extension cords.



Electrical shock could result in death or serious injury to the operator and damage to the equipment.

Check all electrical cables - be sure connections are tight and cable is continuous and in good condition. Be sure cable is correctly rated for both the operating current and voltage of this equipment.



Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with qualified electrician or service person if there is any doubt as to whether the outlet is properly grounded. Adhere to all local codes and ordinances.

NOTE: In the event of a malfunction or breakdown, grounding provides a path of least resistance for the electric current to dissipate. The motor is equipped with a grounded plug and must be connected to an outlet that is properly installed and properly grounded. **DO NOT** modify the plug provided on the motor. If the plug does not fit the outlet have a qualified electrician install the proper receptacle.

Switch motor OFF before disconnecting power.

Do not disconnect power by pulling cord. To disconnect, grasp the plug, not the cord.

Unplug power cord at the machine when not in use and before servicing.

Starting the Engine/Motor for Electric Models

Be sure the "OFF" button is depressed on the motor starter box.

Hook up the correct voltage/phase electrical power source by plugging into the connector provided. If the cord does not mate with the connector, consult a qualified licensed electrician before continuing.

Verify that the electrical current being supplied is the proper voltage and phase required to run the equipment.



Poisonous Exhaust



Gasoline and Propane Powered Models

DO NOT operate any gasoline/propane powered equipment without adequate ventilation. Carbon monoxide is an invisible, odorless gas that can kill.

NEVER REFUEL A HOT ENGINE OR AN ENGINE WHILE IT IS RUNNING. Only refuel a cool “stopped” engine in a well-ventilated area. Properly clean any spilled fuel before starting the engine.



Gasoline is extremely flammable and poisonous. It should only be dispensed in well ventilated areas, and with a cool engine.



Propane is extremely flammable.

Engine exhaust from this product contains chemicals known to cause cancer, birth defects or other reproductive harm.



Small gasoline engines produce high concentrations of carbon monoxide (CO). Gasoline or propane powered equipment should not be used in enclosed or partially enclosed areas. Symptoms of CO poisoning include, headache, nausea, weakness, dizziness, visual problems and loss of consciousness. If symptoms occur get into fresh air and seek medical attention immediately.

Gasoline Models - Consult the Engine Manufacturer’s Owner’s Manual and follow the directions for starting the engine and allow the engine to warm up.

Propane Models - Propane models use a vapor withdrawal system. Operate the propane engine much like you would the gasoline model. Be sure propane tank is positioned correctly.

Turn on main fuel valve at propane tank.

Check all connections for tightness and leaks.

If you detect an odor, IMMEDIATELY shut off the main fuel valve and consult a qualified LP-gas service person or Blastrac directly.

NEVER check for propane leaks using an open flame. Instead, use a leak-testing solution.



NEVER allow propane fumes to escape in a closed area; propane is heavier than air and will “settle.”

To start this propane powered equipment, open the main fuel valve located on the propane tank.

Open the throttle wide open and start the engine.

NOTE: Always turn off the main fuel valve on the propane tank when equipment is not being used.

Refer to the Engine/Motor Manufacturer’s Owner’s Manual for maintenance information specific to the engine/motor used.

Dust Warning



Some dust created by grinding and other construction activities contains chemicals known to cause cancer, birth defects, or other reproductive harm.

Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from concrete and other masonry products

Your risk of exposure to these chemicals varies depending on how often you do this type of work.



To reduce your risk work in a well ventilated area, use a dust control system, such as an industrial-style vacuum, and wear approved personal safety equipment, such as a dust/particle respirator designed to filter out microscopic particles.

Dry Grinding

Dry Grinding creates a large volume of airborne dust. For health reasons, the operator should wear an applicable respirator. The dust may contain chemicals known to cause serious illnesses, including Silicosis - a fatal disease of the lungs.

Check the chemical properties of the material to be removed and follow all EPA/OSHA regulations.

An Industrial vacuum, capable of handling high volume of fine dust, should be used when dry grinding with this machine. If the material being used is hazardous or contains Silica - the vacuum unit should be capable of removing Silica and hazardous particles of less than 3 microns and if necessary, have the capability to be equipped with a HEPA filter.

Most standard drum type units use a paper bag filter. The dust created during grinding is extremely fine and will clog the filter bag of these units and eventually damage the vacuums motor. In addition, damage to the engine could occur.

The collected debris and filters should be disposed of according to procedures that comply with current EPA/OSHA standards

Serious injury or death could occur if this machine is used improperly.

Maintenance

Proper belt tension must be maintained to transmit the engine/motor power to the cutting drum. An over tensioned belt will shorten belt and bearing life.

A damaged, stretched or excessively worn belt should be replaced.

