# PORA



# MST CORPORATION

PULP • CHEMICAL • PROCESS INDUSTRIES

Design • Manufacturing • Machining • Welding • Restoration • Reverse Engineering Value Added Engineering • New Parts • Process Equipment • Resolution Analysis

Dedicated to Quality and Advancements in Metal Working Technology

(541) 416-9000

Please See Back Cover for Contact Info

# PRODUCT INFORMATION REQUEST FORM

To help MST CORPORATION understand and meet your needs please look through our photo catalog and match your product as close to one of the photos in this catalog. Please put a check mark by the category and then list the page and item number. If you do not find a product match and would like information about our services, please fill out the general information category along with your company information and Fax, EMAIL or Phone MST and we will be glad to prepare a quote for you.

Company Name:		
Address:	City:	State: Zip:
Contact Person:	Best t	ime to call:
Phone: ()	Fax: ()	_Email:
	HOW CAN WE SERVE YOU:	
ROTARY FEEDERS PLUG FEEDERS	REPLACEMENT PARTS VALUE ADDED ENGINEERING	SCREENING BLEACHING TITANIUM
PAPER MANUFACTURE		POWER & RECOVERY
STOCK PREPERATION	PUMPING	WOOD PREPERATION
CUSTOM PROJECTS	CONVEYING	
PAGE NUMBERS:		
ITEM NUMBERS:		
	T CORPORATI	ON



### MST CUSTOMIZED BAUER HIGH PRESSURE ROTARY VALVE MODULARIZED DESIGN

# MST CORPORATION



Lantern Rings



18" Bauer Rotor & Liner Restore Kit



12" Bauer Valve

With MST's custom stuffing box and bearing shield conversion (*cannot see in photo since it is internal*), our customers increase life cycle and lower maintenance costs.



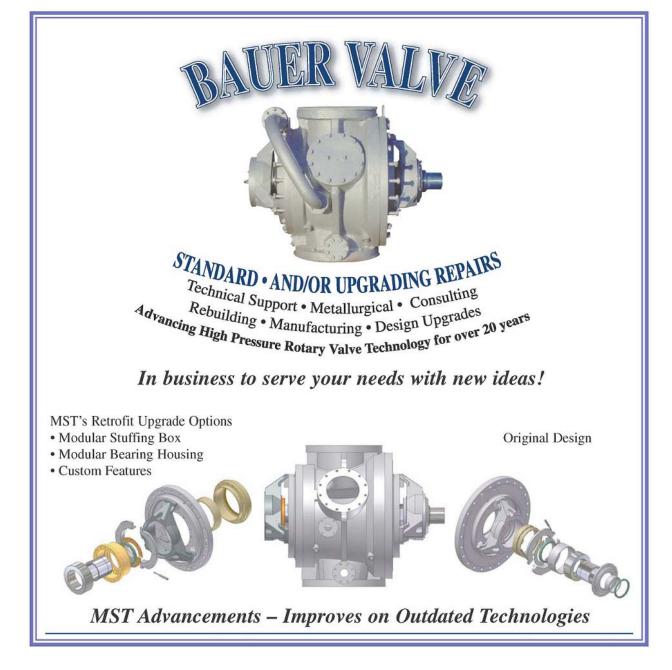
**Limitorque Gearbox Restoration** 

MST acquisitioned Voith's Bauer Valve division in 2005. This provided MST with OEM drawings and the original Sprout-Bauer custom rotor grinder, other dedicated equipment, along with several inventory parts, and foundry patterns, etc.

MST also stocks roller bearing sets for our customers due to the long lead times for this particular bearing and custom inner race—supply chain management.

It is our goal to overcome our customers with satisfaction, especially in times of unexpected emergency repairs.

MST also offers new ideas that will upgrade your valves to modern technologies, et al.





**MST** CORPORATION

Manufacturing Headquarters 2433 SW Cessna Drive • Prineville, OR 97754 Phone: (541) 416-9000 • Fax 877.416.0628 www.mstcorp.com

### \*\*SERVING CONTINUOUS PROCESS INDUSTRY\*\*

INNOVATION • MANUFACTURING • RESTORATION • UPGRADING •-CONSULTING • TECHNICAL ANALYSIS • MANUFACTURING AND RESTORATION PROCESS ANALYSIS • VALUE ADDED ENGINEERING • REVERSE ENGINEERING • SERVICES • TECHNICAL DRAWING AND ILLUSTRATION • TECHNICAL REPORTING

Date: August 18, 2006

### <u>Testimonial List¹:</u>

Terry Rohring - Mill Wright Foreman /Planner. Port Townsend Paper Corporation • Port Townsend, WA • (360) 379-2219 P (360) 379-2080 F • terryr@ptpc.com 30" ESCO LE HPRV /MST Redesign /Upgrade Kraft Pulp on M&D Digester

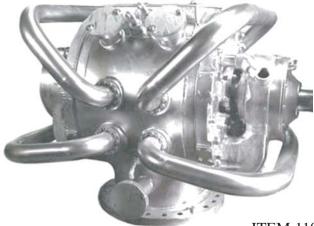
Bob Wolfe - Reliability Engineer Buckeye Technologies Inc • Memphis, TN • (901) 320-8573 P (901) 320-8577 F • bob\_wolfe@bkitech.com 36" Black Clawson LE HPRV /MST Redesign /Upgrade Cotton Linter /Horizontal (Pandia) Digester /Chemical Pulping

Ricky Coats - Purification Maintenance Coordinator Buckeye Technologies Inc • Memphis, TN • (901) 320-8640 P (901) 320-8867 F • ricky\_coats@bkitech.com 36" Black Clawson LE HPRV /MST Redesign /Upgrade Cotton Linter /Horizontal (Pandia) Digester /Chemical Pulping

Jim Kazeck – Maintenance Foreman /Team Leader NORPAC • Longview, WA • (360) 636-6372 P (360) 423-1514 F • jim.kazeck@weyerhaeuser.com Bauer M69 /MST Upgrade /Conversion to M71 w/MST Modular Design TPM Refiner System

Mitch Logan Customer Service and Support

<sup>&</sup>lt;sup>1</sup>...more available upon request



ITEM 1101

### MST CUSTOMIZED 30" HIGH PRESSURE ROTARY FEEDER VALVE-USED ON M&D DIGESTER SYSTEM







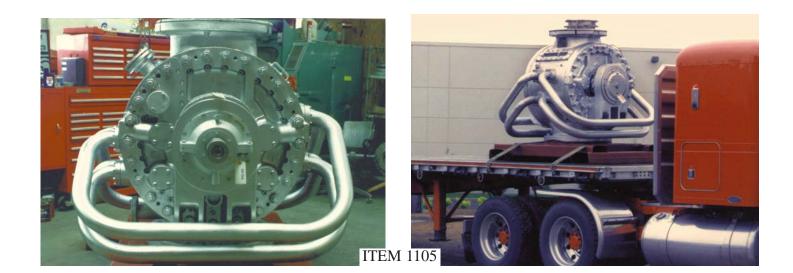
MST CUSTOMIZED 30" HIGH PRESSURE ROTARY FEEDER VALVE-USED ON M&D DIGESTER SYSTEM



### MST MANUFACTURE, 30" HIGH PRESSURE ROTARY FEEDER VALVE



MST CUSTOMIZED 36" HIGH PRESSURE ROTARY FEEDER VALVE-USED ON M&D DIGESTER SYSTEM



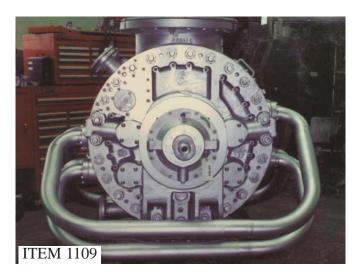
### 36" HIGH PRESSURE ROTARY FEEDER VALVE CONVERTED TO MST N2000-A FEATURE SET

It is wrong to think of science as a mechanical record of facts, and it is wrong to think of the arts as remote and private fancies. What makes each human, what makes them universal, is the stamp of the creative mind. J. Bronowski



