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CASE ELEVATOR
INSTALLATION AND SERVICE MANUAL

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ACCUMULATOR

INTRODUCTION

INSTALLATION
- A. Utilities and Machine Specifications
- B. Machine Installation
- C. Carrier Chain Installation Technique
- D. Phasing Chain at Installation
- E. Start-up Check List

EURODRIVE HAND RELEASE

INFEED AND DISCHARGE OPERATION

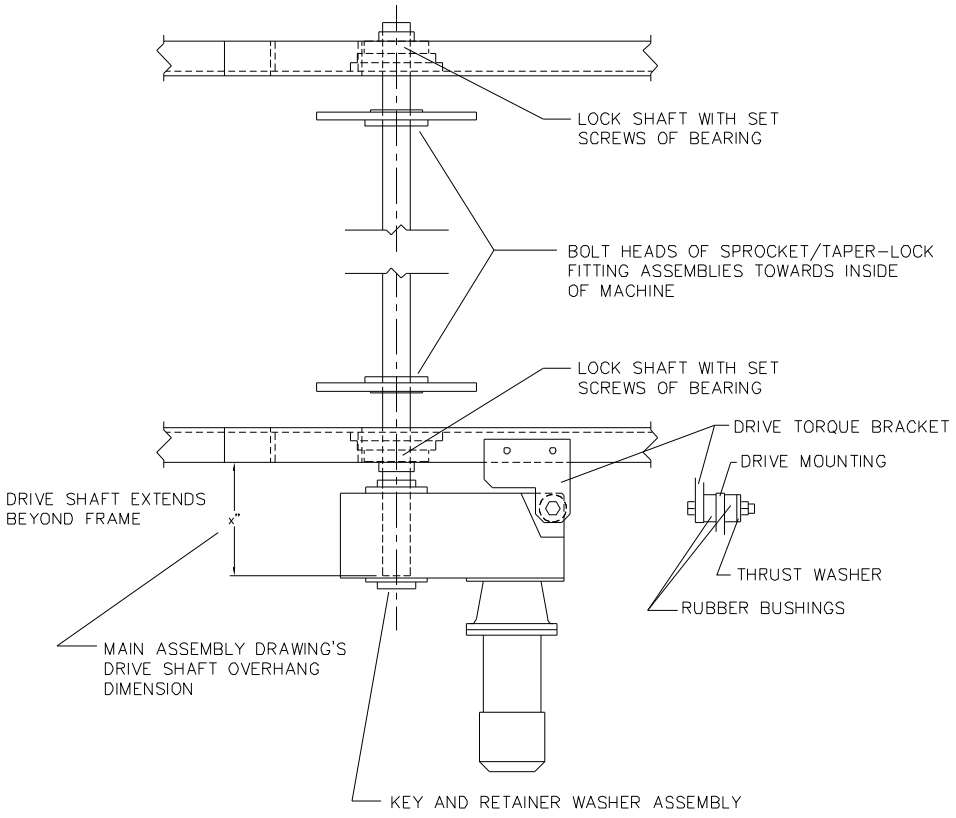
MAINTENANCE
- A. Take-up Tensioning
- B. Stabilizer Chain Tensioning
- C. Jump Chain to Phase
- D. Eurodrive Brake Adjustment
- E. LR Adapter and Speed Sensor

INTRODUCTION

The ROLCO accumulator, developed by ROLCO INTERNATIONAL, INC., is manufactured in the United States in Neenah, Wisconsin.

The purpose of the accumulator is to provide flexible storage of product between the production equipment. The infeeding and discharging of logs are independent automatic functions and operate on a "first-in", "first-out" principle.

DRIVE TOP VIEW



CARRIER CHAIN INSTALLATION TECHNIQUE

Procedure requires a minimum of 3 people.

NOTE: Chain should be threaded before infeed and discharge units are mounted to the main machine frame.

1. Place chain box so that chain carrier pins face toward inside of machine.

2. Clamp unislide in "down" position.

3. Take 3/8" dia. eye bolt and fasten to end of chain.

4. Fasten eye to rope (50 to 75 feet long).

5. Ensure that take-ups are up (fully raised).

5. Ensure that all taper lock fittings on shaft sprockets are hand tight, and that the sprockets free wheel on the shafts.

6. (See Figure 1)
   The man at chain box feeds the rope through the infeed chain guide. He then tosses the rope to a man on the scaffold who threads it over the hubs of the sprockets, and underneath the crossbeams. The rope is dropped to another man at floor level. This man pulls on the rope until the chain reaches the first sprocket, when the man on the scaffold threads the chain over the teeth of the sprocket. As the chain is pulled through the top of the accumulator, it reaches the man on the floor, who then threads it through the bottom section of the accumulator and the unislide. The chain is then pinned or clamped off at the Infeed.

