

Wardcraft Conveyor

Service Manual

- Beltless Magnetic Conveyor

Model

S/N



Wardcraft Conveyors
One Wardcraft drive
Spring Arbor Mi. 49283
Phone 1-800-272-2779
www.wardcraftconveyor.com

**WARDCRAFT CONVEYOR
DIVISION OF MCLAUGHLIN, WARD & COMPANY**

WARRANTY

WARDCRAFT CONVEYOR warrants that this unit is free from defects in material and workmanship and fit for the ordinary purposes for which such goods are used, under normal installation, use and service, for twelve (12) months from the date of purchase.

WARDCRAFT CONVEYOR will replace any defective part within the warranty period, without charge, provided:

- (1) The Purchaser gives **WARDCRAFT CONVEYOR** prompt written notice of the defect, including the date of purchase;
- (2) The Purchaser pays for delivery of the defective part to **WARDCRAFT CONVEYOR** at One Wardcraft Drive, P.O. Box 460, Spring Arbor, MI 49283-0460 for inspection and verification of the defect; and
- (3) The Purchaser shall pay all shipping and insurance charges for the replacement part from Spring Arbor, Michigan, and the cost of installing the replacement part.

This warranty is limited to the replacement of defective parts. **WARDCRAFT CONVEYOR WILL NOT BE LIABLE FOR ANY DAMAGES CAUSED BY ANY DEFECT IN THIS UNIT.** Replacement of a part under warranty does not extend the warranty term.

This warranty shall not apply if any failure of this unit or its parts is caused by unreasonable use, improper maintenance or repairs, incorrect adjustments, exposure to corrosive or abrasive material, moisture causing damage, or any modification or alteration affecting the operation of the unit which is not authorized by **WARDCRAFT CONVEYOR** in writing. The Wardcraft Chip Conveyor Warranty shall not be inapplicable due to operation in moisture.

This warranty shall not apply to the following items which are covered by their manufacturer's warranty, subject to any limitations contained in those warranties:

- (A) Bearings, Caster Wheels
- (B) Motors and reducers

Any description of this unit is only to identify it, and is not a warranty that the unit fits the description. No one can make any warranties for **WARDCRAFT CONVEYOR**. Any warranties implied by law are limited in duration to the twelve month term of this warranty.

EXCEPT AS SET FORTH HEREIN, WARDCRAFT CONVEYOR MAKES NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING MERCHANTABILITY FOR FITNESS OR ANY PARTICULAR PURPOSE.

**LOST OR DAMAGED GOODS
PLEASE READ THESE IMPORTANT INSTRUCTIONS**

THE ATTACHED BILL OF LADING IS AN ACKNOWLEDGMENT BY THE TRANSPORTATION COMPANY OF RECEIPT IN GOOD CONDITION OF THE SHIPMENT COVERED BY OUR INVOICE BEARING OUR ORDER NUMBER CORRESPONDING TO SHIPPERS NUMBER ON THIS B/L. THESE GOODS HAVE BEEN SHIPPED F.O.B. SPRING ARBOR, MICHIGAN.

OUR RESPONSIBILITY FOR THIS SHIPMENT HAS NOW CEASED.

IF ANY OF THE GOODS CALLED FOR ON THIS BILL OF LADING ARE SHORT OR DAMAGED, DO NOT ACCEPT THEM UNTIL THE FREIGHT AGENT MAKES A DAMAGED NOTATION ON YOUR FREIGHT BILL OR EXPRESS RECEIPT.

YOU SHOULD THOROUGHLY INSPECT THIS SHIPMENT AS SOON AS RECEIVED.

IF ANY CONCEALED LOSS OR DAMAGE IS DISCOVERED, NOTIFY YOUR LOCAL FREIGHT OR EXPRESS AGENT AT ONCE AND REQUEST HIM TO MAKE AN INSPECTION. THIS IS ABSOLUTELY NECESSARY. UNLESS YOU DO THIS THE TRANSPORTATION COMPANIES WILL NOT ENTERTAIN ANY CLAIM FOR LOSS OR DAMAGE. IF THE AGENT WILL NOT MAKE AN INSPECTION, THEN YOU SHOULD MAKE AN AFFIDAVIT THAT YOU NOTIFIED HIM (ON A CERTAIN DATE) AND HE FAILED TO DO SO. THIS WITH OTHER PAPERS, WILL PROPERLY SUPPORT YOUR CLAIM. DO NOT ORDER THE TRANSPORTATION COMPANY TO RETURN TO OUR FACTORY ANY SHIPMENT UNTIL OUR COMPANY HAS AUTHORIZED SUCH RETURN.

