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## **60X 85 American Pluverizer serial number 8396 Shredder installed 2001 evaluation report**

**Location:**

**Rifkin Scrap Iron and Metal  
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Saginaw, MI 48602  
Office 1-989-752-7646**

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Date of evaluation: 9-2-15**





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**Attachments: Main Motor inspection and service reports 2013 &2014**



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**Infeed Conveyor**



**Main Structural Support in good condition. No major material trapped on belt**





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**Hydraulic motor drive pulley clean and free of hydraulic leaks head shaft in good condition**



**Transition from Infeed Conveyor to chute excellent condition. Side walls great condition.**



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Structural frame work in good shape under the main frame



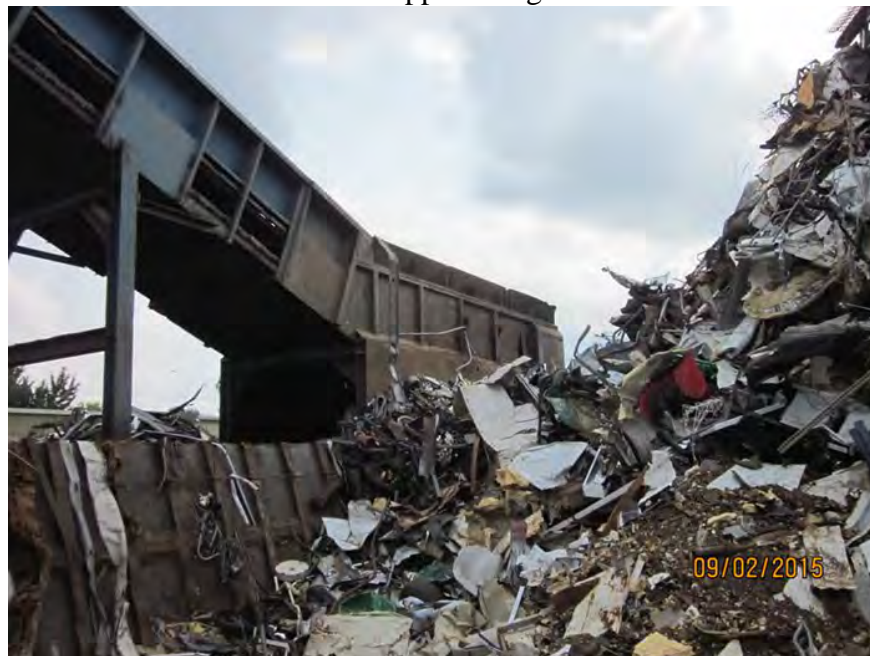
All steel flights in good condition with a few with minor bends



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Structural cross supports in great condition



Load section and tail pulley in good condition clear from debris and tail pillow blocks covered with shield



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Tail shaft pulley and tail shaft pillow block bearing in good condition



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**Feed Chute**



**Main floor and side walls in excellent condition with new installed wear strips**



**Plug welded floor liners seen under bottom of feed chute**





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Outside walls of chute in excellent shape and straight



Bottom of chute fabrication in good solid welded condition



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Bottom of feed chute full view



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### Feed Roll Drums and Frame



Upper feed roll drum in excellent condition



Lower feed roll drum couple teeth missing should be replace. Drum in good condition



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No wire wrap around end of feed roll drum shafts with no evidence of the shafts being gouged from a cutting torch



Feed roll frame in good condition straight with no evident weld cracking or twisting



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Feed roll drum chain drive, sprockets and chain in great condition. No hydraulic leaks from drive motor or feed roll hydraulic lift cylinder( Photo rotated 90 degrees)



End of the feed roll frame boxed section all welds intact with no cracking



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Feed roll frame rectangular cross member torque tube in great shape more robust fabrication added by customer



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Mid-section and base weldment



Mid-section hydraulic lift cylinder in excellent condition. No leaks and pivot pins in great condition.

Bent side wall needs repaired





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**All welds on mid-section pivot arms in good condition**



**Base box walls in good condition**





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**Base weld gussets no cracks evident in excellent condition**





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Mid-section pivot clevis welds in excellent condition





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Reject door fabrications and reject door casting pivot attachment in excellent condition . No hydraulic leaks in cylinder



Bonnet or deflector top tight to the mid-section



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Bearing pedestals in good condition with no evidence of weld repair to the base



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The shredder box springs appear in great condition and functional





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## Rotor and Drive Shaft



Rotor in good condition 280,00 input tons. Tight to main rotor shaft. Tie rods look like there has been a repair.