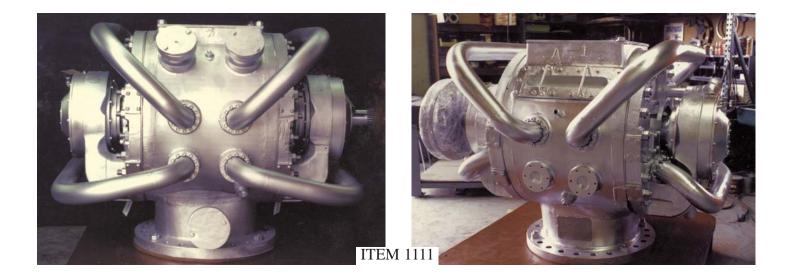
ROTOR: MST STYLE HIGH PRESSURE ROTARY VALVE WITH LABYRINTH SEAL SYSTEM





36" HIGH PRESSURE ROTARY FEEDER VALVE CONVERTED TO MST N2000-A FEATURE SET

# MST CORPORATION



CUSTOM 30" HIGH PRESSURE ROTARY FEEDER VALVE, RETROFITTED WITH ENLARGED BEARING SET



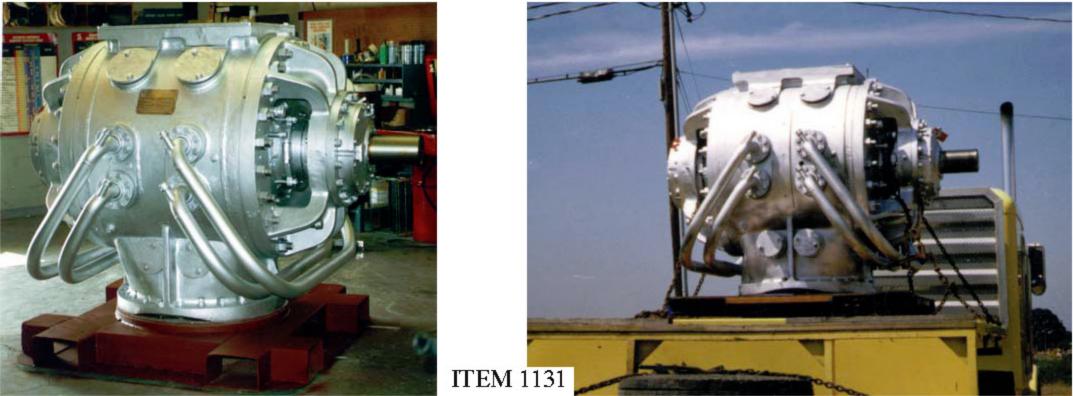


# **ITEM 1129**

# REMANUFACTURED HIGH PRESSURE ROTARY VALVE; FORMERLY AN ESCO STYLE UNIT; WITH INTERNAL MODIFICATIONS BY MST

You must act as you believe, for you will eventually believe as you act. Anonymous





## SUPER HIGH CAPACITY 36" HIGH PRESSURE ROTARY VALVE

1-7



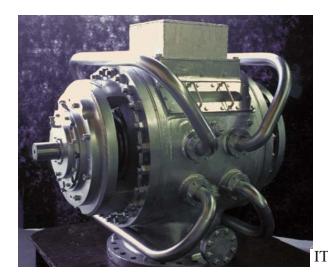
MST CUSTOM 30" HIGH PRESSURE ROTARY VALVE

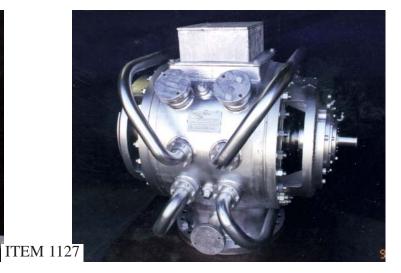




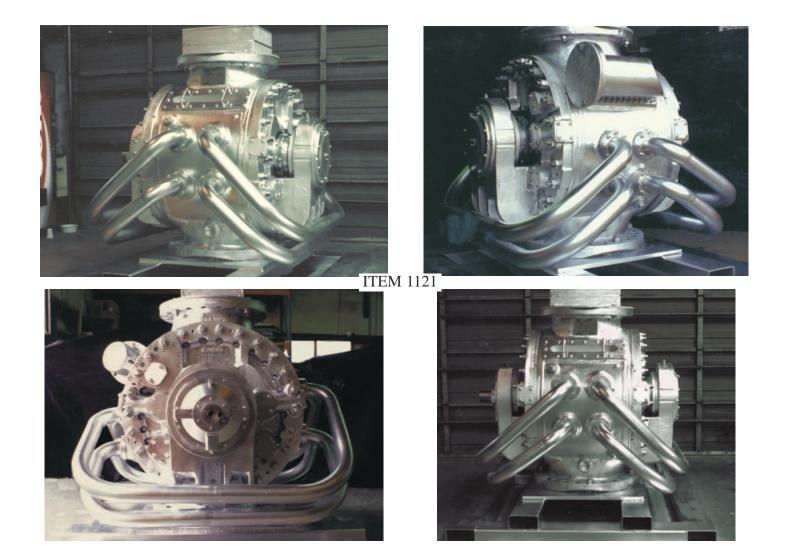
# MATERIAL S SCIENCE

### MST N2000 SERIES HIGH PRESSURE ROTARY FEEDER VALVE





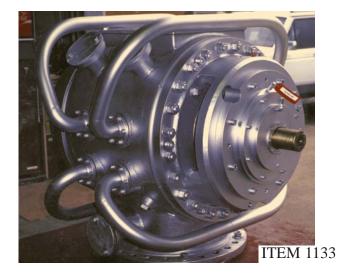
MST CUSTOM 30" HIGH PRESSURE ROTARY VALVE

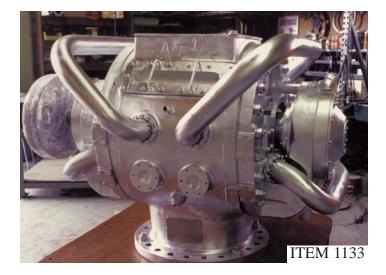


MST N2000B SERIES HIGH PRESSURE ROTARY FEEDER VALVE



It may be true that there are two sides to every question, but it is also true that there are two sides to a sheet of fly paper, and it makes a big difference to the fly which side he chooses. Christian Medical Society Journal, Spring 1997





### 30" HIGH PRESSURE ROTARY VALVE MANUFACTURED BY MST

HIGH PRESSURE ROTARY VALVE MANUFACTURED BY MST

# MST CORPORATION





SUPER HIGH CAPACITY 36" HIGH PRESSURE ROTARY VALVE

1-10



RESTORED LIME KILN ROTARY FEEDER

# MST CORPORATION



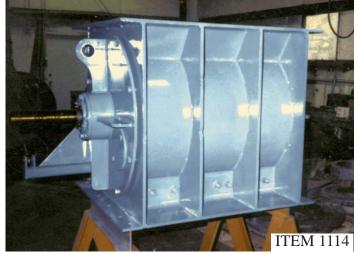
CUSTOM AIR LOCK FEEDER WITH INTEGRAL DRIVE SYSTEM AND COMPENSATOR THRUST

1-11



### CUSTOM MST MODIFIED AIR LOCK FEEDER





### CUSTOM MST MODIFIED AIR LOCK FEEDER



RESTORED RADER STYLE AIR LOCK FEEDER





CUSTOM AIR LOCK FEEDER WITH INTEGRAL DRIVE SYSTEM AND COMPENSATOR THRUST





ITEM 1137





CUSTOM ULTRA HIGH PRESSURE PLUG SCREW FEEDER HOUSING FOR SPECIAL RESEARCH DEVELOPMENT APPLICATION

# MST CORPORATION Dedicated to Quality and Advancements in Metal Working Technology

Science is the knowledge of consequences and, dependence of one fact upon another. Thomas Hobbes





ITEM 1141

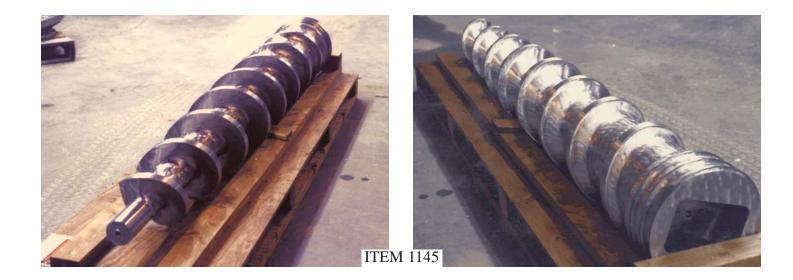




# SCREW SYSTEM MANUFACTURED BY MST FOR CUSTOM ULTRA HIGH PRESSURE PLUG SCREW FEEDER FOR SPECIAL RESEARCH DEVELOPMENT APPLICATION

