SWEED MACHINERY

"TURNING UNMANAGEABLE SCRAP INTO MANAGEABLE ASSETS"

OPERATIONS MANUAL SCRAP CHOPPER

MODEL 510AD / 503 FEEDWORKS AIR CYLINDER / 480V / DC DRIVE QUAD KNIFE

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MANUFACTURED:		1
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MANUAL # MA000324

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FOREWORD

THE PURPOSE OF THIS MANUAL IS TO FAMILIARIZE INDIVIDUALS WITH THE OPERATIONAL PROCEDURES OF THE SWEED 510 AD SCRAP CHOPPER.

IT IS THE MANUFACTURES SUGGESTION THAT THE PURCHASER / END USER FAMILIARIZES THEMSELVES WITH THE APPLICATIONS AND TECHNIQUES OF THIS SYSTEM PRIOR TO ANY USE OF IT.

THE SWEED SCRAP CHOPPER IS A INDUSTRIAL GRADE MACHINE. EVEN THOUGH IT HAS A WIDE RANGE OF CAPABILITIES, THE SCRAP CHOPPER SHOULD NOT BE USED FOR ANY PURPOSE FOR WHICH IT IS NOT DESIGNED. IN ORDER TO PROVIDE DEPENDABLE, SAFE SERVICE, THIS CHOPPER MUST BE OPERATED BY A TRAINED PERSONNEL WEARING EYE PROTECTION AND GLOVES.

TRAINING OF PERSONNEL MUST INCLUDE AN UNDERSTANDING OF THE USE FOR WHICH THE CHOPPER WAS MANUFACTURED.

ANY MISUSE OF THE SWEED SCRAP CHOPPER CAN BE DANGEROUS. ALL OPERATORS SHOULD BE FAMILIAR WITH THESE GENERAL OPERATING INSTRUCTIONS AND WARNINGS.

NOTE: IT IS THE OWNERS RESPONSIBILITY TO INSTALL THE SWEED SCRAP CHOPPER IN CONFORMANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND TO INSTRUCT PERSONNEL IN SAFE OPERATING PROCEDURES.

1. **GENERAL INFORMATION:** THE MODEL 510 QUAD CHOPPER IS DESIGNED TO PROCESS PLASTIC CABLE CASINGS

THE CHOPPER WEIGHS APPROXIMATELY 600 LBS. THIS UNIT WAS DESIGNED TO SIT ON A SWEED CHOPPER STAND.

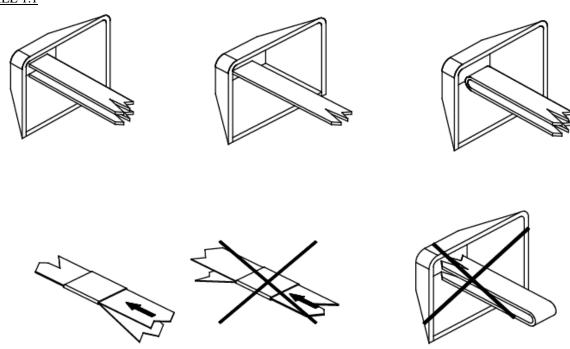
OUR UNIQUELY DESIGNED ROTARY QUAD KNIFE HOLDER AND FLYWHEEL ARRANGEMENT HAS MADE THIS UNIT A PROVEN PERFORMER WHEN USED FOR MODERATE VOLUME SCRAP CONVERSION.

- **1.2 UNPACKING THE MACHINE:** UNCRATE THE MACHINE, INSPECT THE MACHINE FOR POSSIBLE SHIPPING DAMAGE. IF ANY DAMAGE IS FOUND, PROMPTLY CONTACT THE SHIPPING COMPANY.
- 1.3 MACHINE LOCATION AND INSTALLATION: THE LOCATION OF THIS MACHINE SHOULD BE OUT OF A HIGH TRAFFIC AREA AND WHERE THE STORAGE BARRELS CAN BE LOCATED AND CHANGED EASILY. BE SURE TO SET THE MACHINE, STAND AND BARREL ON A VERY LEVEL AND SOLID AREA OF CONCRETE. THIS MACHINE IS TO BE UNDER A COVERED AREA AND AWAY FROM THE ELEMENTS.