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End discs caps need to be replaced extreme wash from the material impacting the end disc face. Side chute entrance liners should be replace and for additional protection.



Small amount of wash on mill base side walls should be weld repaired. New wipers on rotor disc have been added that will help this condition.





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Welded round stock has been added for protecting the cap from hammer wash.  
They will not last for any length of time as the caps should be replaced





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Weld repair has been added to the spider arm. This tells me the rotor stack is not tight and will only keep the rotor together for a shorter period of time.



Bearing temperature probes in good condition both side. Minimal oil leaks from bearings.



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Bearing shim plate have been welded to shredder pedestals bearing stop blocks are welded permanent.  
This could be additional work if the bearing needs replaced or a broken rotor tie rod needs replace.



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**Rotor universal drive shaft**



Safety cover excellent condition



Motor coupling end with guard excellent condition



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Rotor coupling to drive shaft in excellent condition



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## Mill Liners



**Casting anvil bolts from back side of Mill base under chute are all tight and have not moved  
All surface welds appear in good condition on anvil seat.**



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**Base section side liner bolts are tight and show no movement**





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**Double beam 4.25" x 8" openings staggered appear to be in good condition ½ life**



**Reject door front wall liners and side wall liners appear in good condition.  
Minimal wash on side wall track facing rotor end discs.**





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**Upper mid-section liner bolts in good condition with no movement observed.**

**Holes in mid-section walls for liners in great condition.**

**Front wall tie rods in excellent condition with weld repair to the box side walls and the installation of steel bushings.**



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**Under mill Feeder**



**Exit trough pan has rust thru occurring**



**Actuating arms in good condition**



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**No visual welding issues to main frame**





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**Pulley belt missing that drives the eccentric**



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**Considerable rust on eccentric drive shaft. Cover should be removed and greased**



**Fisher steel plate should be added to the bottom of the exit chute**



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## Hydraulic Power Units

**Bearing Lube Unit - 2hp motor**

**Infeed conveyor 30 hp motor**

**Feed roll drums 60 hp motor with 5 hp recirculating pump**

**Maintenance 15 hp and reject door 50 hp**



**Bearing lube unit**



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**New oil in tanks**







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**Maintenance unit and reject door**





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**Feed roll drums and recirculating pump**  
**All hydraulic tanks in great condition free of hydraulic leaks and new filters installed**  
**All oil under pumps dry and clean**



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**Electrical**





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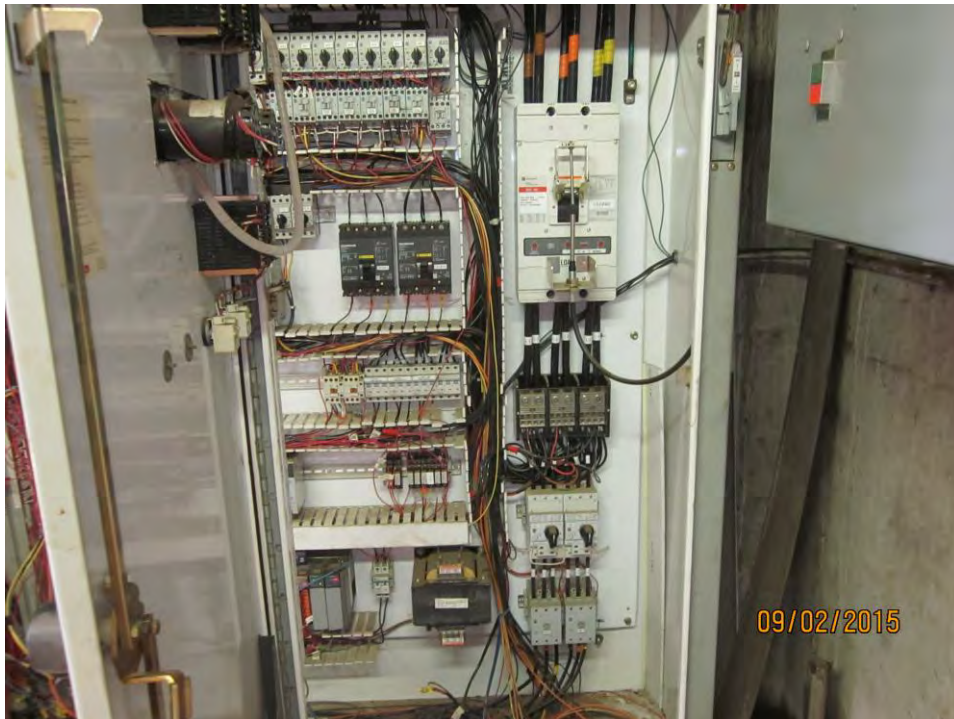