Check oil level before operation. Change engine oil and filter according to engine manufacturers recommendations.

Engine Air Filter

Important! Clean air filter element daily

Inspect the air filter for excess dust, dirt or damage before the engine is operated. More often if operating in an extremely dusty environment.

Operating the engine with a damaged or dirty air filter, or without an air filter, will allow dirt to enter the engine causing premature engine wear which is not covered under the engine manufacturer's warranty.

Follow the engine manufacturer's procedures for keeping filters in good condition.

Never work on or under equipment without first securing the equipment to prevent it from moving or falling.

Always work on a flat and level surface.

Remove spark plug lead on gasoline/propane engine models or disconnect the supply voltage connector on electric models before performing any maintenance.

Disconnect the power cord at the machine.

Operating Procedures for BMP-200-X (GAS)

Start-Up

- Add oil and gasoline to the machine.
- Move the fuel valve lever to the ON position.
- Move the choke lever to the CLOSED position (cold engine).
- Move the throttle lever 1/3 of the way toward the FAST position.
- Turn the engine switch to the ON position.
- Operate the starter by lightly pulling the starter grip until you feel resistance, then pull briskly.
- Gently return the starter grip.
- Lower drum and begin grinding.
- Read the following additional information before operating your scarifier.

Caution: Never tilt the unit back on the handle. Oil will flow into the cylinder head and could severely damage the motor and void the warranty.

Drive Motor/Engine:

The internal combustion engines are supplied without fuel or motor oil. Therefore, be sure to fill them as instructed in the manufacturer's manual. If the motor suddenly stops, the oil could be too low or it may have been overfilled.

Caution: Start the motor ONLY when the cutter drum assembly is in the raised position and the parking brake on.

Cutter/Drum Configuration

Check to make sure that the drum is configured with the cutters we recommend for the application in question. When working with special milling cutters, be extra careful about the correct direction of drum rotation and correct cutter installation. Never tip the machine on its back to look at the cutters. This can be done quickly and easily by removing the endplate. When putting the endplate back on the machine, make certain to check the tightening torque of cover nuts.

Caution: To avoid bearing damage, repeat this check of the cover nuts from time to time!

Working with the Scarifier:

To engage the drum, lift the black handle up and proceed in forward motion with the lever. Once the drum engages, you can go lower for more aggressive cutting or back up for lighter scarifying.



Caution: Do not lower the black handle too deep. This will NOT increase productivity. When the depth is set correctly, the machine will run smoothly.

To stop scarifying, lift the black handle up and proceed in a backward motion until the lever is in the uppermost position

Changing the cutter drum:

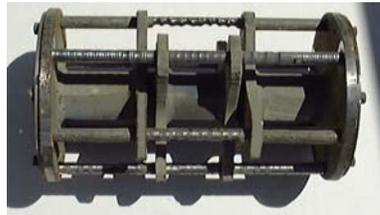
Always be sure to switch off the machine before removing the endplate. This will prevent any flying debris from injuring the worker. Remove the cover nuts from the endplate, and then remove the endplate to expose the cutter drum assembly.

Dust Control:

Should dust control be of concern, please contact Blastrac to inquire about our powerful dust control vacuums. The BMP-200-X can be used with an optional 2" vacuum connection.

If you need further assistance, please call our toll free number 1-800-256-3440.

Cutter and Flail Shaft Recommendations



- The above flail shafts are showing excessive wear. These shafts should have been replaced much earlier.

To a great extent, economical use of cutter drums depends upon proper maintenance. Changing flail shafts before they become excessively worn and begin to oval out the shaft holes can significantly increase the life of the drum. If you run a machine with badly worn flail shafts you can easily destroy a drum in just a few hours. These shafts are only surface hardened in order to maintain their internal strength. This is why it is important to replace them as soon as the grooves are 1/5 of an inch or 5mm deep.

Changing the shafts early provides the following advantages:

