SandyHill

W A R N I N G

In the event of air pressure failure when the roll splitter knife assembly is in the raised position, a check valve closes and traps air below the cylinder piston. This prevents the knife from falling. If maintenance work requires to be done on the check valve or the knife cylinder, the knife must be lowered to its bottom position, the manual control valve held in the "down" position and the air supply shut-off and exhausted from the control system.

After completion of the maintenance work on the cylinder and/or the check valve, the knife will return to the raised position automatically when air is turned on unless the manual control valve is held in the "down" position.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

KNIFE GUARD

The guard unit consists of two (2) formed aluminum sheets, one (1) on each side of the knife. These sheets are supported at each end on brackets attached to the knife trolleys. Each bracket is designed to slide vertically and pivot.

The bottom of the guard is below the cutting edge of the knife. When the knife is lowered, the guard reaches the paper first but because of the vertical guides, the knife can continue to cut into the paper roll. The swinging action of the guard allows cut paper to fall clear of the parent roll. The guard then swings back again to enclose the knife.

During the entire cutting action, the guard lies against the roll of paper and shields the knife.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

MAINTENANCE SAFETY SUGGESTIONS: (cont'd)

When machinery is moved with a crane be sure that everyone is clear of the patch. A warning bell should be used. No work should be done under any part that is suspended.

After work is completed clean up the area of any spilled oil, grease, solvents, etc. and remove any equipment that is not required in the manufacturing process. Leave the area in a neat and orderly condition.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

MAINTENANCE SAFETY SUGGESTIONS: (cont'd)

The initial step to be taken before any work is done on any machinery is to ensure that the machinery will not be started accidentially. That is best accomplished by having the mechanic performing the maintenance lock out the power disconnect switch with his padlock. If this is not possible, a warning tag should be attached to the power source and the controls.

Shut off and tag all air line valves. Release any residual pressure from these lines before disassembly.

Before using handling gear such as chains, cables, slings, etc. inspect for weak spots. All eyebolts used for lifting should be engaged to the shoulder and the eye should be in the same plane as the lifting gear attached to it.

All lifting should begin very slowly and carefully until the center of gravity of the piece being lifted has established its point of equilibrium. This may require re-adjusting of the handling gear to prevent a rapid shifting of an unbalanced piece.

Always block up, or use some type of positive mechanical restraint on pieces that have been lifted to a raised position before working on them. Do not rely upon hydraulic or pneumatic jacks to hold the piece in position.

When solvents and cleaners are used, precautions must be taken to insure proper ventilation. Smoking is prohibited. However, a fire extinguisher should be readily available in the immediate vicinity.

SandyHill

SAFE OPERATING PRACTICES:

Only personnel trained in operating the equipment should be permitted in the area when the machinery is operating. Non-operating personnel should be kept clear of the area before activating the machinery.

The person activating the machinery should have a clear view of all sides of the machine to ensure that all people are clear. Blind spots should be viewed thru mirrors.

Any employee pushing broke down a broke hole that is large enough to permit him to fall through should wear a safety belt attached to a safety belt line. The safety line should be fastened in such a manner that it is impossible for a man to fall through the broke hole into any machinery or to the floor below.

The employee should also use a safety belt and a restraining line if he has to work at any time above any operating machinery.

The restraining safety belt line should be fastened in such a manner and should be of a length such that would prevent him from falling into the machinery.

MAINTENANCE SAFETY SUGGESTIONS:

The following suggestions are offered to protect the personnel that perform maintenance on machinery.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

WORKING AREA:

The working area must be well lighted and properly ventilated. The working area should be kept clean and clear of broke piles and other obstructions.

Steps and walkways should be kept free from all foreign articles.

The floor and surrounding surfaces should be free from spilled oil, grease, and water.

All exposed soleplates should be covered with a non-skid surface.

EQUIPMENT CONDITION:

The roll splitter is equipped with two (2) handed operation controls. This equipment should not be modified to over-ride this safety feature.

The equipment should not be operated unless it is in good condition.