THIS MACHINE REQUIRES A 480V, 3 PHASE, 60 HZ, 10 AMP, POWER SOURCE. MAKE SURE THE CHOPPER POWER SWITCH IS OFF. WIRE THE MACHINE TO A 440 V CIRCUIT. MAKE SURE THE ELECTRIC CONDUIT IS OUT OF THE WAY OF THE OPERATOR AND OTHER TRAFFIC. CONNECT 80 PSI OF AIR TO THE FEEDWORKS CYLINDER. THE MODEL 510AD IS NOW READY TO OPERATE (SEE SECTION 2) .

2. MACHINE OPERATION: TURN THE MACHINE ON AND ALLOW IT TO RUN UP TO SPEED. ADJUST THE DC FEEDWORKS DRIVE (SEE SECTION 2.1) INSERT THE END OF THE MATERIAL INTO THE INFEED FUNNEL, (SHOWN ILL 1.1), APPROXIMATELY FOUR INCHES TO THE FEED ROLLS, THE MACHINE WILL START TO SELF FEED.

ILL 1.1



IT IS RECOMMENDED THAT THE MACHINE NOT BE REQUIRED TO UNTANGLE, UNROLL OR EXTRACT SCRAP MATERIAL FROM PACKAGES. THE FEEDWORKS ARE DESIGNED TO FEED THE MATERIAL IN A FREE FLOW CONDITION ONLY. UNDUE WEAR OR A MATERIAL JAMB WILL OCCUR IF THESE CONDITIONS ARE NOT MET. DO NOT ALLOW THE FEED ROLLS TO "SPIN OUT" AGAINST THE MATERIAL BEING FED.

IF THE MATERIAL BECOMES CAUGHT WITHIN THE FEEDWORKS, PULL DOWN ON THE FEEDWORKS HANDLE TO OPEN THE FEEDROLLS. THE MATERIAL SHOULD FALL OUT OR BE REMOVED FROM THE FEED THROAT AND ATTEMPT TO BE RE-FED. IF MATERIAL BECOMES LOGGED WITHIN THE FEEDWORKS, DAMAGE TO THE FEED ROLLS MAY OCCUR.

SAFETY/ WARNING- ALWAYS DISCONNECT THE POWER PRIOR TO REMOVING ANY MATERIAL THAT IS LOGGED WITHIN THE FEEDWORKS.

2.1 THE DC DRIVE- TURN THE SELECTOR SWITCH TO EITHER MANUAL OR AUTOMATIC. MANUAL- ALLOWS THE FEEDWORKS SPEED TO BE CONTROLLED BY THE DC POT CONTROL. THE AUTOMATIC SETTING ALLOWS A VARIABLE SPEED INFEED. THE DC MOTOR WILL SCALE THE INCOMING SIGNAL AND SET THE PROPER INFEED SPEED.

- 3. MAINTENANCE: IMPORTANT ALL MAINTENANCE DONE TO THIS MACHINE MUST BE DONE WHILE THE POWER IS DISCONNECTED.
 - **3.1 KNIFE ROTATION AND REPLACEMENT:** THE MACHINE KNIVES HAVE FOUR KNIFE EDGES AND ARE ROTATED WHEN ONE EDGE BECOMES DULL.

ROTARY KNIFE REMOVAL: REMOVE THE SPRING (ITEM # 24), NEXT REMOVE THE FEEDWORKS GUARD AND COVER PLATE (ITEMS # 30, 51). ROTATE THE FLYWHEEL (ITEM # 3) BY HAND TO THE POINT THAT THE ROTATING KNIFE CAN EASILY BE ACCESSED THROUGH THE TOP OF THE CHOPPER HOUSING.