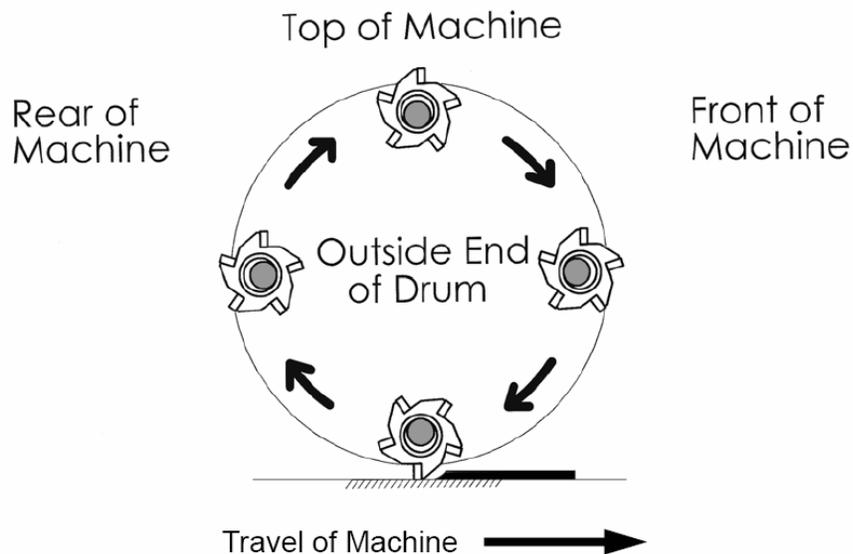
- The drum shaft holes will not wear as fast thus increasing drum life.
- Breakage of shafts can be avoided, thus saving a great deal of downtime refitting the machine.

Recommendations:

- When working with five or eight point Tungsten Carbide tipped cutters or special milling cutters, replace the shafts every fifteen to twenty hours of operation.
- When working with steel cutters change the shafts every time new cutters are installed.
- Change the entire cutter/drum assembly after 3 sets of cutters have been used up, if not sooner.



- Direction of Rotation for Milling Cutters -



Correct rotation of the Milling Cutters is critical to successful resurfacing and to insure maximum wear life. Drum and cutter assembly should be mounted so that cutters are rotating towards the front of the machine as indicated above.

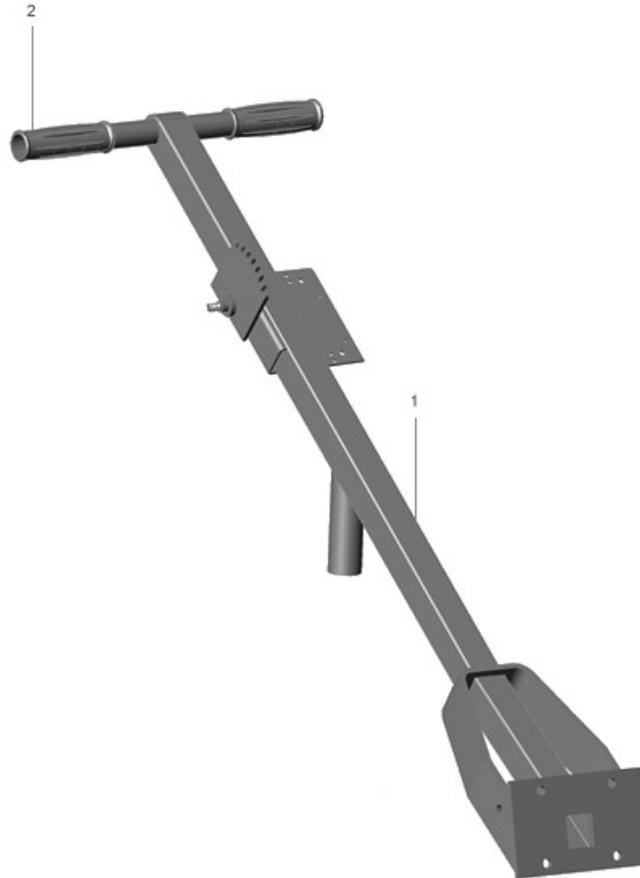
Incorrect rotation can lead to premature wear and early failure.

Parts for Honda Engine – Gas



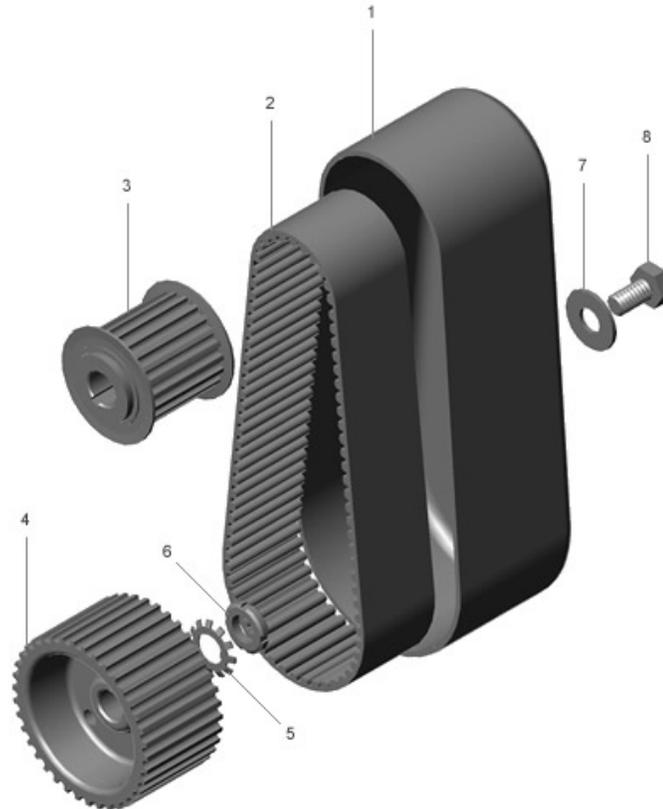
List of Items for Machine With Honda Gas Engine			
Number	Part Number	Description	Quantity
1	SS-999-HON.GX270	ENGINE, 9 HP HONDA GX270	1
2	SS-999-HON.2026227	DEFLECTOR, MUFFLER	1
3	SS-999-NB.30.210	WASHER, LOCK M10	8
4	SS-999-NB.30.110	WASHER, FLAT 10.5/20 X 2	4
5	SS-999-NB.10.115	SCREW, HEXAGONAL M10 X 35	4
6	SS-999-HON.3690070	TANK, FUEL GX270	1