All guards and safety devices should be in place. All warning signs should be in position.

All hoses and wiring should be located and fastened so as to prevent entanglement with the operator or with moving parts of the machinery.

All lifting equipment such as hooks, clamps, cables should be inspected frequently and be maintained in good condition. Inspection records and sign-offs must be maintained.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SAFETY INSTRUCTIONS FOR ROLL SPLITTER

GENERAL SCOPE:

At Sandy Hill, we feel that our customer's personnel safety is as important as the successful operation of our equipment. The following safety tips have been compiled to help mill employees understand the potential danger areas associated with the operation and maintenance of this Roll Splitter. These safety tips are offered as a supplement to the mill safety program and are not intended to supercede a more stringent existing safety policy.

EMPLOYEE TRAINING:

All personnel working around the equipment must be completely familiar with the function of the equipment.

They should understand the action of the components that move and could present a hazard if not respected and used in a safe manner.

The operators should be made aware of all moving or rotating components of the equipment that could cause possible entanglement.

All clothing worn by the operating personnel should be close fitting but must permit freedom of movement.

Personnel should understand the control systems in order to be able to de-activate machinery as quickly as possible in case of an emergency.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

LUBRICATION

ALL MACHINES:

For the oil points, we recommend:

Texaco Regal Oil PC R & O, or

Texaco Rardo Oil C or their equivalent.

For the grease points, we recommend:

Texaco Multifac 2 or Texaco Hovatex Grease 2, or their equivalent.

An oil cup is provided on the knife drive housing.

*Three (3) grease fittings are provided at the knife drive housing.

*One (1) grease fitting is provided on the pivot pin above the drive housing.

*Two (2) grease fittings are provided on the pivot pins at the lift/lower end of the knife holder.

Grease fittings are provided at all the cable sheave locations.

*NOTE: USE A HAND GUN ONLY ON THE FITTINGS AT THE KNIFE DRIVE HOUSING AND ON THE PIVOT PINS. EXCESSIVE PRESSURE WILL DESTROY THE SEALS.

The clamp rods and guide tubes should also be greased occasionally.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SANDY HILL ROLL SPLITTER
KNIFE HONING - IN THE MACHINE

The type of material and the number of rolls per period of time being split will obviously influence the rate at which the knife becomes dull.

The frequency of this honing procedure must be determined by the machine operator.

The knife should be inspected and sharpened at regular intervals.

The knife can be removed by loosening the clamp bar on the knife holder. Two (2) pins are provided to prevent the knife from falling should the clamp bar slacken off accidentally.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

KNIFE HONING - IN THE MACHINE

It may be possible to extend the amount of time a knife can remain in operation before re-sharpening by hand honing the knife while it is mounted in the machine.

The machine must be disconnected from the electrical supply before the honing procedure begins.

Care must be taken to prevent injury to the person doing the honing. Leather gloves ande safety glasses should be worn.

Wet honing (kerosene or light oil on the stone) will give the best results. The honing stone (of rectangular shape, approximately 2" wide by 5" long by 5/8" thick and specifications such as Bay State Oil Stone A-63-M) should be held at right angle to the cutting edge. With medium pressure and using a circular motion traverse the length of the blade. To keep the hone at an approximate angle for honing and to pretect the machine knife-mounting bar from being marked, wrapping the hone with a few turns of masking tape on the upper half of the honing stone itself will prove advantages.

Both sides of the blade should be honed in the above manner.

There is little need for concern regarding any "feather" or "wire" edge that might result from honing. The reciprocating action of the knife in operation will clear the edge at its first contact with the roll being split.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

KNIFE SHARPENING: (cont'd)

We suggest, therefore, that the wheel or segment for grinding blades have the following characteristics: -

Abrasive - Aluminum Oxide or Silicone Carbide.

Grit Size - 54, 60 or combination having both.

Structure - Relatively soft and open, about "G" or "H" (hardness), "8" or "10" (openness).

Bond - Vitrified

The various grinding wheel manufacturers differ to some degree in grading their wheels but using the above as guide will quickly develop a wheel specification to suit your particular grinder.