STATIONARY KNIFE REMOVAL: REMOVE THE SOCKET HEAD CAP
SCREWS THAT HOLD THE KNIFE IN PLACE. BE SURE THAT THE
ROTARY
KNIFE HAS BEEN CLEARED OUT OF THE WAY PRIOR TO
REMOVING THE
KNIFE. ROTATE THE KNIFE TO A GOOD EDGE,
REINSTALL THE BOLTS AND
KNIFE GAP, IT SHOULD BE
BETWEEN .002 AND .005"

WHEN ROTATING THE KNIVES, REMOVE ANY BURRS FROM THE OLD KNIFE EDGE SO THAT IT WILL SIT FLUSH INTO THE KNIFE HOLDER. BE SURE TO BLOW OFF THE KNIFE POCKETS AND WIPE THEM CLEAN. WIPE DOWN THE KNIVES WITH A SUITABLE SOLVENT. WITH THE NEW KNIFE EDGES IN PLACE, SNUG DOWN THE BOLTS, HIT THE KNIVES WITH A HAMMER TO MAKE SURE THE KNIFE IS SEATED PROPERLY.

BRASS

DRAW THE KNIFE BOLTS DOWN EVENLY ONE MORE TIME, TORQUE EACH BOLT DOWN TO 62 FT/ LBS. ONCE EACH KNIFE HAS BEEN TIGHTENED, ROTATE THE FLYWHEEL, CHECK THE GAP BETWEEN THE ROTARY AND STATIONARY KNIFE. THE SPACE SHOULD BE A MINIMUM OF .002" AND A MAXIMUM OF .005". IF IT BECOMES NECESSARY TO ADJUST THE GAP, CHECK THE GAP BETWEEN THE STATIONARY KNIFE AND THE ROTARY KNIFE. WHEN THE GAP IS TO THE EXTREME, SEE SECTION 3.1.1.

- 3.1.1 ROTARY KNIFE AND BEARING PRE LOAD: WHEN NORMAL WEAR HAS CHANGED THE CONSISTENCY OF THE KNIFE GAP OR THE FLYWHEEL SHAFT HAS END PLAY. IT IS TIME TO ADJUST AND RESTORE THE BEARING PRELOAD. WARNING/ SAFETY- DISCONNECT ALL THE POWER SOURCES TO THIS MACHINE PRIOR TO DOING ANY MAINTENANCE TO THIS MACHINE.
 - 1. FIRST INSTALL ALL NEW KNIVES INTO THE MACHINE, WHEN THE KNIFE CLEARANCE IS IN EXCESS OF .005" SHIMMING IS REQUIRED. REMOVE THE FLYWHEEL OUTER GUARD (ITEM #1), AND THE DRIVE BELTS (ITEM #5). CHECK THE EXISTING GAP IN THE KNIVES AND MAKE NOTE OF IT.
 - 2. LOOSEN THE BOLTS IN THE SPLIT TAPER BUSHING (ITEM#2)LOCATED IN THE FLYWHEEL (ITEM #3). REMOVE THE FLYWHEEL AND THE BUSHING FROM THE MAIN SHAFT. MODERATE HEAT MAY BE REQUIRED ON THE FLYWHEEL HUB TO REMOVE THE ASSEMBLY.