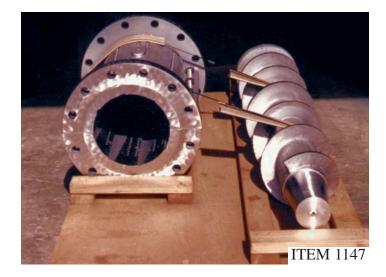


Science is nothing but trained and organized common sense. Thomas Henry Huxley



PLUG SCREW FEEDER SCREW RESTORATION

# MST CORPORATION





# PLUG SCREW FEEDER SCREW & HOUSING RESTORATION

PLUG SCREW FEEDER SCREW RESTORATION



### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION

# MST CORPORATION



PRESTO-LOG SCREW RESTORATION







ITEM 1153

### CLOSE UP OF PLUG SCREW HOUSING

### Nothing is more difficult, and more precious than to be able to decide. Napoleon I





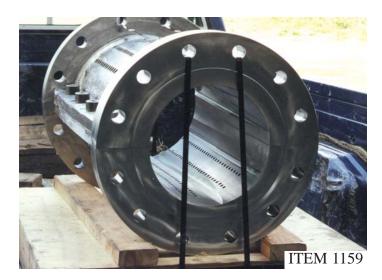
ITEM 1155

### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION

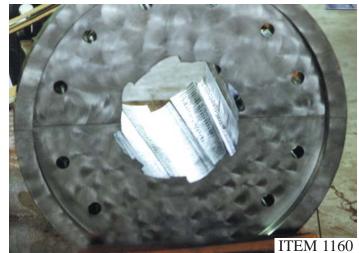
2-17



### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION







### PLUG SCREW FEEDER HOUSING RESTORATION



PLUG SCREW FEEDER HOUSING RESTORATION; TAPERED SCREW CORE VERSION



### PLUG SCREW FEEDER HOUSING RESTORATION



### CLOSE UP OF FLIGHT RESTORATION ON PLUG SCREW FEEDER SCREW







### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION

2-19



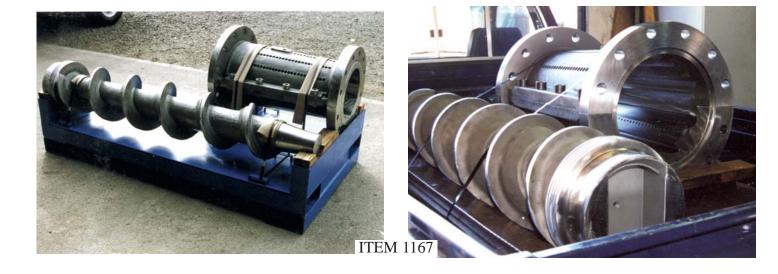
ITEM 1165

### PLUG SCREW FEEDER SCREW RESTORATION





MATERIAL S SCIENCE PLUG SCREW FEEDER SCREW RESTORATION



### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION

2-20



### PLUG SCREW FEEDER SCREW AND HOUSING RESTORATION





PLUG SCREW FEEDER HOUSING RESTORATION

# MST CORPORATION Dedicated to Quality and Advancements in Metal Working Technology

The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood, who strives valiantly, who errs and comes short again and again, who knows the great enthusiasm, the great devotions, and spends himself in a worthy cause, who at the best knows in the end the triumph of high achievement, and who at worst if he fails, at least, fails while daring greatly, so that his place shall never be with those cold and timid souls who know neither victory nor defeat.

Winston Churchill



PAPER MILL ROLL PILLOW BLOCK BEARING HOUSING RESTORATION







FAN PUMP HOUSING RESTORED THEN LINED WITH SPECIAL EPOXY PROTECTION SYSTEM





PAPER MILL ROLL SPECIAL BEARING MOUNT HOUSING SYSTEM REMANUFACTURED



PULP DRYER SHREDDER ROLLS REVERSE ENGINEERED AND MANUFACTURED NEW BY MST





### DRYER ROLL JOURNAL RESTORATION



ITEM 1179

DOCTOR BLADE HOLDER REVERSE ENGINEERED AND REMANUFACTURED



ITEM 1180

LARGE MOTOR MOUNTING FRAME FABRICATION





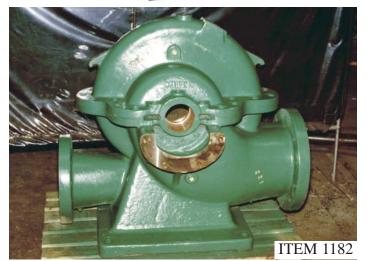
BABBITT LINING NOT, SHOWN

ITEM 1181

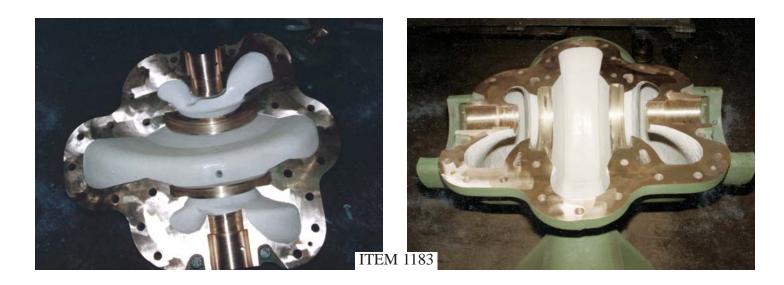
SPECIAL CUSTOM WATER COOLED BABBITT BEARING HOUSING DESIGNED AND MANUFACTURED BY MST

ATERU





BRONZE PROCESS PUMP RESTORATION AND SPECIAL EPOXY LINING; SUBASSEMBLY VIEW



### BRONZE PROCESS PUMP RESTORATION AND SPECIAL EPOXY LINING



### VIBRATING SCREEN FRAME; REDESIGNED AND MANUFACTURED BY MST; DESIGNED TO PREVENT IN-SERVICE CRACKING



### CENTRI-CLEANERS WITH NEW SS CONE SECTIONS





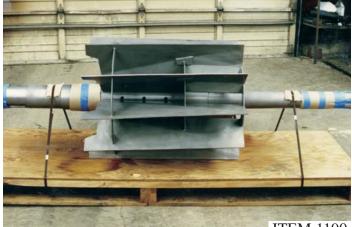


ROUND SCREEN ROTOR BARS RESTORED AND HIGH ENERGY PULPER ROTOR RESTORATION. MST HAS ALSO MANUFACTURED THESE ROTORS NEW AS REPLACEMENTS FOR OEM UNITS



### CENTRI-CLEANERS RESTORATIONS





**ITEM 1190** 



### ROUND SCREEN FOIL BAR ROTOR RESTORATION AND UPGRADE





### ROUND SCREEN FOIL BAR ROTOR RESTORATION AND UPGRADE



ROUND SCREEN RESTORATION



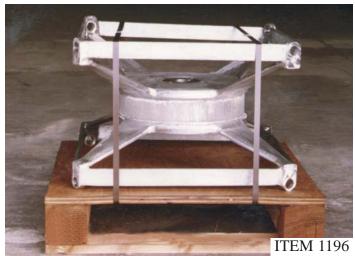




ROUND SCREEN RESTORATION



PULPER ROTOR DRIVE HUB RESTORATION AND REMANUFACTURE



### ROUND SCREEN FOIL BAR ROTOR RESTORATION AND UPGRADE



### FINCKH SCREEN ROTOR RESTORATION

Management addressed toward optimization of a system would offer improvement. A system must have an aim. Without an aim, there is no system.

W. Edwards Deming



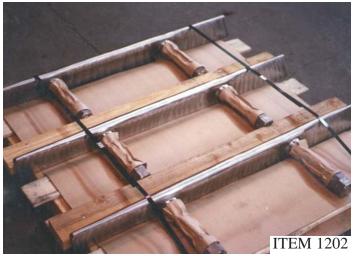
ITEM 1199

### NEW SET OF SHREDDER PLATES BY MST



LARGE PULPER ROTOR UPGRADE AND REDESIGN ON NEW OEM UNIT BEFORE INITIAL USE





### PULPER ROTOR AND EXTRACTION PLATE RESTORATION

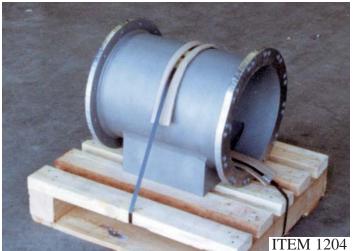
### SET OF ROUND SCREEN FOIL BARS; RESTORED COMPLETE

...mathematics is not just another language. Mathematics is a language plus reasoning; it is like a language plus logic. Mathematics is a tool for reasoning.