INSTRUCT YOUR RECEIVING DEPARTMENT PERSONNEL AS FOLLOWS:

1. INSPECT THE EXTERIOR OF EACH CARTON BEFORE SIGNING CARRIER'S FREIGHT BILL.
2. UNPACK IN DRIVER'S PRESENCE ANY CARTON SHOWING EXTERIOR SIGNS OF DAMAGE AND NOTE SUCH DAMAGE ON ALL COPIES OF FREIGHT BILL.
3. CARTONS FOR WHICH CLEAR DELIVERY RECEIPT IS SIGNED MUST BE UNPACKED IN TIME TO GIVE CARRIERS NOTICE OF CONCEALED DAMAGE IN FORM OF A REQUEST FOR INSPECTION WITHIN 15 DAYS FROM DATE OF DELIVERY BY MOTOR CARRIER, 30 DAYS WHEN DELIVERED BY RAIL. WHERE CARTONS SHOW NO EXTERIOR SIGNS OF DAMAGE, CONSIGNEES DO NOT HAVE RIGHT TO OPEN CARTONS BEFORE SIGNING CARRIER'S FREIGHT BILL.
4. AFTER REQUEST FOR INSPECTION OF CONCEALED DAMAGE IS MADE, HOLD MERCHANDISE WITH ALL CONTAINERS AND PACKING, IF ANY, FOR CARRIERS INSPECTION.
5. CLAIM FOR LOSS OR DAMAGE MUST BE FILED WITHIN NINE MONTHS FROM DATE OF DELIVERY.

WE ARE WILLING TO ASSIST YOU IN EVERY POSSIBLE MANNER IN COLLECTING CLAIMS FOR LOSS OR DAMAGE, BUT THIS WILLINGNESS ON OUR PART DOES NOT MAKE US RESPONSIBLE FOR COLLECTION OR REPLACEMENT OF THE MATERIAL.

WE WILL SHIP AND BILL TO YOU REPLACEMENT FOR PARTS LOST OR DAMAGED IN TRANSIT. THE COST OF SUCH REPLACEMENT PARTS WILL BE THE AMOUNT OF YOUR CLAIM.

TELEPHONE (800) 782-2779 FAX (517) 750-2244

INDEX

Part I	INSTALLATION	Page
	Para I Receipt of Equipment	
	Subpart A. Inspection	7
	Subpart B. Uncrating	7
	Subpart C. Transportation Equipment	7
	Annex I Basic Illustration of Conveyor	14
	Para II Placement of Equipment	
	Subpart A. Frame Alignment	7
	Subpart B. Anchoring of Equipment	7
	Subpart C. Additional Baffling, Chuting, Hoppers, Gondolas, Etc.	8
	Subpart D. Electrical Hook-Up	8
	Para III Final Inspection	
	Subpart A. Lubrication	8
	Subpart B. Final Checklist	8
Part II	OPERATION	
	Para I Charging Conveyors	
	Subpart A. Volume of material to be handled	9
	Subpart B. Orientation of material to be handled	9
	Subpart C. Changing production rate	9
	Subpart D. Changing material to be handled	9
	Para II Conveying Material	
	Subpart A. Handling small dry parts or chips	9
	Subpart B. Handling small wet parts or chips	9
	Subpart C. Handling large dry parts or scrap	9
	Subpart D. Handling large wet parts or scrap	10
	Subpart E. Trouble Shooting	10
	Para III Drive	
	Subpart A. Vari speed drive	11
	Subpart B. Air motor drive	11
	Subpart C. DC Motor	11
Part III	MAINTENANCE	
	Para I Lubrication	
	Subpart A. Lubrication of Conveyor	12
	Subpart B. Lubrication of Gearbox	12
	Subpart C. Lubrication of Drive Chain	12
	Annex I Lubrication Chart	15

INDEX

	Para II	Conveyor Take Up	
		Subpart A. Proper Chain Tension	9
		Annex I & II Illustration of Take-Up	6-17
Part IV		SPARE PART LIST	
	Para I	Conveyor Components	
		Subpart A. Ordering Spare Parts	10
		Annex I Components Chart	18
Part V		STORAGE INSTRUCTION	10
		NOTES SHEET	11

Part I INSTALLATION

Your conveyor has been "run-in" at the factory and should be ready to operate once you receive your equipment, however the following procedures should be followed in order to insure a proper installation.

Para I Receipt of Equipment

Subpart A: Inspection

Your equipment has been carefully inspected before leaving the factory, however you should inspect the equipment to insure that no damage has been incurred during shipment or unloading. Look for physical damage to the conveyor sides, bottom, slider bed, drive components, chain guard, supports, etc. (Refer to annex I, Para I, Part I.) It is important to note that damage to the external portion of the conveyor could hamper proper operation or cause a jam within the conveyor.

Subpart B: Uncrating

Your equipment has been carefully crated and banded before leaving the factory. You should carefully remove all banding. In some instances the equipment has been bolted to the skid or supporting members. Special care should be taken in removal of these bolts as a tapped block on the conveyor could also be used for securing conveyor supports or other equipment.

Subpart C: Transporting

Care should be taken in transporting your conveyor from the Receiving Dock to the installation sight. Do not drop the conveyor or hit obstructions. In most instances the conveyor will be too heavy for manual handling. Take special care in locating lift truck forks, chain, etc. When lifting you should attempt to balance the conveyor on the transporting object. Some conveyor are provided with lifting eyes or fork lift pockets. If you conveyor is equipped with either of these options they should be used in lieu of lifting the body channel. Insure that all chains, ropes, etc. are properly secured, and that lift truck forks are "Bottomed Out" in fork lift pockets.