- 3. TURN THE MAIN SHAFT (ITEM #14) UNTIL THE ROTATING KNIFE HOLDER (ITEM #16) IS POINTING DOWNWARD. LOOSEN THE FEEDWORKS SIDE BEARING CAP (ITEM #22) LOCATED ON THE FRONT OF THE MACHINE.
- 4. REMOVE THE FLYWHEEL SIDE BEARING CAP (ITEM# 7), REMOVE THE SHIMS (ITEM # 8) EQUAL TO THE EXCESSIVE GAP IN THE KNIFE SPACING THAT WAS NOTED EARLIER. REINSTALL THE FLYWHEEL SIDE BEARING CAP AND TORQUE THE BOLTS TO 40 FT/LBS.
- 5. ROTATE THE ROTARY KNIFE HOLDER BACKWARDS (REF. CLOCKWISE) PAST THE STATIONARY KNIFE. THERE SHOULD BE A DRAG OF 50 FT/LBS OF TORQUE ON THE SHAFT AS THE KNIVES PASS. IF THERE IS NOT, CHECK THE GAP IN THE KNIVES. REMOVE THE FLYWHEEL BEARING CAP ONCE AGAIN, AND REMOVE THE REQUIRED AMOUNT OF SHIMS THAT WAS CHECKED. REASSEMBLE AS NOTED EARLIER. REPEAT THESE STEPS UNTIL THE DESIRED GAP IS OBTAINED. BE SURE THAT THE FLYWHEEL SIDE BEARING CAP BOLTS ARE TORQUE DOWN EACH TIME THROUGH.
- 6. TURN THE FLYWHEEL SHAFT UNTIL THE ROTARY KNIFE HOLDER POINTING DOWN. ADD UP THE TOTAL THICKNESS AMOUNT OF THE SHIMS THAT WHERE REMOVED FROM THE FLYWHEEL SIDE BEARING CAP. ADD THAT SAME AMOUNT OF THICKNESS OF SHIMS UNDER THE FRONT BEARING CAP. RE TORQUE THE BEARING CAP BOLTS, ROTATE THE ROTARY KNIFE HOLDER IN REVERSE AND CHECK THE KNIFE HOLDER, IT SHOULD ROTATE FREELY.
- 7. CHECK THE KNIFE GAP IT NOW SHOULD BE BETWEEN .002 AND .005". IF THE CLEARANCE IS IN AN EXCESS OF .005" ADD MORE SHIMS UNDER THE FRONT BEARING CAP UNTIL THE CORRECT GAP IS OBTAINED. THIS PROCEDURE WILL NOW ASSURE PROPER KNIFE CLEARANCE AND PROPER BEARING PRELOAD.
- 8. REINSTALL THE FLYWHEEL AND THE TAPER LOCK BUSHINGS AND LOCK THEM IN PLACE. RETENTION THE DRIVE BELTS, THE MACHINE IS NOW READY TO USE.

IF THE DESIRED GAP CAN NOT BE COMPLETED AS NOTED ABOVE, BE SURE TO CONTACT SWEED MACHINERY FOR FURTHER INSTRUCTIONS.

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3.2 LUBRICATION: THE MAIN BEARINGS SHOULD BE GREASED WITH NO. 2
NLGL OR A MULTI- PURPOSE BALL BEARING GREASE. GREASE SHOULD BE
APPLIED TO THIS MACHINE ONCE A WEEK OR AS NEEDED.

THE GREASE MUST BE ADDED SLOWLY TO THE FLYWHEEL BEARINGS TO PREVENT BLOWING THE SEALS, WHICH WOULD ALLOW THE GREASE TO ESCAPE.

LUBE THE GREASE ZERKS IN THE FEEDWORKS EVERY 1,000 HOURS OF

USE.

3.3 GUARD REMOVAL-OUTER FLYWHEEL GUARD: REMOVE THE FIVE SCREWS LOCATED ON THE TOP AND AROUND THE GUARD. REVERSE THE PROCEDURE TO REINSTALL.

FLYWHEEL INNER GUARD: REMOVE THE EYE BOLT LOCATED ON THE TOP OF THE HOUSING. LOOSEN THE TWO BOLTS HOLDING THE GUARD TO THE LOWER HOUSING, SLIDE THE GUARD OFF. REVERSE THE PROCEDURE TO REINSTALL.

FEEDWORKS GUARD: REMOVE THE TWO BOLTS IN THE LOWER PART OF THE GUARD AND SLIDE FORWARD TO REMOVE.