Richard Feynman



### SET OF ROUND SCREEN FOIL BARS RESTORED COMPLETE



INTERNAL LOAD SENSOR HOUSING FOR SPROUT-BAUER REFINER; MANUFACTURED NEW



ITEM 1205

### RESTORED AND MODIFIED PULPER ROTOR



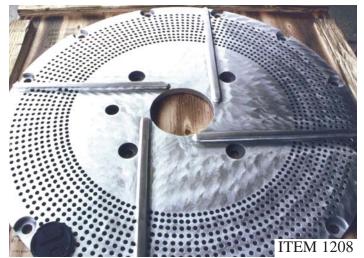


### EXTRACTION PLATE RESTORATION



# SHREDDER ANVIL AND ROTOR MANUFACTURED NEW, BY MST





### RESTORATION OF EXTRACTION PLATE SUBASSEMBLY



### **RESTORATION AND BAR REPLACEMENT OF** SEPARATOR SCREEN





**ITEM 1210** 



### **RESTORED EXTRACTION PLATE USED** IN RECYCLING SYSTEM



### HIGH POWER PULPER ROTOR RESTORATION USED IN RECYCLE SYSTEM



### VOITH TURBO ROTOR EXTRACTION PLATE AND FRAME ASSEMBLY





**ITEM 1214** 



SHREDDER ANVIL



### EXTRACTION PLATE FRAME RESTORATION

4-34



### SLOTTED SCREEN BASKET RESTORATION





### SHREDDER ANVIL MANUFACTURED



### MANUFACTURE AND UPGRADE SEPARATOR ROTOR





### SEPARATOR ROTOR AND HEAD SUBASSEMBLY RESTORATION





# SHREDDER ROTOR AND ANVIL

# ROUND SCREEN ROTOR RESTORATION

We know that each height, each step, must be gained by patient, laborious toil, and that wishing cannot take the place of working.

Edward Whymper





ITEM 1224

ROUND SCREEN AND ROTOR RESTORATION HOOPER ROUND SCREEN ROTOR RESTORATION



# SEPARATOR ROTOR RESTORATION



# **REFINER PLATE RESTORATION**







# LOBED ROTOR RESTORATION AND NEW TOP SEPARATOR







# PULPER ROTOR RESTORATION

**ITEM 1230** 



# PULPER ROTOR AND EXTRACTION PLATE

SEPARATOR ROTOR AND HUB RESTORATION





# NEW SHREDDER MANUFACTURED



**REFINER IN-FEED SCREW HOUSING** 





**ITEM 1234** 



EXTRACTION PLATE RESTORATION

NEW, REDESIGNED, VIBRATION (KNOTTER BASKET) FRAME



ITEM 1236



# CENTR-CLEANER TUBE REPLACEMENT AND UPGRADE







NEW SIZE 2 SHREDDER

**ITEM 1238** 

**NEW SIZE 3 SHREDDER** 



**ITEM 1239** 

SEPARATOR ROTOR AND HUB



**ITEM 1240** 



# **RESTORATION OF EXTRACTION PLATE SEGMENTS**



# PULPER ROTOR AND EXTRACTION PLATE



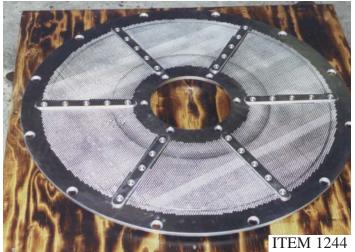


SIZE 1 SHREDDER, NEW



# PULPER ROTOR RESTORATION





# DIABLO EXTRACTION PLATE RESTORATION



# PULPER ROTOR EXTRACTION PLATE



# NEW ROUND SCREEN LOBED ROTOR SUBASSEMBLY



PULPER ROTOR IN RECYCLING SYSTEM UPGRADED FOR 200 EXTRA HORSEPOWER OPERATION



# TURBO ROTOR AND HUB SUBASSEMBLY

MATERIAL S SCIENCE TECHNOLOGY



# EXTRACTION PLATE SUBASSEMBLY RESTORATION





#### ITEM 1250

# MATERIA

# SEGMENTAL EXTRACTION PLATE SET RESTORATION



# TURBO SEPARATOR EXTRACTION PLATE RESTORATION



# PULPER ROTOR COMPLETE RESTORATION AND OVERLAY





# TURBO SEPARATOR ROTOR AND HUB SUBASSEMBLY



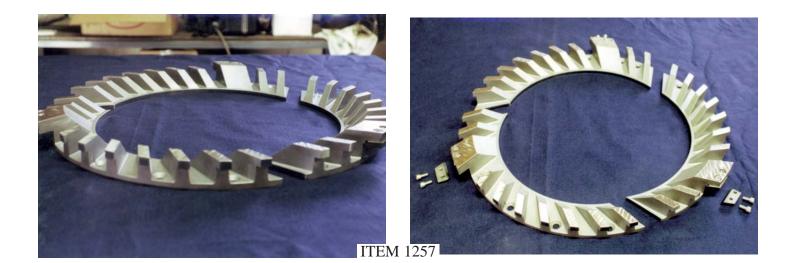
DIABLO SCREEN ROTOR

ATERIAL



# TURBO SEPARATOR ROTOR AND HUB SUBASSEMBLY RESTORATION





# SHREDDER ROTOR MANUFACTURED AS TRI-SEGMENTAL SYSTEM; SHOWN WITH CUTTER SET

If I take care of my character, my reputation will take care of itself. Dwight L. Moody



# CLOSE UP AND OVERVIEW OF NEW ROTOR AND ANVIL



## NEW SIZE 1 SHREDDER ANVIL TOP (UPPER SIDE) VIEW AND BOTTOM (UNDER SIDE) VIEW







ITEM 1261

S SCIENCE

NEW SHREDDER ANVIL, SIZE 2

# NEW SEGMENTAL SHREDDER SET



PULER ROTOR RESTORATION







# SIZE 3 SHREDDER ANVIL AND CUTTER SET, NEW

TORNADO ROTOR RESTORATION





# ROTOR AND HOUSING ASSEMBLY





# **RESTORED DIABLO ROTOR**

# PULPER ROTOR REMANUFACTURED WITH EXTENDED HUB FEATURE

He that is faithful in that which is least is faithful also in much; and he that is unjust in the least is unjust also in much.