Parts for Handle Bar



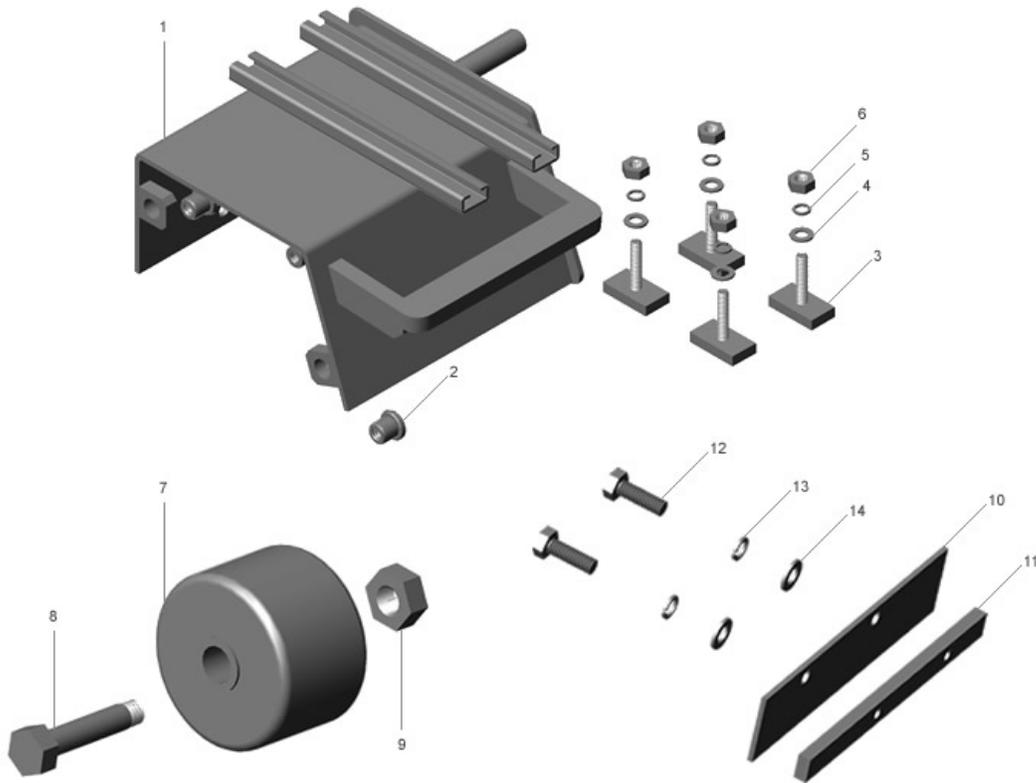
List of Items for Handle Bar			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.210	BAR, HANDLE	1
2	SS-999-SC.08.211	GRIP, HANDLE	2