Para II Placement of Equipment

Subpart A: Frame Alignment

Insure that the conveyor frame is straight and aligned. A twisted conveyor body can cause excessive wear to the conveyor chain, sprockets, magnet assemblies, conveyor tracking, excessive load on drive components, or jam the conveyor entirely. Placing a straight edge along the conveyor on either side will indicate misalignment. Shim the leg support if necessary to align the conveyor body.

Subpart B: Anchoring of Equipment

Once the conveyor has been set in place and checked for misalignment you may wish to anchor the conveyor. If your conveyor requires, anchor bolt holes will be provided in the foot pads of the leg supports specifically intended for this purpose. Insure that the conveyor is well secured so that it will not be dislodged

lodged during normal operation.

Subpart C: Additional Baffling, Chuting, Hoppers, Gondolas, Etc.

In order to direct or divert the flow of conveyed material onto or off of your conveyor you may wish to add baffling, etc. which is not provided with the conveyor. Keep in mind that any ferrous material located within the field of the magnets will be affected by the field and will act as a magnet itself, therefore affecting the ability of the equipment to convey. Any baffling, etc. that needs to be added to the conveyor should be constructed from non-ferrous materials. (300 series stainless steel, aluminum, etc.)

Subpart D: Electrical Hook-Up

All electrical work should be made by an experienced electrician and be made in accordance with local, state and federal building and electrical codes and laws. The motor specification plate should be checked to insure that the proper line voltage, wire size and overload protection is provided. If a control box is provided with you conveyor and electrical schematic will be provided as a part of this manual.

Para III Final Inspection

Subpart A: Lubrication

Your conveyor is provided with an oil fill pipe and an oil drain pipe with sight level gage (some conveyor models are not provided with a sight level gage), see annex I, Para I, Part III. Your conveyor has been shipped without oil. Fill the conveyor with SAE #10W or #20W lubricating oil to the top of the sight level gage.

(Some conveyor models fill within 1" from the top of the fill tube.) This oil should last the life of the conveyor and does not need to be changed periodically. Refer to maintenance (Part III) for periodic inspection of oil level.

Subpart B: Final Checklist

Keep in Mind that negligent workmanship during installation will not be covered under the warranty. The following checklist should be completed for a final inspection of the conveyor installation.

- () All nuts, bolts, etc. are tightened.
- () All electrical connections are properly secured.
- () All electrical connections are covered.
- () All conduit box covers are secured.
- () Exhaust muffler is cleared of debris and obstruction (Air motor only).
- () Slider bed is cleared of debris and obstruction.
- () Conveyor is properly aligned.
- () Conveyor has been filled with oil.

Part II OPERATION

Para I Charging Conveyor

Subpart A: Volume of Material to be Handled

DO NOT CHARGE THE CONVEYOR WHEN NOT RUNNING.

Damage to the slider bed and internal components of the conveyor can result if material is charged onto the conveyor when it is not running. Your conveyor has been sized and designed to perform a specific duty. Insure that the volume of material handled corresponds with that which the conveyor is sized for.

Subpart B: Orientation of Material Handled

Your conveyor may have been designed to handle a pre-orientated part. If this applies to your application, insure that the part be properly orientated. Check with you respective project engineer. The conveyor may not handle the part properly if orientation is incorrect.

Subpart C: Changing Production Rate

Your conveyor has been sized for a specific production rate. If your production rate must be increased or decreased consult your WARDCRAFT area representative or the factory. In many cases the conveyor will be able to handle a change in production without modification or with a slight change in components.

Subpart D: Change in Material to be Handled

Your conveyor has been sized to handle a specific material. If you need to change the application or size and type of material to be conveyed consult your WARDCRAFT representative or the factory. In many cases the application can be changed without modification or with a slight change in components.

Para II Conveying Material

Subpart A: Handling Small Dry Parts or Chips

This type of material will handle very well. Insure that uniform charging of the conveyor is kept.

Subpart B: Handling Small Wet Parts or Chips

This type of material will handle very well. Insure that uniform charging of conveyor is kept. It may be necessary to clean the slider bed surface if certain types of coolant are allowed to dry on this surface.

Subpart C: Handling Large Dry Parts or Scrap

This type of material will handle very well. Insure that uniform charging of conveyor is kept. A greater amount of parts loaded on the conveyor than that which the conveyor was originally designed for may short across two or more magnets and may not convey. Do not drop parts a great distance directly onto the slider bed as damage could occur. A good rule of thumb is if you were to drop the part the same distance onto your foot as you would the conveyor, if it would damage your foot it may damage the conveyor. Keep in mind that this is only an imaginative rule of thumb. Do not under any circumstances attempt to physically apply this guideline.

Subpart D: Handling Large Wet Parts or Scrap

The same guidelines apply to this part as in Subpart C., with the exception that stamping oil or other coolant may leave a residue on the slider bed surface after several hours of running time, thus hindering efficient handling of material. Periodically cleaning the slider bed will help to avoid this condition.