Jesus, Luke 16:10





# TURBO ROTOR AND HUB ASSEMBLY

**ROUND SCREEN ROTOR** FOIL BAR ROTOR



# OLD STYLE VOITH TURBO ROTOR RESTORATION



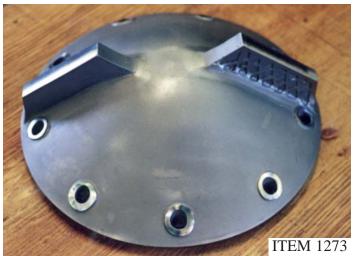




# EXTRACTION PLATE FRAME, RESTORATION AND UPGRADE

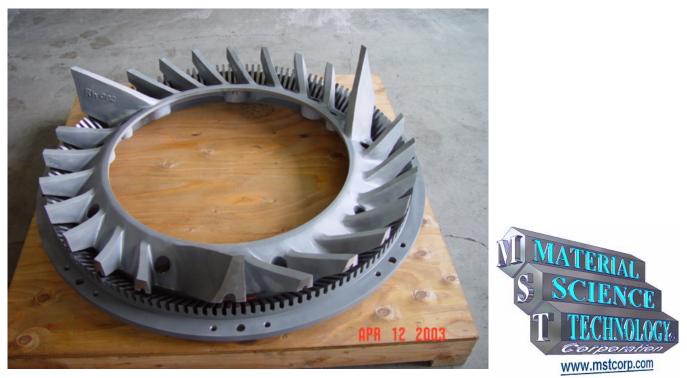


REFINER IN-FEED LOAD SENSOR HOUSINGS RESTORATION CODE WELDED



PULPER ROTOR CENTER HUB SECTION RESTORATION AND BAR REPLACEMENT

# SLUSH MAKERS ITEM 1424

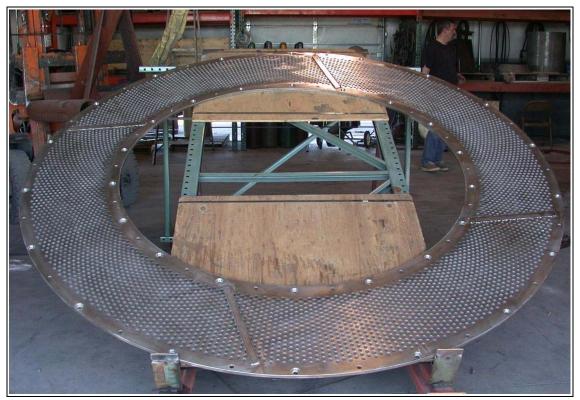


**RESTORE OR MANUFACTURE NEW** 



**DEFIBRATING RINGS FOR SLUSH MAKER ROTORS** 

# PULPERS ITEM 1425



**106" DIAMETER EXTRACTION PLATE FOR SECONDARY FIBER /OCC RESTORE OR MANUFACTURE NEW** 



**SHARK EXTRACTION PLATE** MFG NEW



### **RESTORED 32" HYDRAPURGE ROTOR & MFG NEW EXT. PLATE**



# ULTRA III SCREEN & ROTOR ASSEMBLY MST UPGRADE /RESTORE

BEARING CARTRIDGE, HOUSING COMPONENTS, BASE, AND ENLARGED THE ACCEPTS OUTLET



ITEM 1429







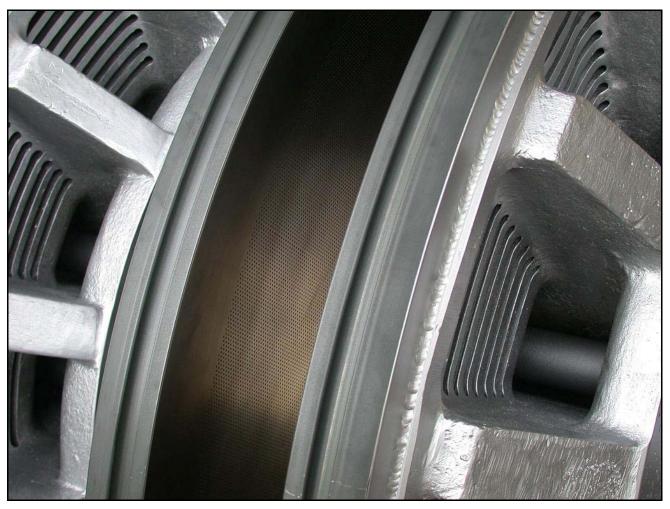
ITEM 1430



# **CSM-12 COMBISORTER SUBASSEMBLY ROTOR ELEMENTS**







ITEM 1431 CUSTOM DEWATERING SCREENS: MFG NEW USING TYPE 254SMO AND DRILLING JUST OVER 264,000 1mm HOLES IN FOUR SCREENS USING MST'S CNC MACHINE



#### **AGITATOR BLADES:**

- 1. OEM 316SS BLADES ARE ON THE LEFT
- 2. MST FERRALIUM BLADES ON THE RIGHT
- **3.** MST MADE METALLURGICAL IMPROVEMENTS AND TO DATE 9/2006 THEY HAVE LASTED TWICE AS LONG



ITEM 1433

MST ALSO MADE VALUE ADDED ENGR IMPROVEMENTS TO THIS AGITATOR ASSY.

#### HELP ELIMINATE A STUFFING BOX PACKING ISSUE, ETC.

NOT RELATED TO ABOVE BLADES





#### **BLACK CLAWSON PULPER ROTOR**



ITEM 1435 SHARK PULPER ROTOR



**BLACK CLAWSON ROTORS OCC** 





#1437 CMV10 Contaminex Ext. Plate w/Frame Mfg New



#1437 CMV10 Contaminex Rotor Mfg New



#1438 Size 20 Contaminex Impeller





#1439 Valmet Rotor Paper Machine Broke



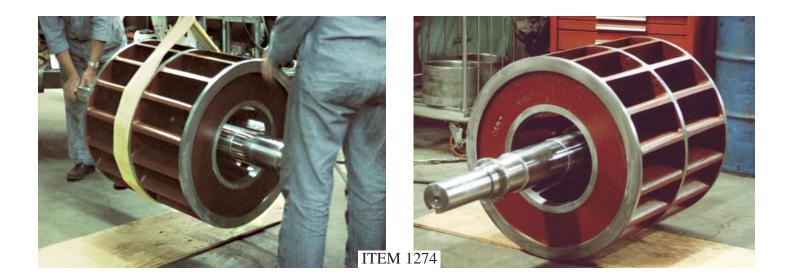
Valmet Segmented Extraction Plates Mfg New



#1439 VSAP-100 Voith 96" Diameter Rotor



#1439 VSAP-100 Voith 98" Diameter Extraction Plates Mfg New by MST CNC machine



# VACUUM PUMP ROTOR RESTORATION



REVERSE ENGINEERED AND MANUFACTURE OF NEW WINDER SWING ARMS FOR BELOIT PAPER MACHINE







MANUFACTURE NEW SPECIAL CENTRI-CLEANER CONE SECTION WITH SIGHT GLASS LEVEL INDICATORS











ITEM 1279

# RESTORED BLOWER END BELL, READY FOR ASSEMBLY

CAST MANIFOLD RESTORATION





# CODE FITTINGS MODIFICATION



# CERAMIC LINED SEPARATOR CONES





# GEAR HOUSING-MODIFIED TO TAKE SS FITTING SHOWN



# ROTOR SHAPE GAGE FOR MILL MAINTENANCE DEPARTMENT USE

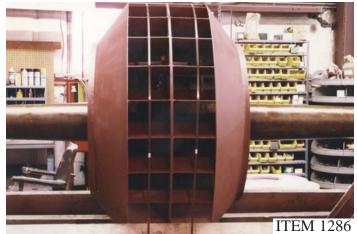




# NEW, INLINE DEFUSER PLATE



RESTORATION OF CRACKED AND DAMAGED BLOWER ROTORS, CRACKS REPAIRED USING "METAL STITCH" PROCESS



MANUFACTURE NEW CUSTOMIZED ID FAN FOR POWER BOILER, HAS SPECIAL WEAR LINER SYSTEM BUILT FOR TWELVE YEAR LIFE CYCLE

He has honor if he holds himself to an ideal of conduct though it is inconvenient, unprofitable, or dangerous to do so.

Walter Lippmann





# REVERSE ENGINEER AND REMANUFACTURE MULTI EXOTIC METAL HIGH CAPACITY RING PRESS



# SPECIAL CUSTOM PACKING LANTERN RINGS

#### Quality should be aimed at the needs of the consumer, present and future. W. Edwards Deming



# HIGH SPEED BLOWER SET RESTORATION







NEW NCB PACKING SLEEVES, CUSTOM



CERAMIC WEAR TILE LINING FOR FIBERGLASS TOWER





ITEM 1293

EXOTIC METAL RING PRESS ROTATING ELEMENT 800 HORSEPOWER







ITEM 1295

### TITANIUM MIXER RESTORATION



CUSTOM REDESIGNED BAIL PRESS TRACKING WHEEL SYSTEM, REDESIGNED AND MANUFACTURED BY MST



# PART OF CUSTOM REDESIGNED BAIL PRESS TRACKING WHEEL SYSTEM, REDESIGNED AND MANUFACTURED BY MST



# NEW DIFFUSION RING INLINE ON PAPER MACHINE FAN PUMP





# DRIVE STUBS FOR BIRD CENTRIFUGE



**ITEM 1299** 

# WELD RESTORE BROKEN LATHE STEADY REST





# WELD RESTORE RE-MACHINE AND LINE BORE GEAR HOUSING





# WELD RESTORE RE-MACHINE AND LINE BORE GEAR HOUSING

FURNISH MATERIAL AND MANUFACTURE NEW MOTOR PEDESTAL FOR BOILER FEED WATER SYSTEM

When learning about the laws of physics you find that there are a large number of complicated and detailed laws, laws of gravitation, of electricity and magnetism, nuclear interactions, and so on, but across the variety of these detailed laws there sweep great general principles which all the laws seem to follow. Richard Feynman