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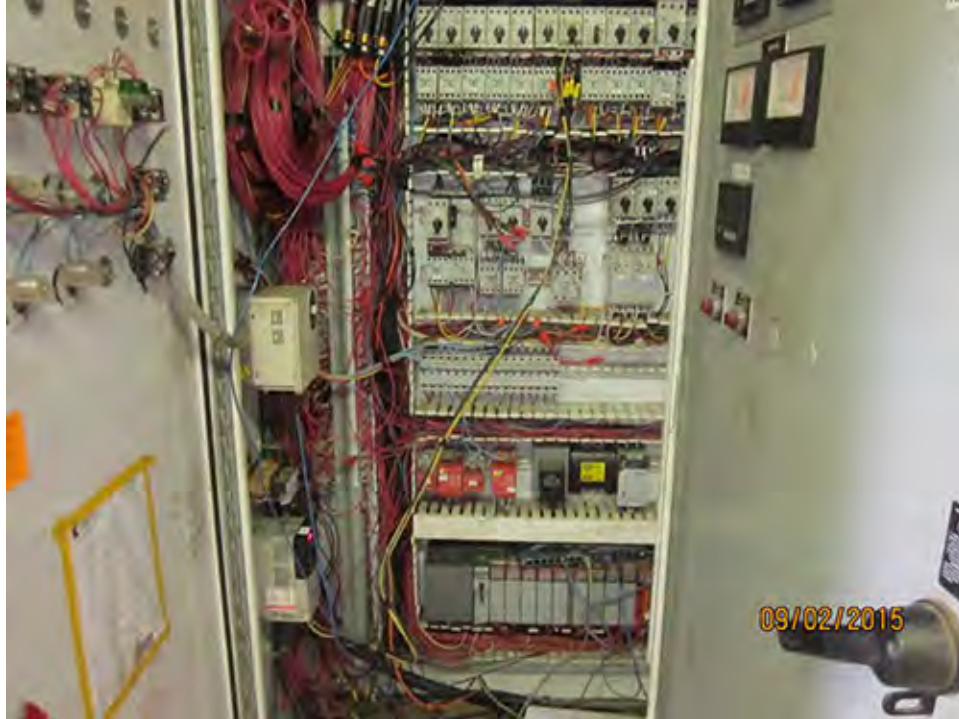


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**Loose wiring needs to be reinstalled back into wire ways**





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Motor Liquid Rheostat in good mechanical condition





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**Main Shredder motor Alstom 2500 hp 592 Rpm Slip Ring motor 4160 volt**





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**Motor Arcing detection**



**Main Motor control**



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LIMITAMP® COMMANDE		CONTROL LIMITAMP®	
MODEL	CR194A118A2	CAT.	0871X0193Q01A01
MODÈLE			
DIAGRAM	33987624 Sh. 3		
SCHEMA			
POWER FUSE CAT. NO.		55A212942P24RB	
FUSIBLE DE PUIS., N°CAT.			
INTERRUPTING RATING	360	MVA	CLASS E 2
POUVOIR DE COUPRE		MVA	CLASSE E
3 PHASE	60	HZ 4150	VOLTS AC 60 KV BIL
			VOLTS C.A. KV TTC
CONT. CUR. RATING	365		RMS AMPERES 40°C AMB.
COUR., SERVICE CONT.			EFF., A, 40°C AMBIANTE
SERVICE LIMIT CUR. RATING			RMS AMPERES
COURANT LIMITE EN SERVICE			EFF., AMPERES
HORIZ. BUS CUR. RATING	1200		RMS AMPERES
COUR. NOM., BUS HORIZON			EFF., AMPERES
CONTROL CIRCUIT	115		VOLTS
CIRC. DE COMMANDE			V
POWER CIRCUIT MAX. VOLTS	4.6K		AC
CIRCUIT DE PUISSANCE, MAX.			V C.A.
LOAD: TYPE	IND	2500HP	FULL LOAD CUR. 365 AMP
CHARGE: TYPE			COUR. PLEINE CH. A
W.R. MOTOR SEC.			V AC AMP
MOTEUR SECOND., ROTOR BOB.			V C.A. A
SYNC. FIELD		V DC	AMP PF
CHAMP SYNC.		V CC	A F.P.
CAUTION BEFORE INSTALLING OR OPERATING READ INSTRUCTIONS.			
ATTENTION, LIRE LES INSTRUCTIONS AVANT DE PROCÉDER À L'INSTALLATION.			
GEH-5305 DEF-002 GEH-5306 GEF-8016			
DO NOT OPERATE STARTERS FURNISHED WITH CURRENT TRANSFORMERS UNLESS RELAY ELEMENTS ARE INSTALLED.			
NE PAS UTILISER LES DÉMARREURS FOURNIS AVEC LES TRANSFORMATEURS DE COURANT AVANT QUE LES RELAIS SOIENT INSTALLÉS.			
55B833231P1		MEDIANE, N.C. MADE IN USA	