Parts for Belt Guard



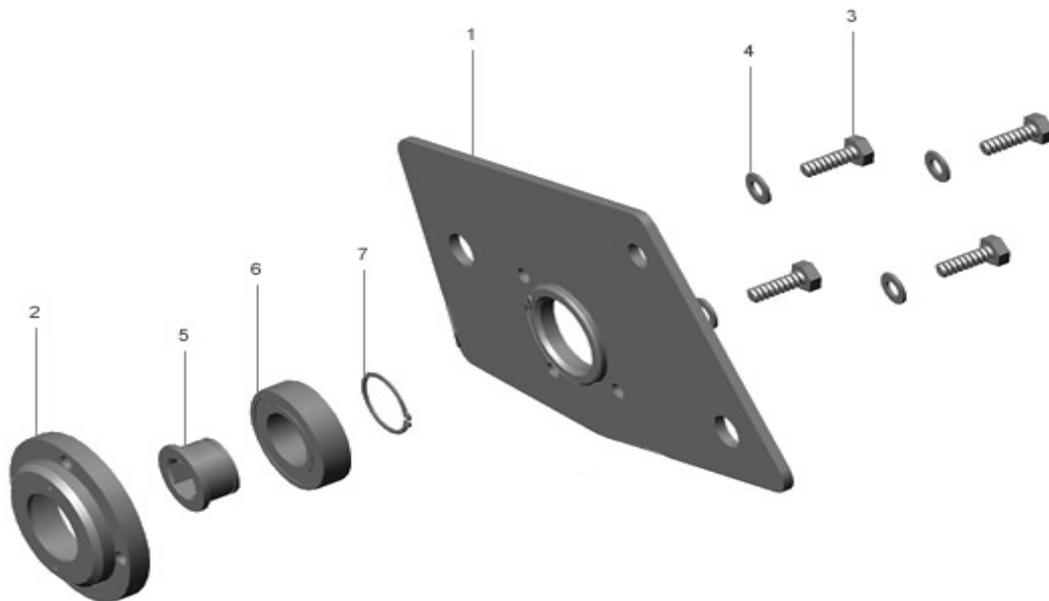
List of Items for Belt Guard			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.118	GUARD, BELT	1
2	SS-999-SC.08.119	BELT, TOOTHED 640	1
3	SS-999-SC.08.115	PULLEY, UPPER TOOTHED	1
4	SS-999-SC.08.203	PULLEY, LOWER TOOTHED	1
5	SS-999-NB.30.218	WASHER, SAFETY	1
6	SS-999-NB.20.112	NUT, SHAFT	1
7	SS-999-NB.30.118	WASHER, FLAT	1
8	SS-999-NB.10.126	SCREW, HEXAGONAL 5/16 UNF X 3/4"	1

Parts for Housing; Front Wheel; Dust Shield



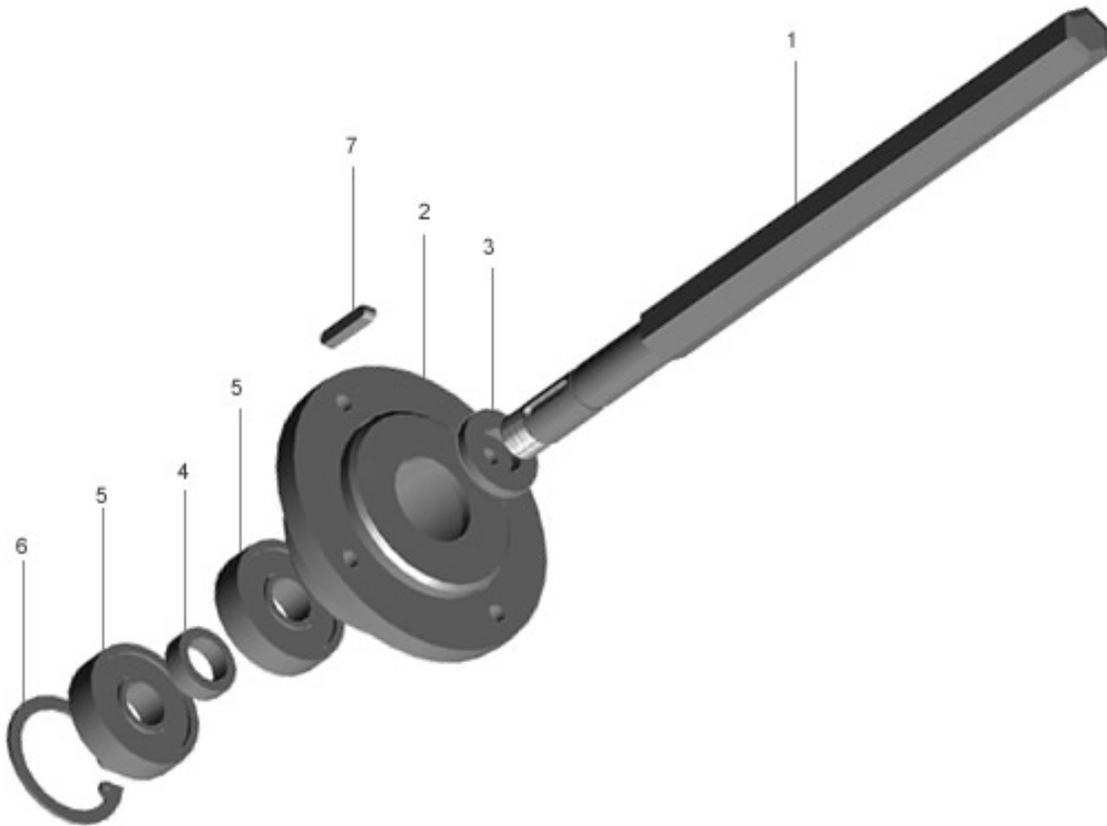
List of Items for Housing, Front Wheel, Dust Shield			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.207	HOUSING	1
2	SS-999-SC.08.208	BUSHING, CENTERING	2
3	SS-999-SC.08.116	T-BOLT, LONG	4
4	SS-999-SC.08.118	WASHER, FLAT M8	4
5	SS-999-NB.30.212	WASHER, LOCK M8	4
6	SS-999-NB.20.114	NUT, HEXAGONAL M8	4
7	SS-999-SC.08.901	WHEEL, FRONT	1
8	SS-999-NB.10.124	SCREW, HEXAGONAL M8X60	1
9	SS-999-NB.20.114	NUT, HEXAGONAL M8X.8	1
10	SS-999-SC.08.901	SHIELD, DUST	1
11	SS-999-SC.08.902	BAR, CLAMPING	1
12	SS-999-NB.10.110	SCREW, HEXAGONAL M10X25	2
13	SS-999-NB.30.120	WASHER, LOCK M10	2
14	SS-999-NB.30.110	WASHER, FLAT M10	2