Subpart E: Trouble Shooting

Condition: Material Fails to Convey; Conveyor Not Running

<u>Possible Cause</u>	<u>Solution</u>
Conveyor switch is off. Motor is not running.	Turn on conveyor switch. Check all electrical connections, heaters, fuses, etc.
Motor is running, but conveyor is not.	Check torque limiter for slippage.
Motor is running, torque limiter is not slipping and not running.	Check for loose set screws, missing keys on all sheaves, pulleys coupling, etc. check gearbox for possible damage.
Motor is running. Torque limiter is slipping.	Possible jam in conveyor. Consult maintenance and WARDCRAFT area representative or factory.

Condition: Material Fails to Convey; Conveyor is Running

<u>Possible Cause</u>	<u>Solution</u>
Obstruction of slider bed.	Clear obstruction.
Excessive load on conveyor. (Magnets are shorting out.)	Break up load.
Residue from cutting oil or coolant has coated the slider bed.	Clean slider with wet cloth, sponge, etc. Solvent may be used.
Impact plate has bowed up (not provided on all conveyors).	Replace impact plate.
Slider bed has bowed up.	Consult your area WARDCRAFT representative or the factory.

Para III Drive

Subpart A: Vari-Speed Drive

If your conveyor is equipped with a variable speed drive set up, speed is changed by means of crank handle on the motor base. Turning the handle clockwise will move the motor away from the gearbox, thus decreasing conveyor speed. Turning the handle counter clockwise will move the motor toward the gearbox, thus increasing the conveyor speed. The vari-speed unit should be run through the entire speed range at least once every eight (8) hours of running to avoid seizing up of the vari-pitch pulley.

Subpart B: Air Motor Drive

If your conveyor is equipped with an air motor drive the conveyor speed has been pre-set at the factory by means of a speed control valve mounted to the exhaust manifold of the air motor. The conveyor speed can be changed by loosening the lock nut on the speed control valve and resetting the needle valve. When the final setting has been determined, insure that the lock nut is tightened. Under no circumstances should the conveyor speed exceed eighty (80) FPM. Input air (80 PSI Min.) should be filtered and oiled.

Subpart C: DC Motors

If your conveyor is equipped with a DC motor conveyor speed changes can be made by turning the speed control knob on the control box. Consult the control manufacturers operating manual for proper start, stop and change procedures.

Para I Lubrication**Subpart A: Lubrication of Conveyor**

Your conveyor has two points of lubrication: The conveyor internal oil and the head shaft bearings. Refer to Subpart A, Para III, Part I for proper filling procedure.

The conveyor oil level should be checked every six (6) weeks. Also inspect for any oil leaks. The head shaft bearings should be lubricated every six (6) weeks with medium weight bearing grease. Refer to annex I, Part III for lubrication point location.

Subpart B: Lubrication of Gearbox

Your conveyor gearbox should be checked for proper oil level every six (6) weeks.

Consult the appropriate manufacturers' manual for proper oil and oil level. Refer to annex I, Part III for lubrication point location.

Subpart C: Lubrication of Drive Chain

Your conveyor drive chain should be lubricated every six (6) weeks. Wipe the drive chain with a clean dry cloth and "work in" a medium weight, non-fibrous axle grease. Refer to annex I, Part III for lubrication point location. Care must be taken not to coat the clutch plate surfaces of the torque limiter with any lubricant as damage may occur and render the torque limiter inoperative.

Para II Conveyor Take-Up**Subpart A: Proper Chain Tension**

Your conveyor is equipped with a spring loaded take up mechanism. The factory setting should last the life of the conveyor and should not have to be tampered with. The internal conveyor chain is pre-stressed and stretch of the chain throughout the life of the conveyor should be minimal. However, if your conveyor requires additional tension the following procedures should be followed.

1. Carefully remove the spring cover. Remember that your conveyor is equipped with high tension die springs. Any careless handling could knock the spring out of the seat and cause a projectile effect which could be hazardous to any personnel in the area.
2. Measure the actual spring length (refer to annex I, Para II for spring length for your particular conveyor). If the spring length is at the proper setting but the conveyor chain is slack the probable cause is a bad spring. If the spring length is too long turn the adjusting screw until proper spring length is attained.
3. After the tension has been adjusted coat the mating surface of the spring housing and cover with a silicone sealing compound and replace the cover.