09/02/2015

Main motor control Tag



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### Main control operator's screens





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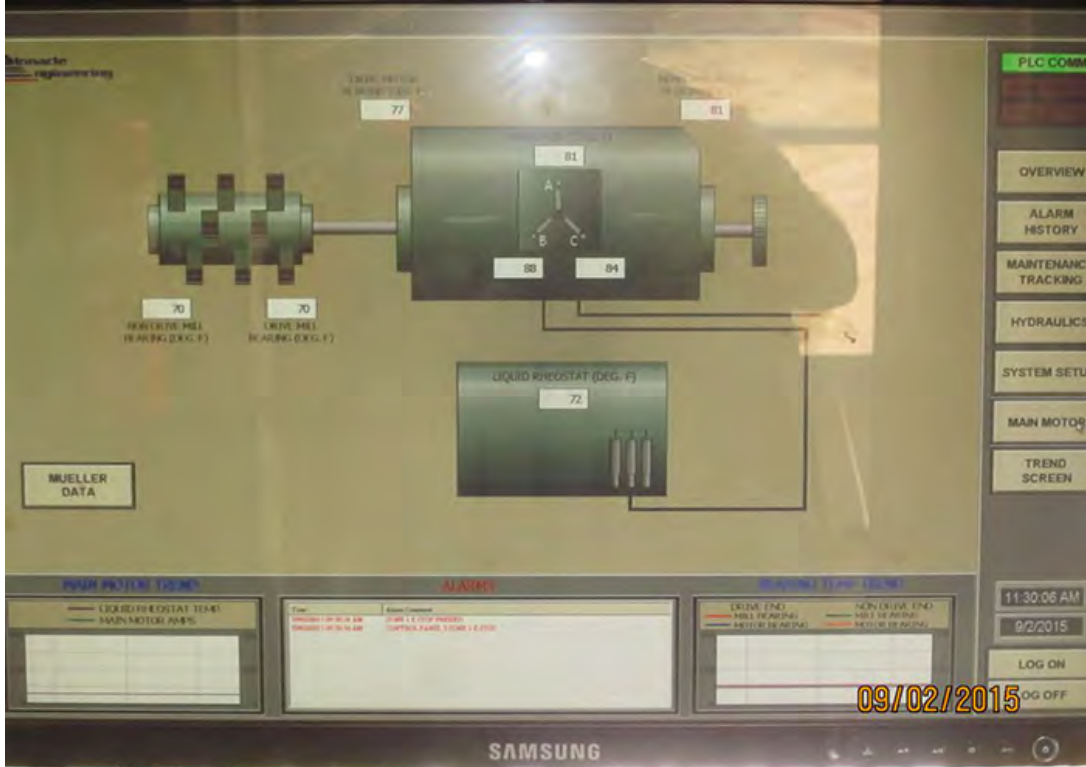
The screenshot displays a control panel interface with the following sections:

- Motor Description Tables:** Three tables listing motor details. The first table has columns for Motor Description, Run Time (Hours), and Start Year. The second and third tables have columns for Motor Description, Run Time (Hours), and Start Year.
- Status Indicators:** A section titled "MAIN MOTOR (TEMP)" with a legend for "LIQUID PREHEAT TEMP" and "MAIN MOTOR AMPS".
- Alarms:** A section titled "ALARMS" with a legend for "TEMPERATURE HIGH ALARM" and "TEMPERATURE LOW ALARM".
- Readings:** A section titled "READINGS (TEMP - TEMP)" with a legend for "ENGINE TEMP", "MILL BEARING", "MOTOR W. BEARING", "MOTOR W. BEARING", and "MOTOR W. BEARING".
- Date Stamp:** A date stamp "09/02/2015" is visible in the bottom right corner.
- Branding:** The "SAMSUNG" logo is at the bottom center of the panel.