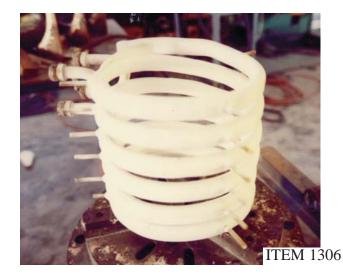
# **ITEM 1304**

# **REMANUFACTURE HIGH CAPACITY** EXHAUST FAN, STAINLESS STEEL

CUSTOM 17-4PH BAIL PRESS (PAAL) **GUIDE BARS** 



VACUUM PUMP RESTORATION



# THERMAL CERAMIC COATING FOR PROTECTION OF COPPER INDUCTION COIL SET

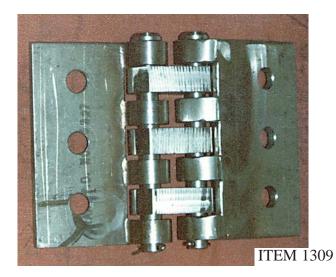
#### The real leader has no need to lead-he is content to point the way. Henry Miller



# TTEM 1308

# NEW INLINE DEFUSER FOR PAPER MACHINE FAN PUMP

# NEW STAINLESS STEEL LINER TUBE



# CUSTOM HINGE REMANUFACTURE BY MST



# VACUUM PUMP RESTORATION

Integrity can be neither lost nor concealed nor faked nor quenched nor artificially come by nor outlived, or, I believe, in the long run denied. Eudora Welty



# KAMYR® BOTTOM PLOW RESTORATION



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ITEM 1312

**REPLACEABLE STAINLESS STEEL** STUFFING BOX SET WITH INTEGRAL LANTERN RING - VALUE ADDED ENGINEERING BY MST



VALVE SEAT SET



FEED SCREW SLEEVES

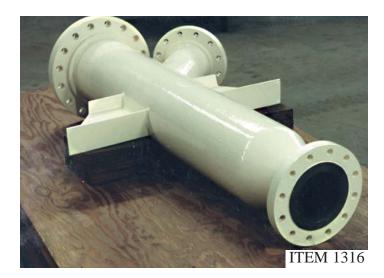


# BINGHAM LIQUOR PUMP INSERT RINGS BY MST





ITEM 1315



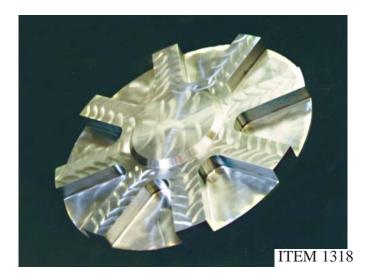
CUSTOM STEAM MIXER/HEATER HOUSING



SPECIAL CUSTOM VIBRATING SCREEN MOUNTING BRACKETS MFG. OF STAINLESS STEEL

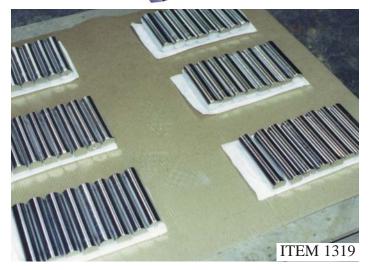


NEW HUB FOR FAN WHEEL FABRICATION

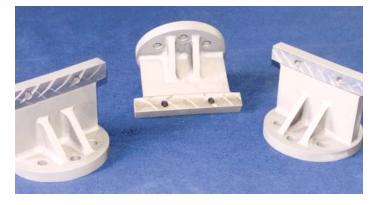


#### REFINER PLATE CENTER DISTRIBUTION NUT





#### CUSTOM TYPE NITRONIC STRESS CORROSION RESISTANT STUDS FOR HPRV



**ITEM 1320** 

SPECIAL CUSTOM VIBRATING SCREEN MOUNTING BRACKETS MFG. OF STAINLESS STEEL





#### FEED SCREW TUNGSTEN CARBIDE COATED SLEEVES FOR SEVERE WEAR APPLICATIONS

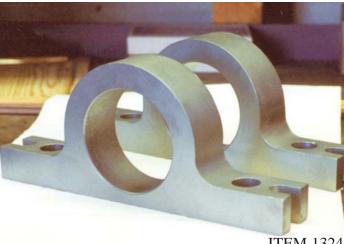


SPECIAL CUSTOM VIBRATING SCREEN MOUNTING BRACKETS MFG. OF STAINLESS STEEL





ITEM 1323



ITEM 1324

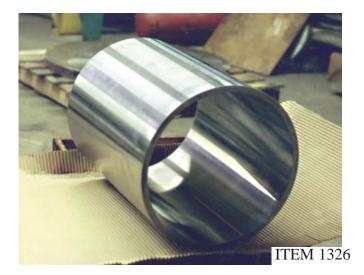
CUSTOM PILLOW BLOCKS MFG. BY MST



SET OF NEW SPECIAL HIGH PRESSURE ROTARY VALVE KNIVES



CUSTOM 440C - SPECIAL PROCESS AND HEAT TREATMENT NON LUBRICATED SUBMERGED SHAFT BEARING BUSHING



**NEW PACKING SLEEVE - CUSTOM** 





#### NEW SET OF PINS AND ROLLERS FOR M&D DIGESTER CONVEYOR CHAIN



#### BIGHAM LIQUOR PUMP **INSERT RINGS BY MST**

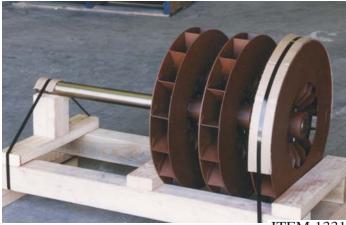




#### **REFINER INTERNAL LOAD SENSOR** HOUSINGS SET



# CUSTOM 440C - SPECIAL PROCESS AND HEAT TREATMENT NON LUBRICATED SUBMERGED SHAFT BEARING BUSHING



ITEM 1331

SPECIAL THREE STAGE HIGH VELOCITY (4500 RPM) BLOWER FAN NEW BY MST

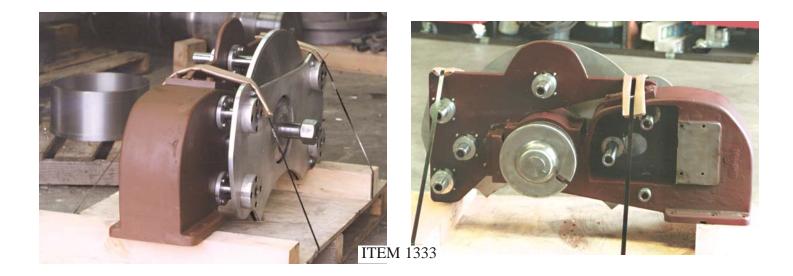




ITEM 1332

CUSTOM BAIL PRESS ROLLER SPINDLES





#### SPECIAL DOUBLE DISC GRINDER GRINDING AUTOMATIC FEED ATTACHMENT -DESIGNED AND MANUFACTURED BY MST





**ITEM 1335** 

DE-BARKER ARMS RESTORATION

NEW HIGH PRESSURE ROTARY VALVE REPLACEMENT SHAFT





#### FLANGED NOZZLE





**ITEM 1337** 



BLOW NOZZLE FOR BATCH DIGESTER WITH SPECIAL MST HARD LINER SYSTEM



#### KAMYR® BOTTOM PLOW RESTORATION

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**ITEM 1339** 

BLOW TANK TANGENTIAL ELBOW WITH SPECIAL MST TRI-SYSTEM WEAR LINER



#### **REFINER INTERNAL LOAD SENSOR** HOUSING, NEW







**ITEM 1342** 

**RESTORATION REPAIR OF LARGE** HEAT EXCHANGER DIVIDER HOUSING CODE

#### CUSTOM LONG-LIFE SIDE OUTLET BATCH DIGESTER FITTINGS BY MST





#### THICK STOCK PUMP RESTORATION



DIGESTER FITTING NEW





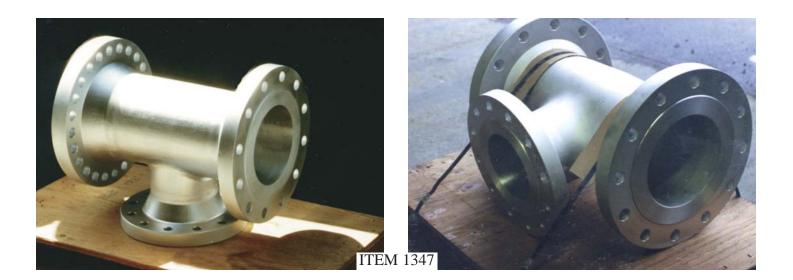
#### SPECIAL SS BLOW LINE DIGESTER FITTING LONG LIFE DESIGN







SPECIAL SS BLOW LINE DIGESTER FITTING LONG LIFE DESIGN, REDESIGNED TO TAKE SPECIAL SLIP RING FLANGE FOR FIELD ALIGNMENT ISSUES



#### MST LONG LIFE SIDE OUTLET DIGESTER FITTING

To do great things is difficult; but to command great things is more difficult. Nietzsche



#### SPECIAL LINED 90 DEGREE ELBOW DIGESTER FITTING



CUSTOM HIGH EFFICIENCY HIGH PRESSURE ROTARY VALVE EXHAUST MANIFOLD DESIGNED AND MANUFACTURED BY MST



# RE-SHAFTED AND RESTORED REFINER IN-FEED RIBBON SCREW SPECIAL METALLURGICAL ATTACHMENT DESIGN TO PREVENT CRACKING

Science is the attempt to make the chaotic diversity of our sense-experience correspond to a logically uniform system of thought.