4.0 TROUBLE SHOOTING- UNPLUG THE MACHINE BEFORE CHECKING FOR ANY PROBLEMS.

PROBLEM	CAUSE	SOLUTION
ROUGH AND STRINGY CUTS:	1. DULL STATIONARY KNIFE	ROTATE STATIONARY KNIFE, SEE 3.1
	2. DULL ROTATING KNIFE	ROTATE ROTATING KNIFE, SEE 3.1
	3. CLEARANCE PROBLEMS	CHECK KNIFE CLEARANCE, SEE 3.1
	4. WORN BEARINGS	CONTACT SWEED FOR INFORMATION
MATERIAL FEED STOPPED	1. BROKEN OR WORN DRIVE CHAIN	REPLACE OR RETENTION DRIVE CHAIN
	2. MATERIAL PLUGGING INFEED TUBE BEHIND INFEED ROLLS	CLEAR MATERIAL FROM TUBE
	3. JAMMED FEED ROLLS	CLEAR MATERIAL TO THE FEED ROLLS
MATERIAL FEED STOPPED	4. WORN FEED ROLLS	REPLACE FEED ROLLS
	5. REDUCED FEED ROLL SPRING TENSION	REPLACE EXTENSION SPRING
	6. WARN SPUR GEARS	REPLACE SPUR GEARS
CHOPPER WONT START OR STOPS RUNNING	1. MATERIAL FEED JAMMED	SEE MAT'L FEED STOPPED SECTION NOTED ABOVE
	2. MOTOR PROTECTION TRIPPED	PUSH MOTOR RESET
	3. BROKEN DRIVE BELT	REPLACE BELT
	4. FAILED ELECTRICAL SERVICE	CHECK FOR CIRCUIT POWER
	5. SWITCH FAILURE	REPLACE SWITCH

510 AD CHOPPER REPLACEMENT PARTS LIST USE WITH DRAWING # PB0000428

ITEM NO.	DESCRIPTION	QTY	PART NO.
1	FLYWHEEL OUTER GUARD	1	D 4 000525
1 2	BROWNING QD BUSHING	1	BA000535 BN000538
3	FLYWHEEL	1	BB000502
4	3.5" OD DUAL GROOVE SHEAVE	1	BN001285
5	"A" SIZE V-BELT # 4L-660	1	BN000539
6	FLYWHEEL INNER GUARD	1	BA000534
7	FLYWHEEL SIDE BEARING CAP	1	BB000280
8	BEARING SHIMS (SET OF 10)	1	BB000115
9	OUTER GREASE SEAL CR#19360	1	BN000110
10	TAPERED ROLLER BEARING 387A & 383A	1	BN000110 BN000282
11	GREASE SEAL CAPTURE RING	1	CB000251
12	INNER GREASE SEAL CR #23240	1	BN000281
13	UPPER HOUSING	1	BD001093
14	LOWER HOUSING	1	BD001033 BD000532
15	FLYWHEEL SHAFT	1	BB000250
16	ROTATING QUAD KNIFE HOLDER	1	CB000925
17	STATIONARY KNIFE	1	CB000925 CB001855
18	ROTATING KNIFE	4	CB001854
19	SPACER RING	1	CB000252
20	FEEDWORKS SIDE GREASE SEAL CR#20078	_	BN000109
21	TAPERED ROLLER BEARING 332 & 342S	1	BN000283
22	FEEDWORKS SIDE BEARING CAP	1	BB000070
23	BEVELED SIDE PLATES	2	CB000111
24	2 HP 1725 56C TEFC MOTOR, 145T FRM	1	BX011545
25	COVER PLATE	•	1 CA001407
26	BASE PLATE	1	CA001225
27	FEEDWORKS GUARD MODIFIED	1	BB000347
28	3/4 HP 1750 RPM 56C 180V SCR MOTOR	1	BX001226
29	24T 8MM X 20MM HTD SPRT W 5/8"BSHG	1	BN001286
30	64T 8MM X 20MM HTD SPRT W 3/4"BSHG	1	BN001287
31	8MM X 20 MM WIDE X 640MM LONG BELT	1	BN001288
32	WEAR PLATE	1	CB001504
33	FEEDWKS UPPR FEED ROLL CROSS BAR	1	CB001007
34	FDWKS UPR ROLL BEARING PIN	2	CB001047
36	FEEDWORKS AIR CYLINDER	1	BN000694
39	FEEDWORKS FRAME ASSY	1	AB021101
40	FEEDWORKS BEVELED ANGLE	1	CB001013
42	12T RC40B SPROCKET 1" BORE	2	BN000541
43	FDWKS LOWER FEED ROLL SHAFT	1	CB001507