After grinding, the knife will exhibit a light "feather" or "wire" edge. Wet honing (kerosene or light oil) using a light circular motion at an angle slightly less than the bevel will loosen this material. A honing stone such as (Bay States) Oil Stone A-63, will do this job in quite a satisfactory manner. Running a hardwood (maple) stick lightly down the back along the cutting edge will remove the loosened material. Finish the honing, again at an angle slightly less than the bevel, so that a "shiny" smooth area is developed from the cutting edge down the bevel approximately 1/32" of an inch. An extra smooth finish could be further honed onto this 1/32" area using a hone similar to a (Norton Co.) Hard Arkansas Jeweler's Stone HB-24, but we find this extra effort of questionable value.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

KNIFE SHARPENING: (cont'd)

The rotation of the grinding wheel should be such that it contacts the sharp edge first and then travels down the bevel thus carring any heat generated away from the thin edge and into the heavier section of the knife.

A flood of clean coolant, under pressure; the coolant being basically water with a water soluble compound added; is a definite necessity. A large tank with baffles to separate the sludge or a filter to keep the recirculating coolant clean will keep the knife edge free of small scratches and nicks. The coolant should be directed toward the area just ahead of the point of contact between wheel and knife.

The horsepower and speed of the grinding wheel motor, together with the diameter of the grinding wheel, will have a significant influence on the choice of grinding wheels or segments.

Higher horsepower will allow somewhat harder grinding wheels because the power tend to "break the wheel down"; that is, make it act softer.

Larger diameter grinding wheels, because of the greater peripheral speed, may tend to act harder depending on the motor speed. Generally, higher speeds make wheels act harder, slower speeds make wheels act softer.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

KNIFE SHARPENING:

Careful sharpening of the (Special Grade L.H.) knife is a most important factor in machining performance and knife life. There are two (2) critical requirements:

1. Extreme care must be taken to prevent "burning" the cutting edge.

2. The cutting edge must be maintained along the centerline of the knife. The "V" edge, that is, must be produced by bevel grinding at equal angles and for the same length on each side of the knife.

   Requirement No. 2, above, is a matter of machine capability together with operator care and skill. Requirement No. 1, requires a selection of grinding wheels, coolants, feeds and speeds suited to the material. Some experimentation will be necessary. As a guide, however, we present the following suggestions:

   The knives should be sharpened using a grinder that produces a "pattern" of lines running essentially at right angles to the cutting edge.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

DRIVE MOTOR CONTROL

The knife drive button on the control panel must be kept depressed to run the drive. To stop the drive simply release the button.

The drive should not be started under load, i.e., with the knife pressed against the roll.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

PNEUMATICALLY OPERATED CONTROLS

See Sandy Hill Drawing Nos. 2-20885 and 2-20883 showing the air circuit arrangement and control panel respectively.

The customer will bring an air supply (50 to 80 PSI) to the control cabinet. This air must be filtered and lubricated before entering the panel.

The knife pressure regulator should be set at 50 PSI.

During the initial operation of the machine, the knife pressure regulator may require adjustment to suit your particular conditions. After this initial setting, no further adjustment should be necessary.

KNIFE:

When the knife is raised during the loading and unloading of the machine, the spring loaded knife control valve will be in the "UP" position. A safety check valve prevents the knife from falling if the air pressure fails.

In order to lower the knife, the control valve must be held in the "DOWN" position. By releasing the handle the valve will automatically return to the "UP" position and immediately cause the knife to lift.

CLAMP:

During the whole of the splitting operation the clamp control valve should be left in the "ON" position.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

GENERAL SCOPE: (cont'd)

KNIFE:

Start the knife drive when the knife is clear of the roll. Pressure and feed should be kept to a minimum during the cutting stroke.

The lifting and lowering cable system which is attached to the knife beam should be inspected at regular intervals to ensure that it does not become slack. Two (2) turnbuckles are provided in this system for adjusting the cable tension.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

GENERAL OPERATING INSTRUCTIONS

GENERAL SCOPE:

See Sandy Hill Drawing No. 1-15396 for assembly of Roll Splitter.