Part IV SPARE PARTS LIST

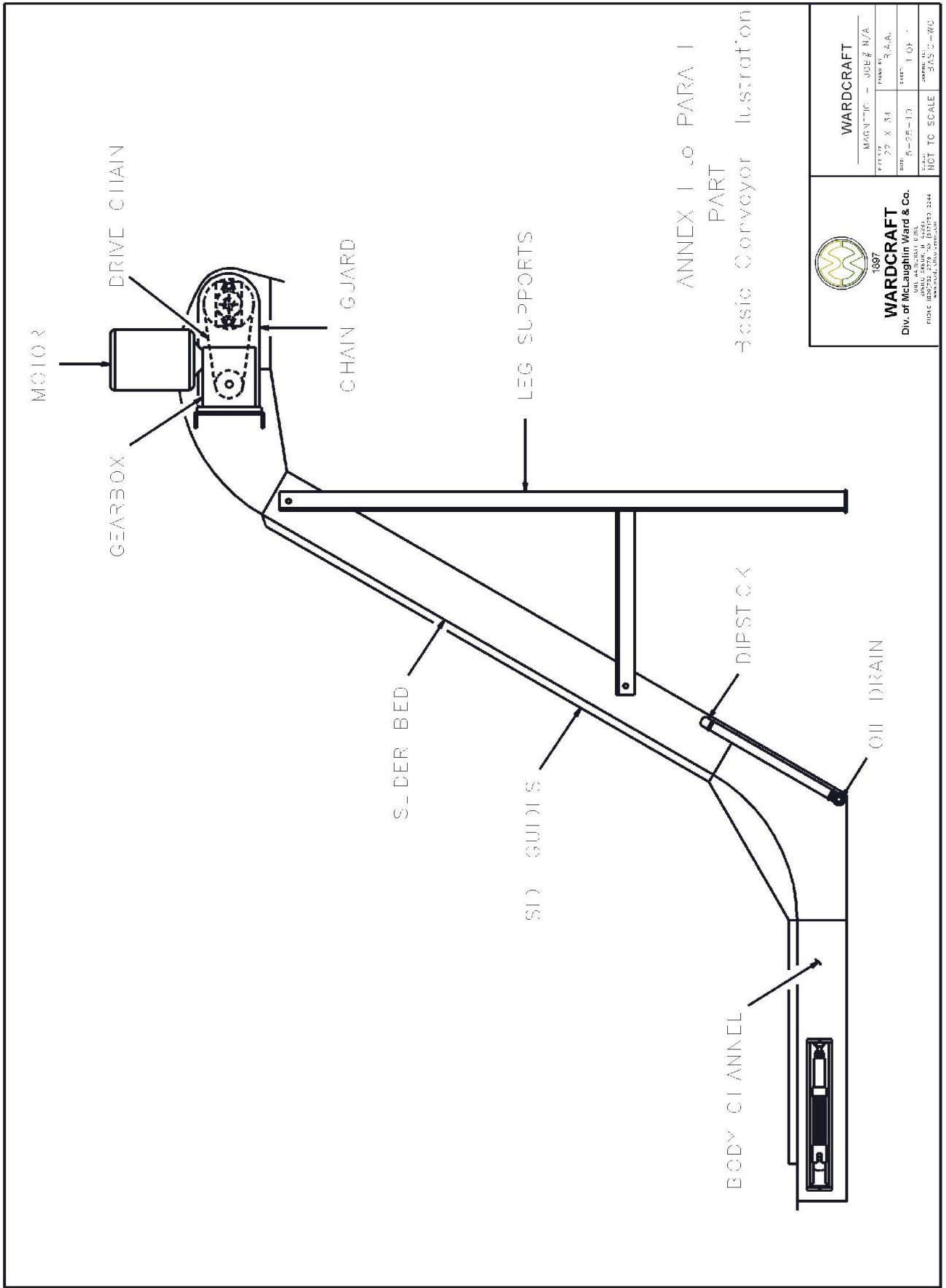
Para I Conveyor Components

Subpart A: Ordering Spare Parts

When ordering spare parts for your conveyor, always refer to the serial number of your conveyor. This number will be found on the conveyor name plate. Refer to annex I, Para I, Part IV for terminology and location of components.

Part V STORAGE INSTRUCTION

1. Indoor and for no longer than three months, coat all exposed surface with an ISO grade 22 oil.
2. For indoor storage of three to nine months, or for sheltered outdoor storage of up to two months, coat all exposed surfaces with an ISO grade 46 oil.
3. Fill gear reducer completely with the recommended lubricant (see lubrication instructions). Drain reducer to proper level before restoring to service. The exterior of the oil seals should be lubricated to prevent cracking.
4. For longer or more severe storage, up to three years indoor or one year exposed to the elements, use a film type coating such as:
Chevron Rust Preventative
Imperial Astrol RP Extra
Gulf No-Rust 7
5. Pack all bearings completely full of the recommended grease (see lubrication instructions). To prevent hardening, the grease should be replaced by purging with new grease about once every six months. Remove excess grease before restoring to service. Completely fill gear reducer as above.