Parts for Housing End Plate



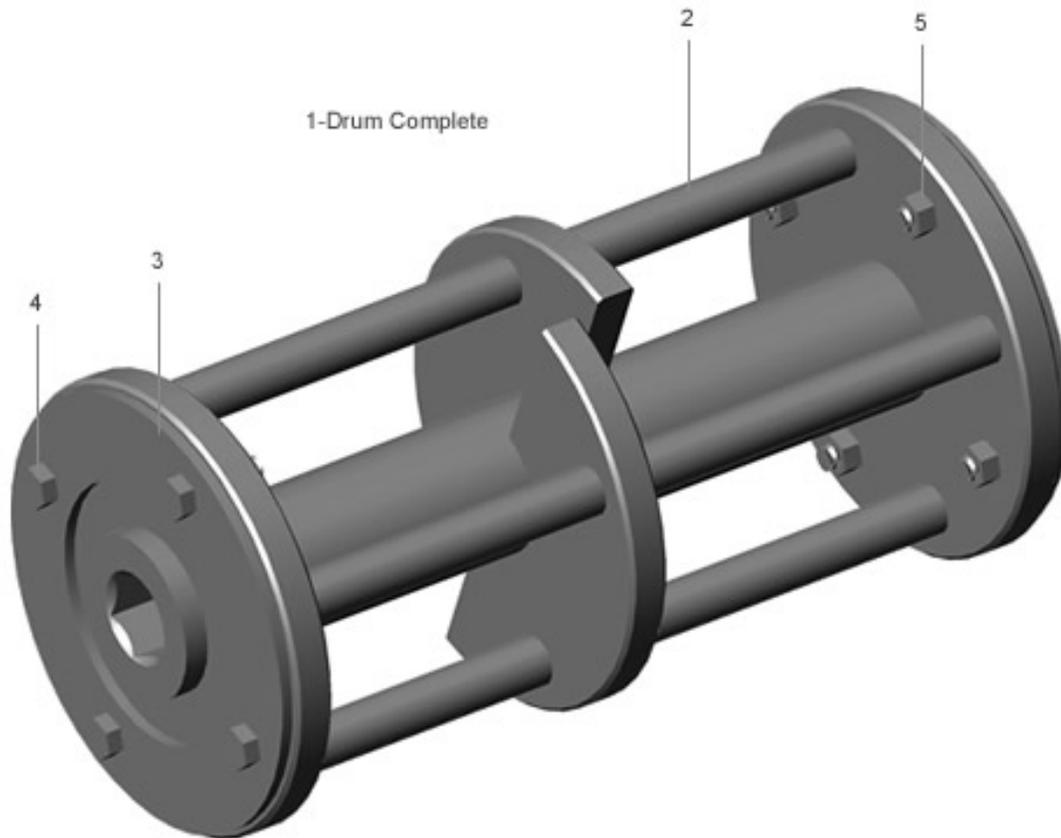
List of Items for Housing End Plate			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.601	ENDPLATE, HOUSING	1
2	SS-999-SC.08.602	FLANGE, BEARING	1
3	SS-999-NB.10.130	SCREW, HEXAGONAL M8X16	4
4	SS-999-NB.30.212	WASHER, LOCK M8	4
5	SS-999-SC.08.605	BUSHING, DRIVE	1
6	SS-999-SC.08.604	BEARING, ENDPLATE	1
7	SS-999-NB.40.112	SNAP RING, EXTERNAL M30	1