Einstein





ITEM 1351

#### SCREW STYLE THICK STOCK PUMP RESTORATION



CUSTOM FITTING





REFINER RIBBON SCREW LOAD SENSOR HOUSING SETS FOR SPROUT BAUER



NEW INTERNAL LOAD SENSOR HOUSING FOR SPROUT BAUER REFINER





BLOW TANK TANGENTIAL ELBOW WITH SPECIAL MST TRI-SYSTEM WEAR LINER



LIME CRUSHER AND ANVIL RESTORATION

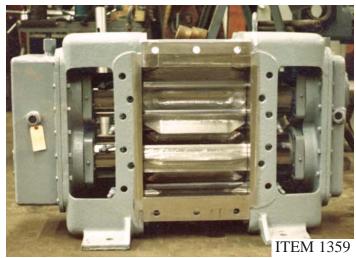


RESTORATION OF STOCK PUMP ROTORS





HIGH ALLOY T317 SS BATCH DIGESTER CHIP PACKERS. THESE UNITS (EIGHT TOTAL) WERE MANUFACTURED BY MST TO REPLACE FAILED OEM UNITS CODE CONSTRUCTION





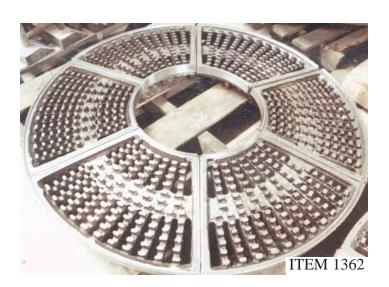
#### STOCK PUMP RESTORATION



#### RESTORED AND ALLOY UPGRADE FOR BALL VALVE ASSEMBLY







#### RESTORATION - SPECIAL IMPCO STYLE RING PRESS

SUPER ALLOY FABRICATION OF TRANSITION VESSEL FOR MOUNTING BAUER HIGH PRESSURE ROTARY VALVE





#### PRESS SCREW RESTORATION





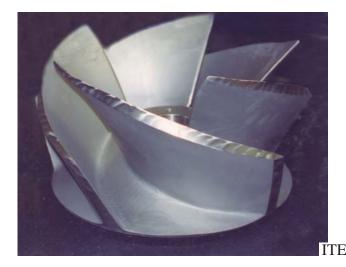
LARGE KAMYR® SS IMPREGNATOR SCREW - REDESIGNED AND REPLACED DRIVE STUBS - SECTIONED OUT AND REPLACED FAILED CENTER SECTION OF SCREW AND REINFORCED FLIGHT SYSTEM SO ASSEMBLY WOULD TOLERATE. INCREASED HORSE POWER AND PRODUCTION



### MST CORPORATION

In science, all facts, no matter how trivial or banal, enjoy democratic equality. Mary McCarthy

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#### VARIOUS PUMP IMPELLER RESTORATIONS

#### The strange thing about physics is that for the fundamental laws we still need mathematics. Richard Feynman





#### VARIOUS PUMP IMPELLER RESTORATION

#### VARIOUS PUMP IMPELLER RESTORATION

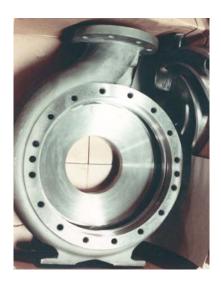




#### PUMP HOUSING RESTORATIONS

Quality must be built in at the design stage. W. Edwards Deming





ITEM 1369

#### PUMP HOUSING RESTORATIONS



#### VARIOUS PUMP IMPELLER RESTORATION



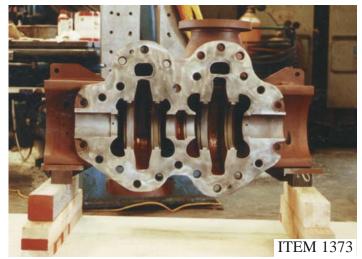


#### VARIOUS PUMP IMPELLER RESTORATION



ITEM 1372

PUMP INLET RING RESTORATIONS





#### PUMP HOUSING RESTORATIONS



#### REFINER RIBBON FEEDER MANUFACTURE AND RESTORATIONS AND METALLURGICAL UPGRADE

Best efforts are essential. Unfortunately, best efforts, people charging this way and that way without guidance of principles, can do a lot of damage. Think of the chaos that would come if everyone did his best, not knowing what to do.

W. Edwards Deming



#### SPECIAL "DUPLEX ALLOY" MIXING FEED SCREW FABRICATION FOR CHLORIDE SERVICE





# HIGH ALLOY SCREW FABRICATION FOR SEVERE CORROSION SERVICE

HIGH ALLOY SCREW FABRICATION FOR SEVERE CORROSION SERVICE NOTE SPECIAL FINISH DETAIL

It is proper to the role of the scientist that he not merely find new truth and communicate it to his fellows, but that he try to bring the most honest and intelligible account of the new knowledge to all who will try to learn. J. Robert Oppenheimer



ITEM 1378

#### HIGH ALLOY SCREW FABRICATION FOR SEVERE CORROSION SERVICE



#### SPECIAL CONVEYOR SCREW FABRICATION WITH CRACK RESISTANT METALLURGICAL PROCESS TECHNOLOGY, BY MST

It is said that one machine can do the work of fifty ordinary men. No machine, however, can do the work of one extraordinary man.

Tehyi Hsieh





LARGE KAMYR® SS IMPREGNATOR SCREW - REDESIGNED AND REPLACED DRIVE STUBS - SECTIONED OUT AND REPLACED FAILED CENTER SECTION OF SCREW AND REINFORCED FLIGHT SYSTEM SO ASSEMBLY WOULD TOLERATE INCREASED HORSEPOWER AND PRODUCTION





LARGE KAMYR® SS IMPREGNATOR SCREW REDESIGNED AND REPLACED DRIVE STUBS - REDESIGNED AND REPLACED FAILED CENTER SECTION 11EW 1362

#### KAMYR® TOP SEPARATOR SCREW RESTORATION

What is necessary 'for the very existence of science', and what the characteristics of nature are, are not to be determined by pompous preconditions, they are determined always by the material with which we work, by nature herself.

Richard Feynman



**ITEM 1383** 

#### SPECIAL DOUBLE FLIGHT SECTION DESIGNED CONVEYOR SCREW FOR HIGH RPM BIRD CENTRIFUGE, DESIGNED AND MANUFACTURED BY MST



SPECIAL DOUBLE FLIGHT SECTION DESIGNED CONVEYOR SCREW FOR HIGH RPM BIRD CENTRIFUGE -NEW IN PROCESS

9-88

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#### NEW RIBBON FEEDER FOR REFINER IN FEED

#### NEW TRITEN PLAT CHIP BLOWER FAN WHEEL

There is no substitute for teamwork and good leaders of teams to bring consistency of effort, along with knowledge.

#### W. Edwards Deming



NEW RIBBON FEEDER FOR REFINER IN FEED



#### SLOTTED BASKET RESTORATION

Both pure and applied science have gradually pushed further and further the requirements for accuracy and precision.