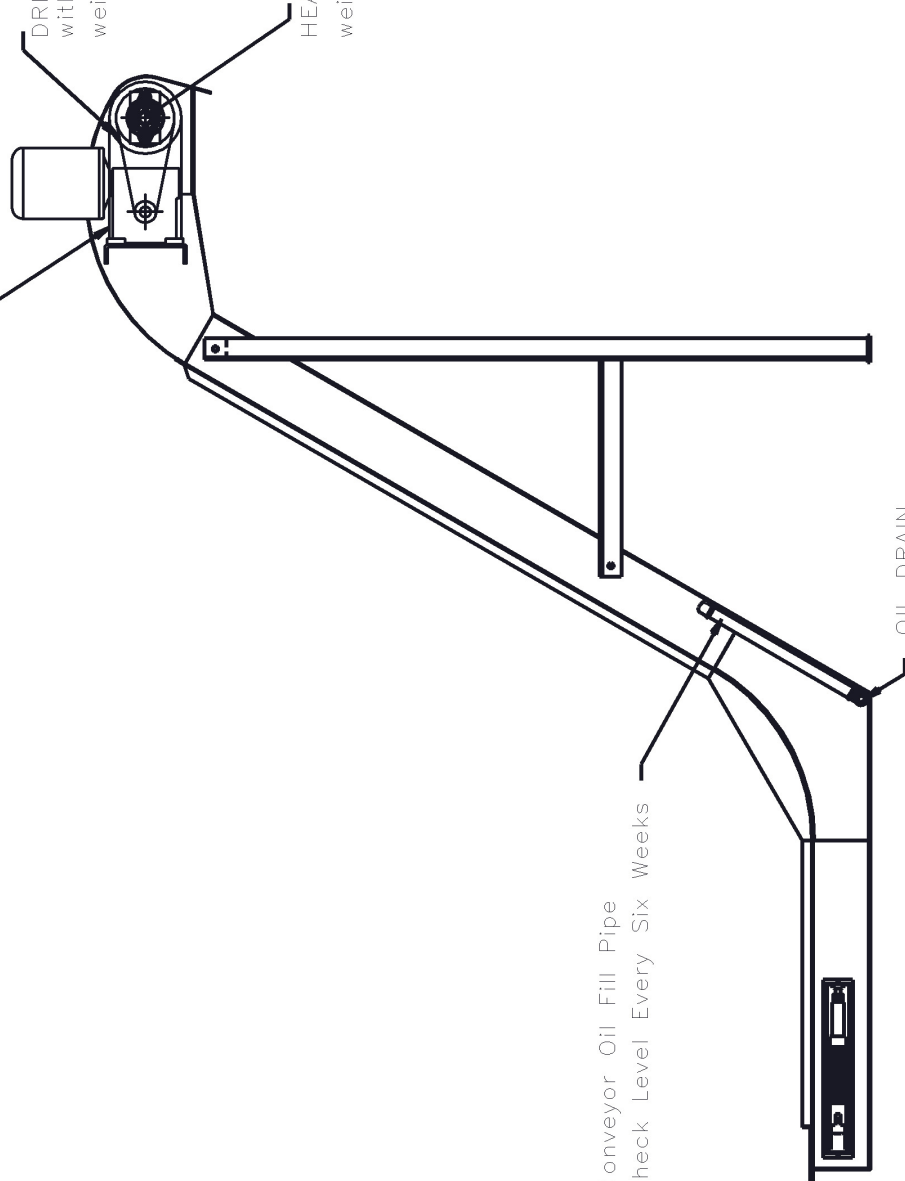


WARDCRAFT			
MAGNIFIC	JOB #	N/A	
DATE	27 X 54	FRAME #	24A
DATE	5-26-13	DATE	1 04
NOT TO SCALE	STATUS	WU	



1087
WARD CRAFT
Div. of McLaughlin Ward & Co.
UNIT 14, 2011 E. 20th
MIDvale, CO 80042
PHONE (303) 279-3000
WWW.MCWARD-CO.COM

GEARBOX—Check every six (6) weeks
Consult manufactures service manual



HEADSHAFT BEARINGS—Lubricate with medium weight bearing grease every six (6) weeks.