510 AD CHOPPER

REPLACEMENT PARTS LIST CON'T.

ITEM	DESCRIPTION	QTY	PART NO.
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44	2 HOLE FLANGE BEARING	2	BN001024
45	FEEDWORKS FEED ROLL	2	CB001311
46	FEEDWORKS FDRL BRG SLIDE	2	CB001012
47	FEEDWORKS INFEED FUNNEL	1	CB001508
48	TAKE UP BEARING	2	BN001025
49	FEEDWORKS UPPR FEED ROLL SHAFT	1	CB001009
52	MAG STARTER SWITCH	1	BN001104
53	1/8 NPT FILTER & AIR VALVE ASSY	1	BN001105

SUGGESTED SPARE PARTS LIST USE WITH PARTS DRAWING # PB000428

ITEM NO	DESCRIPTION	OTY	PART NO
5	TYPE "A" V-BELT #4L-660	1	BN000539
17	STATIONARY KNIFE	1	CB001855
18	ROTATING KNIFE	4	CB001854
40	FEEDWORKS ANGLE	1	CB001013
45	FEED ROLL	2	CB001311

6. WARRANTY

SWEED MACHINERY'S 510AD CHOPPER IS WARRANTED AGAINST DEFECTS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF SHIPMENT. PARTS CLAIMED TO BE DEFECTIVE MUST BE RETURNED, FREIGHT PREPAID, TO OUR PLANT IN GOLD HILL, OREGON. ANY PARTS DETERMINED DEFECTIVE DUE TO FAULTY WORKMANSHIP OR MATERIALS WILL BE REPLACED OR REPAIRED (AT OUR OPTION) FREE OF CHARGE, F.O.B. OUR PLANT. EXCEPT AS EXPRESSLY PROVIDED HEREIN, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF MERCHANT ABILITY OF FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY IS VOID IF THE UNIT HAS BEEN TAMPERED WITH, MODIFIED, ALTERED, OR OPERATED WITH PARTS OTHER THAN SUPPLIED OR RECOMMENDED BY SWEED MACHINERY, INC. IN NO EVENT SHALL SWEED MACHINERY, INC. BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, HOWEVER ARISING.

SWEED MACHINERY, INC DOES NOT WARRANTY THIS MACHINE TO MEET THE REQUIREMENTS OF ANY SAFETY CODES OF ANY STATE, MUNICIPALITY, OR OTHER JURISDICTION, AND THE PURCHASER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE THEREOF WHETHER USED SINGULARLY OR IN COMBINATION WITH OTHER MACHINERY OR APPARATUS.

ANY CHANGE IN MATERIALS, DESIGN, OR PERFORMANCE INTENDED TO IMPROVE ANY PRODUCT OF SWEED MACHINERY, INC. SHALL NOT OBLIGATE SWEED MACHINERY, INC. TO MODIFY ANY PREVIOUSLY MANUFACTURED EQUIPMENT.

SWEED MACHINERY INC.

NOTE: ALL RETURNED MATERIAL MUST BE ACCOMPANIED BY A SWEED RETURN AUTHORIZATION NUMBER. PLEASE CONTACT OUR CUSTOMER SERVICE DEPARTMENT AT 1-800-888-1352 FOR FURTHER DETAILS.