ROLL OF PAPER:

When the roll of paper is placed in the machine, it should be set up as follows:

1. The top of the paper roll core should be just below the lowest position of the knife above the floor.

2. The roll should be centered directly under the knife.

3. The roll should be in line with the knife in both horizontal and vertical planes.

CLAMPS:

One end clamp should be set manually with the aid of U-pins to suit the face of roll being split. The power clamp is then brought against the opposite end of the roll.

DO NOT attempt to split a roll until is it tightly clamped.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

FIELD ERECTION

The roll splitter is delivered as one completely assembled unit (except for the power unit in the case of hydraulically operated machines). When setting up the machine in the mill the following procedure should be followed:

1. Ensure that the ways of the frames are vertical and parallel.

2. Level the machine from the top beam.

The splitter frame bases are not machined but jacking screws are provided.

After the machine has been bolted down and grouted in place the two (2) base tie beams may be removed if desired.

The machine bases may be set on concrete piers, if desired, to increase the minimum clearance below the knife.

The machine is completely wired and piped internally and the customer is only required to bring mill air supply and main electrical supply to the control and motor starter respectively.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

DRAWING LIST

1-15533	-	Cable Assembly
1-15528	-	Roll Splitter Assembly
1-15529	-	Bill of Material
1-15534	-	Power Clamp Assembly
1-15532	-	Knife Assembly
1-15603	-	Knife Guard Assembly
2-20883	-	Control Panel
2-20885	-	Air Circuit
3-31607	-	Electrical Wiring

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SANDY HILL ROLL SPLITTER

SPECIFICATIONS (cont'd)

POWER REQUIREMENTS:

Knife Drive:

Below 80" Face - 1½ H.P.

80" Face and Up - 3 H.P.

Air - 3 Cubic Feet at 80 PSI maximum for complete cutting cycle.

GENERAL:

The splitter is offered as a completely assembled unit complete with internal piping and wiring. Customer to bring air to the control panel and electric supply to the motor starter.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

SPECIFICATIONS (cont'd)

CLAMPS:

Fabricated steel with flat end faces to press against the paper roll. One clamp is manually adjustable within fixed limit. The other is power operated and infinitely adjustable within the limits of the air cylinder stroke.

Manually adjustable extension clamps are available for use with very narrow face rolls.

CONTROLS:

One (1) Control panel to service:

a. Knife Drive
b. Knife Lift/Lower
c. Power Clamp

Panel is flush mounted on face of one of the machine frames.

SAFETY:

A check valve prevents the knife falling the event of an air failure.

The control panel requires two (2) handed operation. A metal knife guard travels up and down with the knife.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

SANDY HILL ROLL SPLITTER

SPECIFICATIONS

FRAMES:

Two (2) upright end frames of fabricated steel with a cross girt. Both frames provided with replaceable ways.

KNIFE:

Hi-carbon, hi-chrome steel with double bevel edge.

KNIFE HOLDER:

Oscillating steel bar suspended from pendulums with needle bearing pivots. Pendulums supported from trolleys which slide against frames. Holder designed for easy knife removal.

KNIFE DRIVE:

Electric motor with chain drive to an eccentric shaft connected to the blade holder. Motor starter included.

KNIFE LIFTING AND LOWERING:

A single air cylinder with parallel motion to the opposite end of the blade holder by steel cables.

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381

SandyHill

INFORMATION MANUAL

SANDY HILL ROLL SPLITTER
SERIAL NO. 1093
MODEL NO. 80X110

FOR
ATLANTIC PACKAGING
111 PROGRESS AVENUE
SCRABOROUGH, ONTARIO

SANDY HILL CORPORATION JOB NO. 79047-Z2

CUSTOMER P. O. NO. 95725M18

DATED 07-14-87

Sandy Hill Corporation
27 Allen Street, Hudson Falls, New York 12839-0803/Telex 145364/Phone (518) 747-3381