Conveyor Oil Fill Pipe
Check Level Every Six Weeks

ANNEX I to PARA I PART III Lubrication Points

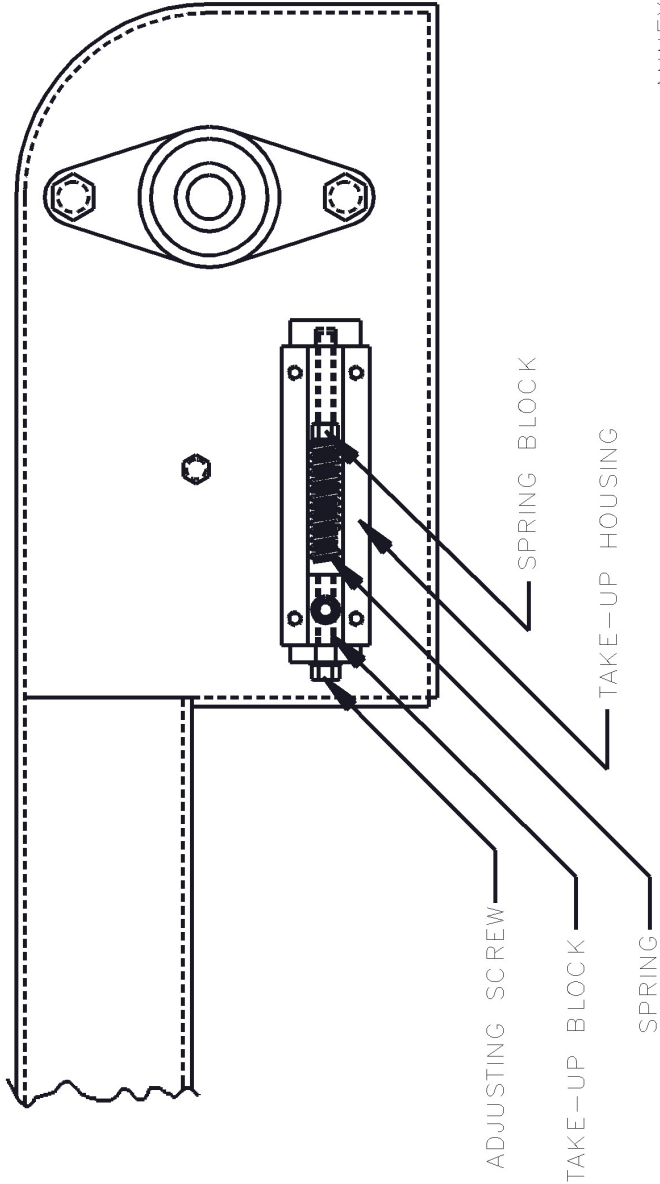


1897
WARDCRAFT
Div. of McLaughlin Ward & Co.
DIVISION OF WARD CRAFT
5000 WARD CRAFT DRIVE
SHELBYVILLE, KY 40383
PHONE (606) 982-2779 FAX (606) 982-2244
WWW.WARDCRAFT.COM

WARDCRAFT			
MAGNETIC — JOB # N/A		GRADE #	
FEED RATE	22 X 34	R.A.A.	
INCH	5-25-10	INCHES	1
SCALE	NOT TO SCALE	LUBE—WC	

Note:
Some models comes with sight level gage

MODEL "AA"			
COLOR	NUMBER	FREE LENGTH	COMPRESSED
BLUE	M-113	2.5	1.5



ANNEX I TO PARA II
PART III



1897

WARDCRAFT

Div. of McLaughlin Ward & Co.

ONE WARDCRAFT DRIVE
WILSONVILLE, INDIANA 46094
PHONE (800)782-2379 FAX (517)750-2244
www.wardcraft.com

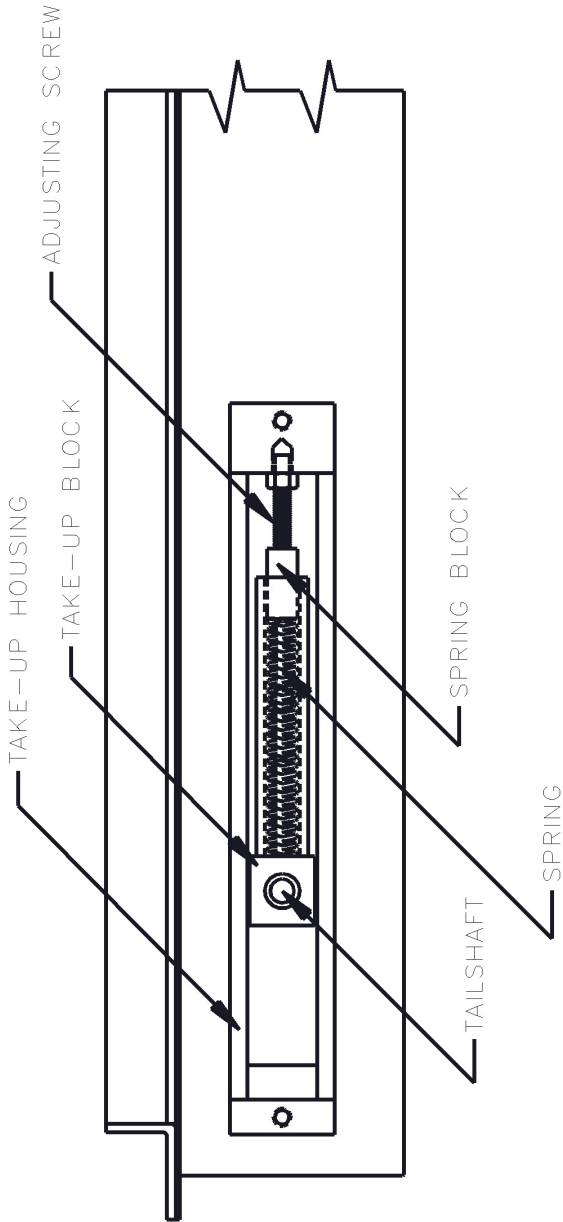
WARDCRAFT

MAGNETIC — JOB # N/A

FIG. 1	22 X 34	SCALE	R.A.A.
SHEET	5-25-10	DATE	1 OF 1
NOT TO SCALE			

TAKE-AA-WC

MODEL "A"			
COLOR	NUMBER	FREE LENGTH	COMPRESSED
BLUE	M-115	3 1/2"	2 1/4"
GOLD	H-115	3 1/2"	2 3/4"