Walter A. Shewhart





#### INTEGRAL ROTOR/FOIL BAR ROTOR AND SLOTTED BASKET RESTORATION

SLOTTED BASKET RESTORATION



#### SLOTTED BASKET RESTORATION



#### SLOTTED BASKET RESTORATION



**ITEM 1393** 

ROUND SCREEN BASKET RESTORATION



**ITEM 1394** 

BELOIT LOBBED ROTOR AND UPPER WEIR MANUFACTURE NEW BY MST

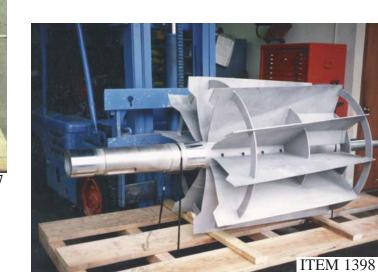


#### KAMYR® TOP SEPARATOR SLOTTED BASKET RESTORATION





REMANUFACTURE SPECIALTY SEPARATOR ROTOR WITH INTEGRAL FOIL BARS



ROUND SCREEN ROTOR RESTORATION - NOTE SPECIAL "BRAKE/CREASE" IN BLADE SECTION

10-93



#### FOIL BAR RESTORATION







ITEM 1399





#### MC® MIXER IMPELLER RESTORATIONS AND UPGRADE MATERIALS ARE TITANIUM OR SUPER ALLOY, MST DEVELOPED SPECIAL FIXTURING AND METHOD FOR ASSURING PRECISION TWO-PLANE BALANCE.

It is a commonplace of modern technology that there is a high measure of certainty that problems have solutions before there is knowledge of how they are to be solved.

John Kenneth Galbraith

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# SPECIAL TITANIUM PIN AND BUSHING SET - BUSHING IS COATED WITH NON LUBE COATING (SLIPTECK) FOR UN-LUBRICATED FIT

Morality regulates the acts of man as a private individual; honor, his acts as a public man. Estaban Echieverria





ITEM 1401

#### TITANIUM PRESS RESTRICTOR WITH TEFLON COATING



HIGH RPM CHLORINE MIXER ROTOR UNITS WERE REDESIGNED TO INCLUDE MIXER BLADES AS INTEGRAL TO ROTOR PRECISION BALANCED





#### TITANIUM PUMP IMPELLER HEAD



ITEM 1404

NEW REDESIGNED HIGH RPM MIXER SHAFT - SUPER ALLOY



**ITEM 1405** 



SPECIAL REGULATING VALVE WITH STEM REPLACED SUPER ALLOY







ITEM 1407



TITANIUM PUMP IMPELLER HEAD

TITANIUM MIXER RESTORATION



#### TITANIUM ARM WITH SAE SPECIFICATION FILLET PEEN BY MST



#### LIME CRUSHER AND ANVIL RESTORATION

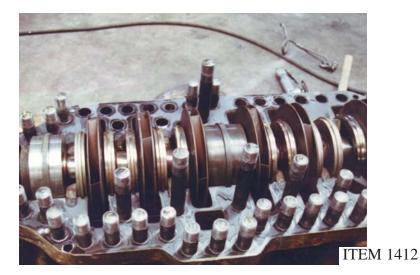
A man, though wise, should never be ashamed of learning more, and must unbend his mind. Sophocles



100" OD ID FAN - TRITEN BLADE SYSTEM AND REINFORCED SIDE PLATE DESIGN BY MST



CUSTOM POWER BOILER ID FAN SPECIAL CONSTRUCTION TO PREVENT WEAR AND TAMPERING BY UNAUTHORIZED WELDERS





SIX STAGE FEED WATER PUMP HOUSING WELD RESTORED BY MST AFTER CATASTROPHIC FAILURE MACHINED AND LINE BORED BY MST



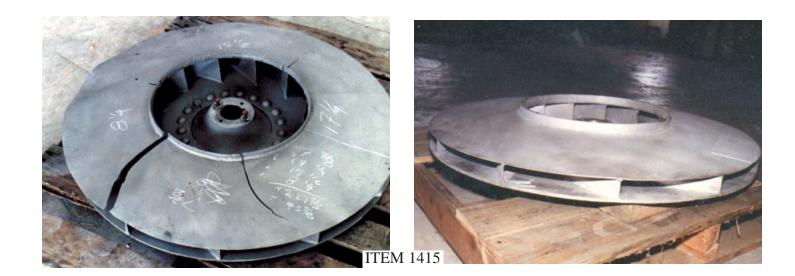
COMPRESSOR CRANK AND PULLEY RESTORATION







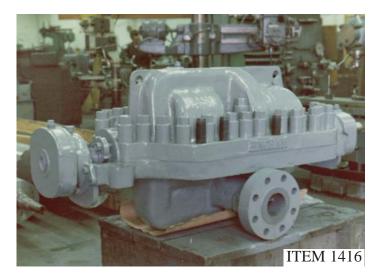
HIGH ALLOY FAN WHEEL FOR SEVERE CORROSION APPLICATION



#### SUPER ALLOY FAN SHOWN BEFORE RESTORATION

#### SUPER ALLOY FAN SHOWN AFTER RESTORATION

To learn is a natural pleasure, not confined to philosophers, but common to all men. Aristotle



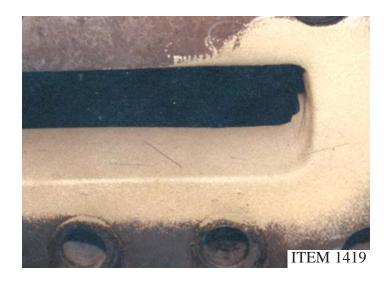
ASSEMBLED SIX STAGE FEED WATER PUMP - HOUSING WELDED AND RESTORED BY MST; RUNNER ASSEMBLY RESTORED BY MST



SPECIAL CHIPPER WHEEL RESTORED THEN PROTECTED WITH BRONZE COATING PROCESS IN DISCHARGE WEAR AREAS





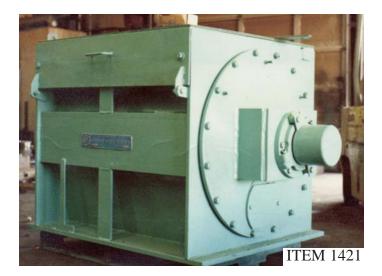


CHIPPER WHEEL RESTORATION AND BRONZE COATING PROTECTION SYSTEM





TWIN FEED SCREW RESTORATION SCREW SECTION COATED WITH SPECIAL WEAR RESISTANT CERAMIC



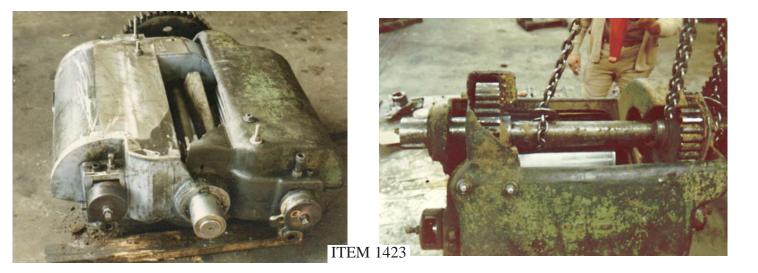
RADER AIRLOCK FEEDER RESTORATION AND BORE UPGRADE







SPECIAL STAR FEEDER RESTORATION



SAWMILL APPLICATION - OBSOLETE EQUIPMENT RESTORATION DESIGNED AND FABRICATED - NEW HOUSING SECTION TO REPLACE FAILED CAST IRON - REVERSE ENGINEERED BY MST

#### MST CORPORATION'S NO-NONSENSE WARRANTY

At MST Corporation, we believe a warrantee, and a guarantee, in essence, is in reality, a statement about the integrity of the parties to a transaction. Typically, a warranty says the vendor "warrants" their product against defects in materials and workmanship for some stated period, usually one year. At MST Corporation, we do not feel that time should be a factor. Consequently, if our methods of producing an end-result meet the standards we sell and adhere to; then our material and workmanship should be timeless.

The workmanship of any vendor—with time honored integrity and ethics—should speak for itself. Either MST Corporation does what we say, or we do not. Time is not at issue. As such, MST Corporation warrants our workmanship and materials for as long as you own the item—period. We intend our company to symbolize integrity and ethics, and we respectively request the same from the people we deal with. If we can both adhere to these timeless, common sense principles, everyone benefits.

Raymon Lan

Ray Lackey CEO /Technical Analyst

# MST CORPORATION

### (541) 416-9000

### www.mstcorp.com



### **CONTACT INFORMATION**

**Ship To:** 1659 SW Baldwin Road Prineville, OR 97754-9335 Phone: (541) 416-9000 Fax: 1.877.416.0628 **Remit To:** 1659 SW Baldwin Road Prineville, OR 97754-9335 Phone: (541) 416-9000 Fax: 1.877.416.0628

Mitch Logan Customer Service and Support	mitch@mstcorp.com
Julie Davison ····· Office Administration ·····	julie@mstcorp.com
Troy LackeyPresident	troy@mstcorp.com
Ray Lackey CEO/Technical Analyst	ray@mstcorp.com