Parts for Hex Drive Shaft

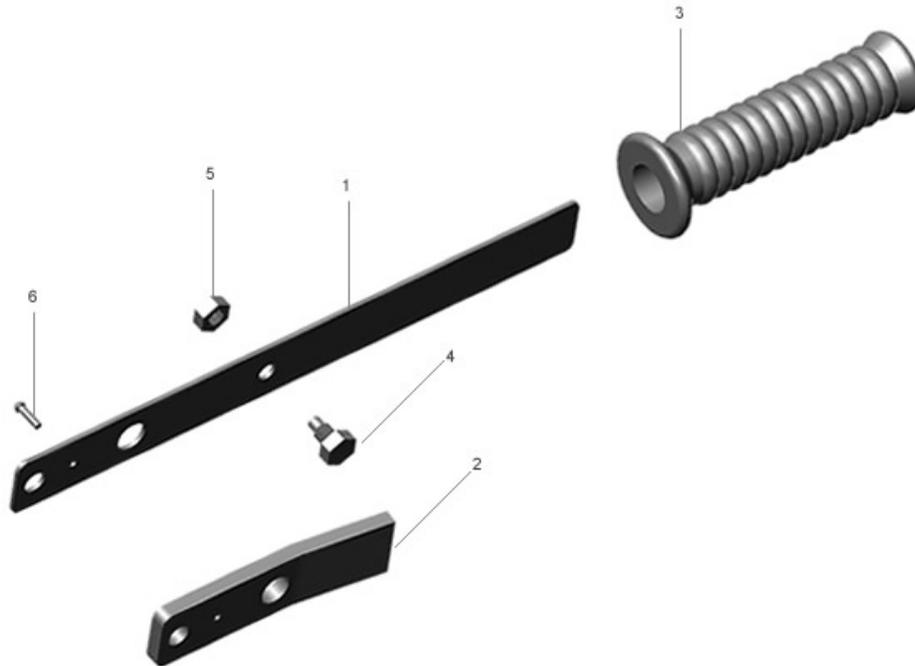


List of Items for Hex Drive Shaft			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.401	SHAFT, HEXAGONAL DRIVE	1
2	SS-999-SC.08.402	HOUSING, BEARING	1
3	SS-999-SC.08.403	RING, SPACER	1
4	SS-999-SC.08.405	BUSHING, SPACER	1
5	SS-999-SC.08.404	BEARING, SEALED 6303 2 RS	2
6	SS-999-NB.40.111	CIRCLE CLIP, M47	1
7	SS-999-NB.70.111	KEY, WOODRUFF 5X10X25	1