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Operators Chair hand controls





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**Spare Parts**



**New Spider Rotor**





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**Drum Magnet skin cover**



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**Used Bearing housing**



**New Rotor bearings**



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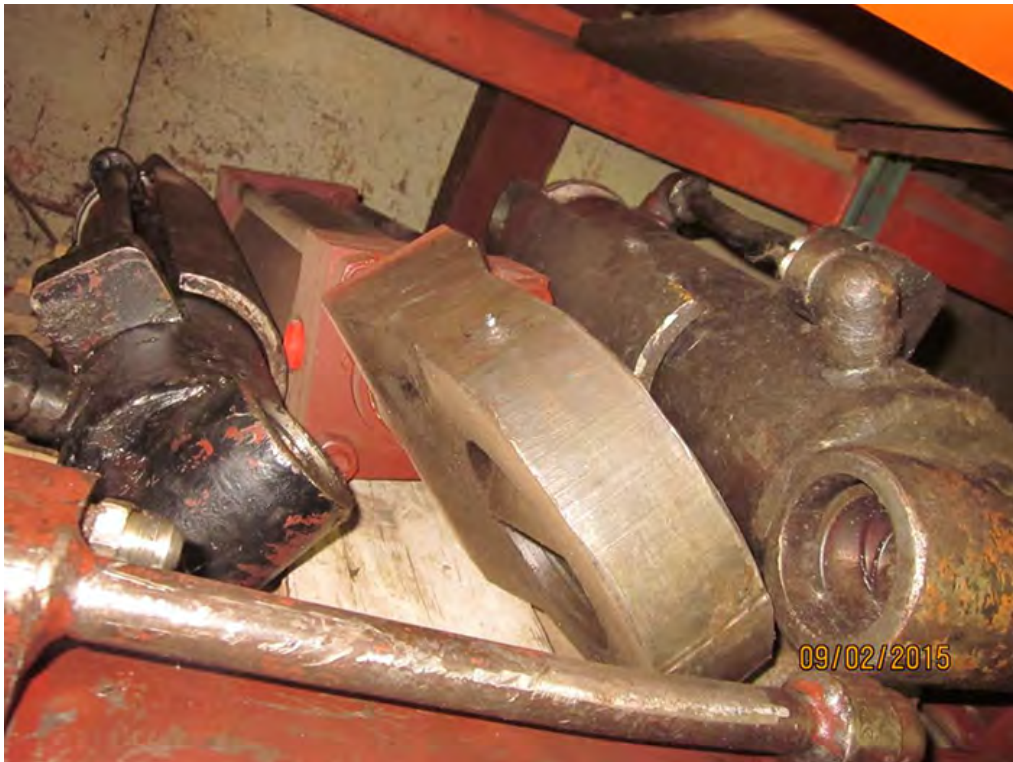
**(2) Universal drive shaft for the 2500 hp motor and (1) for the 1500 hp motor not shown**



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**Spare rebuild Mid-section tilt cylinders**



**New Reject door cylinder**



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**Spare conveyor bearings**



**Casting liner bolts**





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**Roller wheels and Links for infeed chain**



**Spare rotor shaft coupling for the 1500 hp motor drive shaft**



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**Anvil Bolts**



**Cylinder pivot yokes**



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**Pivot Pins for Mid section**