ANNEX II TO PARA II
PART III



1897

WARDCRAFT

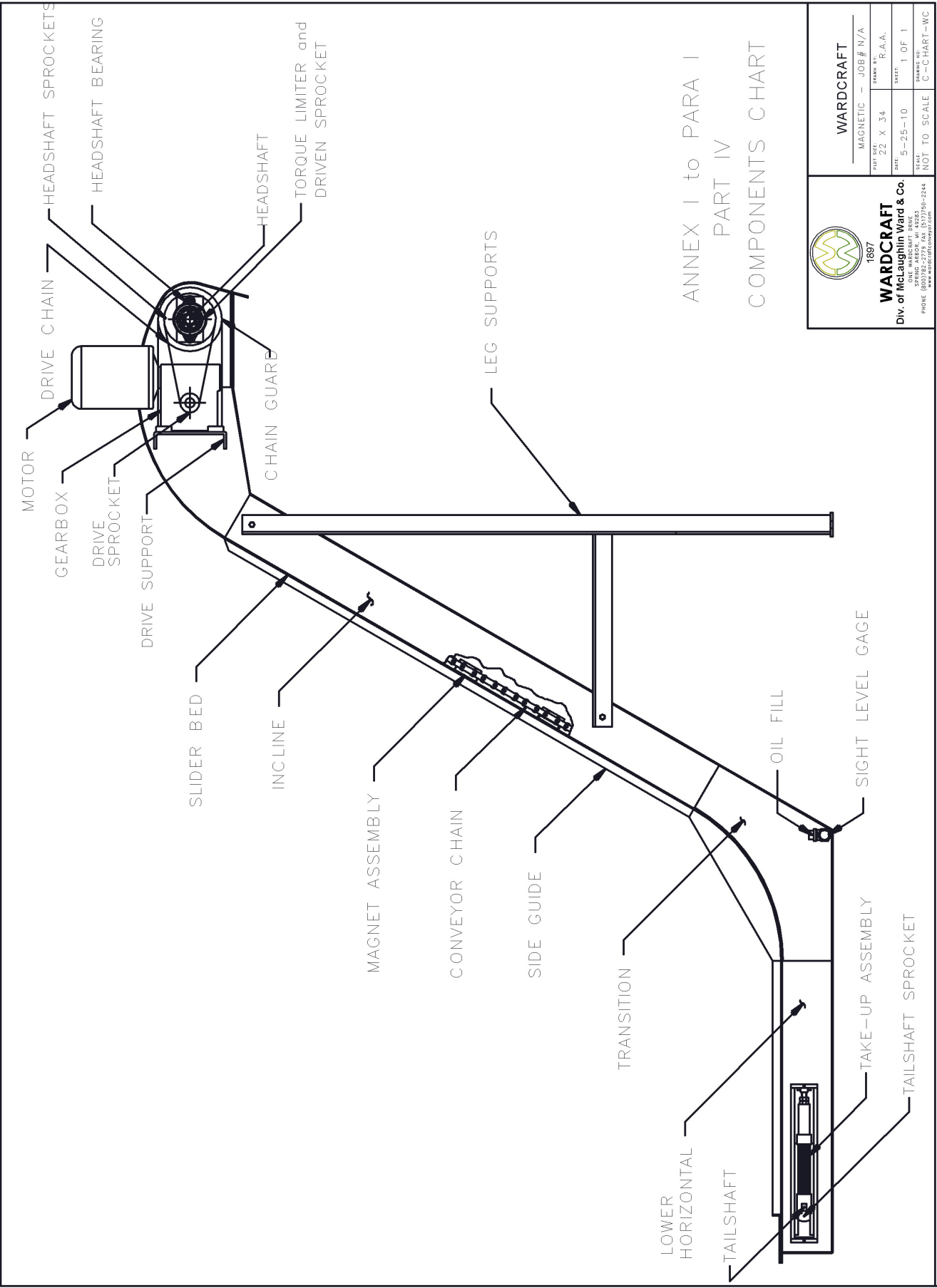
Div. of McLaughlin Ward & Co.

SPRING ARBOR, MI 48263
 PHONE 313-255-2244
 TOLL FREE 1-800-368-1222
 WWW.WARDCRAFT-CONCEPT.COM

WARDCRAFT

MAGNETIC — JOB # N/A

PLAT SIZE	22 X 34	DRAWN BY	R.A.A.
DATE	5-25-10	SHEET	1 OF 1
SCALE	NOT TO SCALE	DRAWING NO.	TAKE-A-WC



ANNEX I to PARA I
 PART IV
 COMPONENTS CHART



WARDCRAFT
 Div. of McLaughlin Ward & Co.
 ONE WARDCRAFT DRIVE
 ST. LOUIS, MISSOURI 63103
 PHONE (800) 782-2778 FAX (314) 7350-2244
www.wardcraft.com

WARDCRAFT			
MAGNETIC	JOB # N/A		
START SIZE	22 X 34	SPRINK #	R.A.A.
DATE	5-25-10	SHEET	1 OF 1
SCALE	NOT TO SCALE		
CHART	C-CHART-WC		

NOTES