Parts for Drum

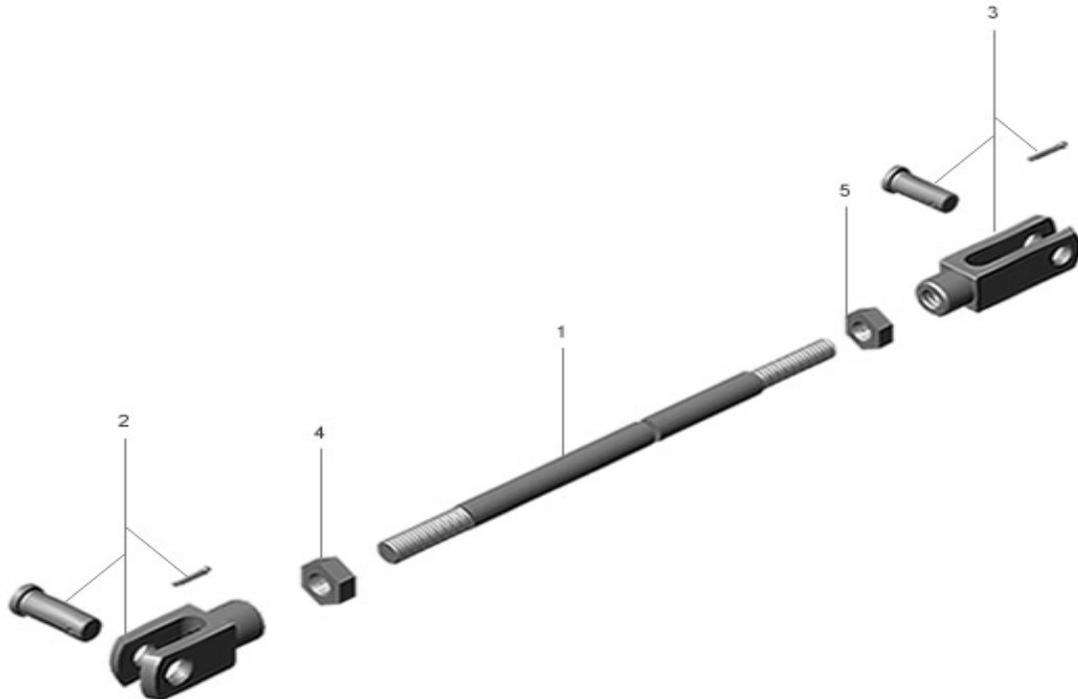


List of Items for Drum			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.500	DRUM, COMPLETE	1
2	SS-999-SC.08.510	SHAFT, FLAIL 12MM	4
3	SS-999-SC.08.507	PLATE, END	2
4	SS-999-NB.10.116	SCREW, HEXAGONAL M6X20	8
5	SS-999-NB.20.132	NUT, NYLON SELF LOCKING M6	8



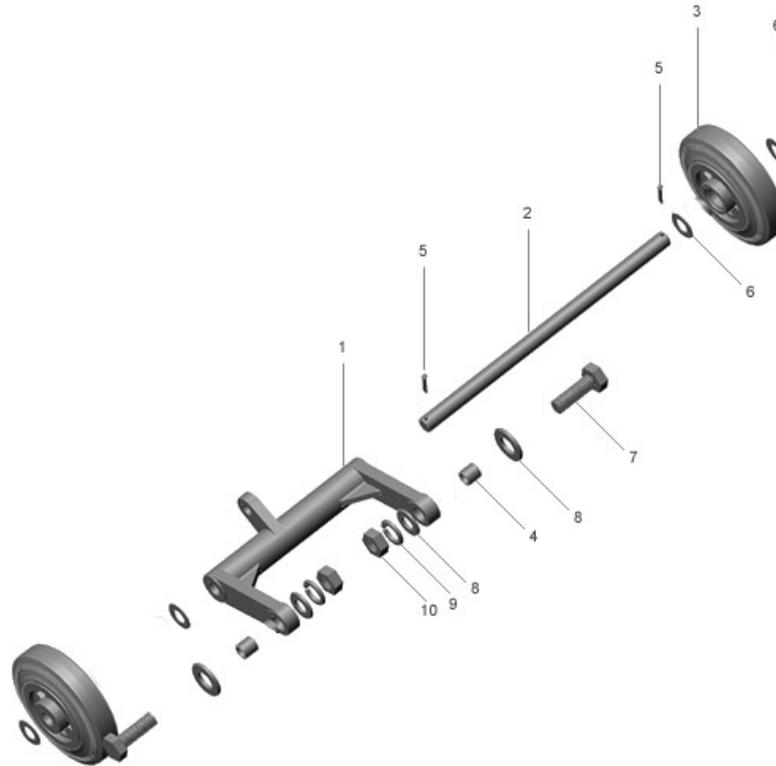
Parts for Depth Adjuster Lever			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.303	LEVER, DEPTH ADJUSTMENT	1
2	SS-999-SC.08.304	PLATE, LOCKING	1
3	SS-999-SC.08.305	HANDGRIP, RUBBER	1
4	SS-999-NB.10.170	SCREW, HEXAGONAL SET M8	1
5	SS-999-NB.20.120	NUT, HEXAGONAL M8X.5	1
6	SS-999-NB.50.126	RIVET, M4X10	1

Parts for Depth Adjustment Rod



Parts for Depth Adjustment Rod			
	SS-999-SC.08.300	ROD, DEPTH ADJUSTMENT COMPLETE	1
1	SS-999-SC.08.301	ROD, DEPTH ADJUSTMENT	1
2	SS-999-NB.80.111	JOINT, FORK 12 X 24	1
3	SS-999-NB.80.110	JOINT, FORK 10 X 40	1
4	SS-999-NB.20.113	NUT, HEXAGONAL M12X.8d	1
5	SS-999-NB.20.115	NUT, HEXAGONAL M10X.8d	1

Parts for Rear Axle Bracket



List of Items for Rear Axle Bracket			
Number	Part Number	Description	Quantity
1	SS-999-SC.08.801	BRACKET, AXLE	1
2	SS-999-SC.08.802	AXLE	1
3	SS-999-SC.08.803	WHEEL	2
4	SS-999-SC.08.804	BUSHING, MB 1515 DU	2
5	SS-999-NB.50.123	PIN, COTTER 3.2X25	2
6	SS-999-NB.30.117	WASHER, FLAT 28X2.5	4
7	SS-999-NB.10.125	SCREW, HEXAGONAL M12X40	2
8	SS-999-NB.30.134	WASHER, FLAT M12	2
9	SS-999-NB.30.130	WASHER, LOCK M12	2
10	SS-999-NB.20.113	NUT, HEXAGONAL M12	2