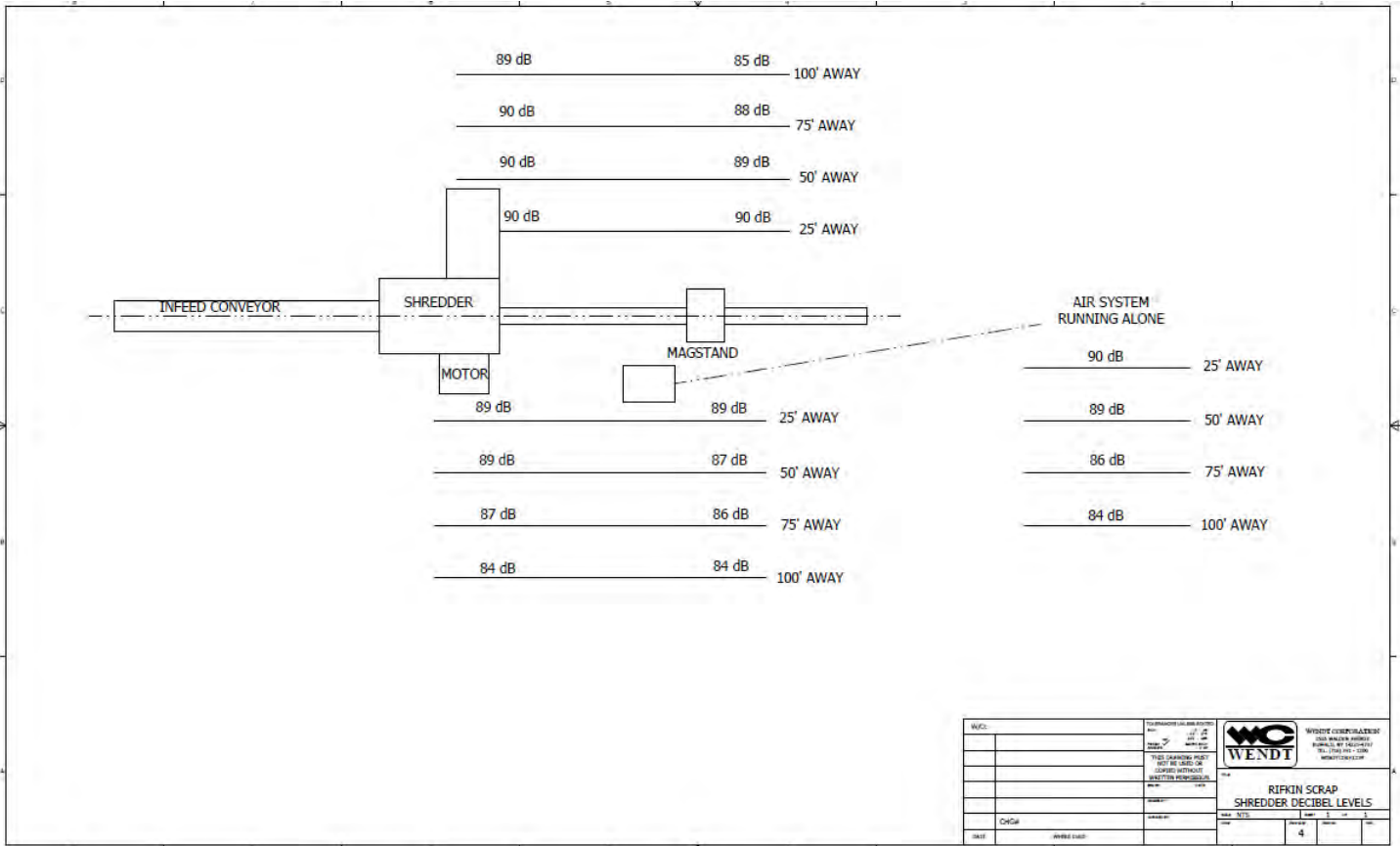
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**Bearing shim plates (replacements new)**



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RIFKIN SCRAP SHREDDER DECIBEL LEVELS		
DATE	ISSUE NO.	REV.
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## **Evaluation Summary**

Considering the shredder was installed in 2001 it is very evident after review the shredder and this report there has been good maintenance performed on this piece of equipment.

The customer has a lot of time and money invested in the proper maintenance and care of this shredder over the 14 year life span.

There are the majority of the important major spare parts that are in inventory to minimize down time.

Documentation was supplied to me for my review on the Hydraulic power units, Electrical controls and motor maintenance records on file.

There were only a few issues that would need to be taken care of.

Example the mid-section wall bent will need to be heated and pulled back into position.

Welding of the base where the rotor end disc is causing wear to the side walls.

Pulley belt replacement on the under mill feeder.

This shredder is in ready to run condition.

Customer does not have any additional castings in his inventory and should be considered for purchase.

Example: Side liners, Anvil, Solid Grates, Open Grates, Front wall, Back wall grates, Hammer pin shafts and Hammers