7. (See Figure 2)

At the location of the first loop, all slack chain should be pulled back from the lower section of the accumulator, and held via clamping the sprocket nearest the discharge. Pull the chain from the infeed end creating a loop. This loop will then be wrapped around the sprocket on the unislide. Then move to the second sprocket from the discharge, clamp this sprocket assuring that there is no slack in the first loop. Repeat the previous steps until all the loops have been made back to the infeed. The chain is now able to be made endless by means of the connecting link.

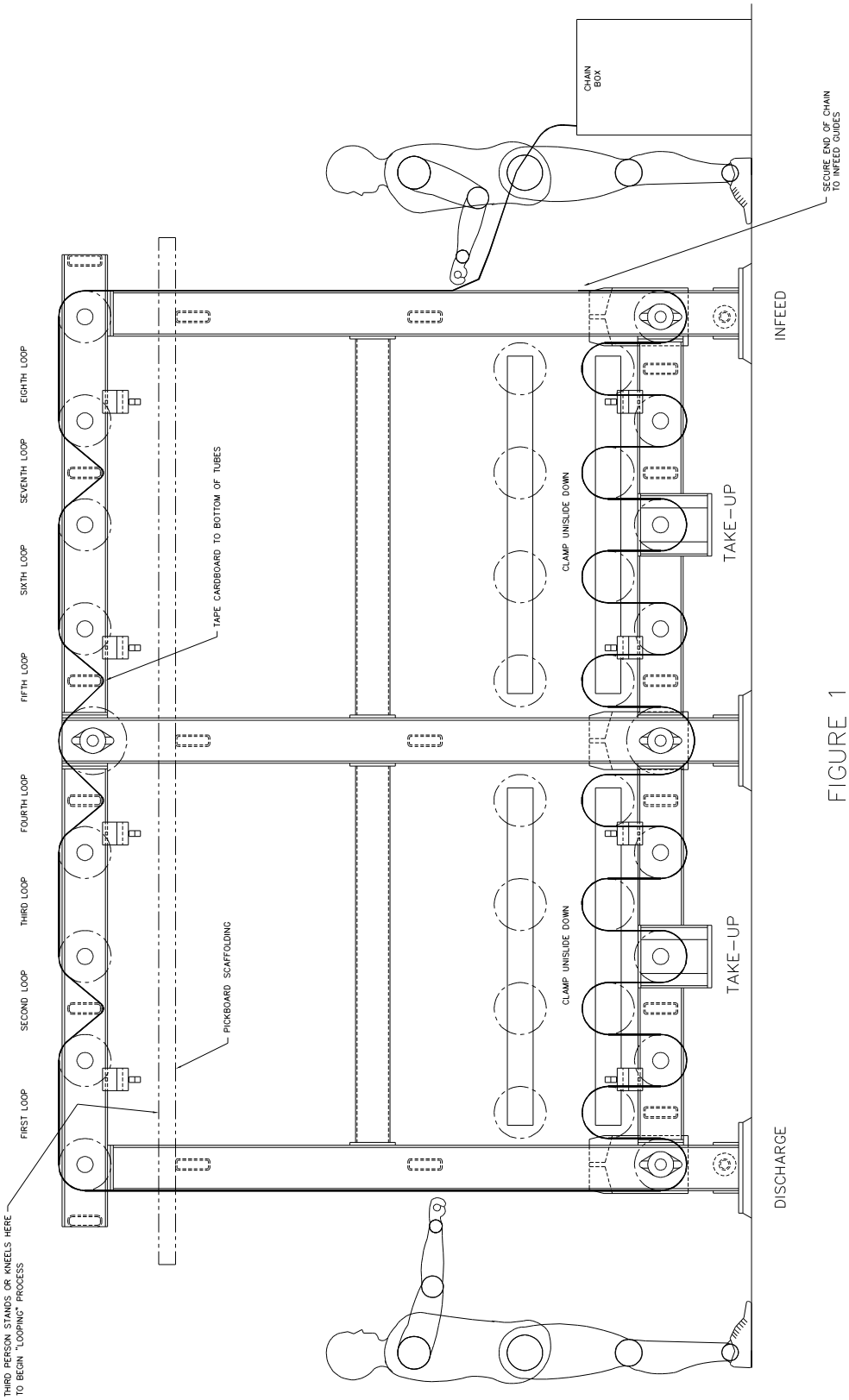

CHAIN BOX
SECURE END OF CHAIN TO INFEED GUIDES
INFEED
TAKE-UP
CLAMP UNISLIDE DOWN
TAPE CARDBOARD TO BOTTOM OF TUBES
PICKBOARD SCAFFOLDING
TAKE-UP
CLAMP UNISLIDE DOWN
DISCHARGE
FIRST LOOP
SECOND LOOP
THIRD LOOP
FOURTH LOOP
FIFTH LOOP
SIXTH LOOP
SEVENTH LOOP
EIGHTH LOOP
THIRD PERSON STANDS OR KNEELS HERE TO BEGIN "LOOPING" PROCESS

FIGURE 1

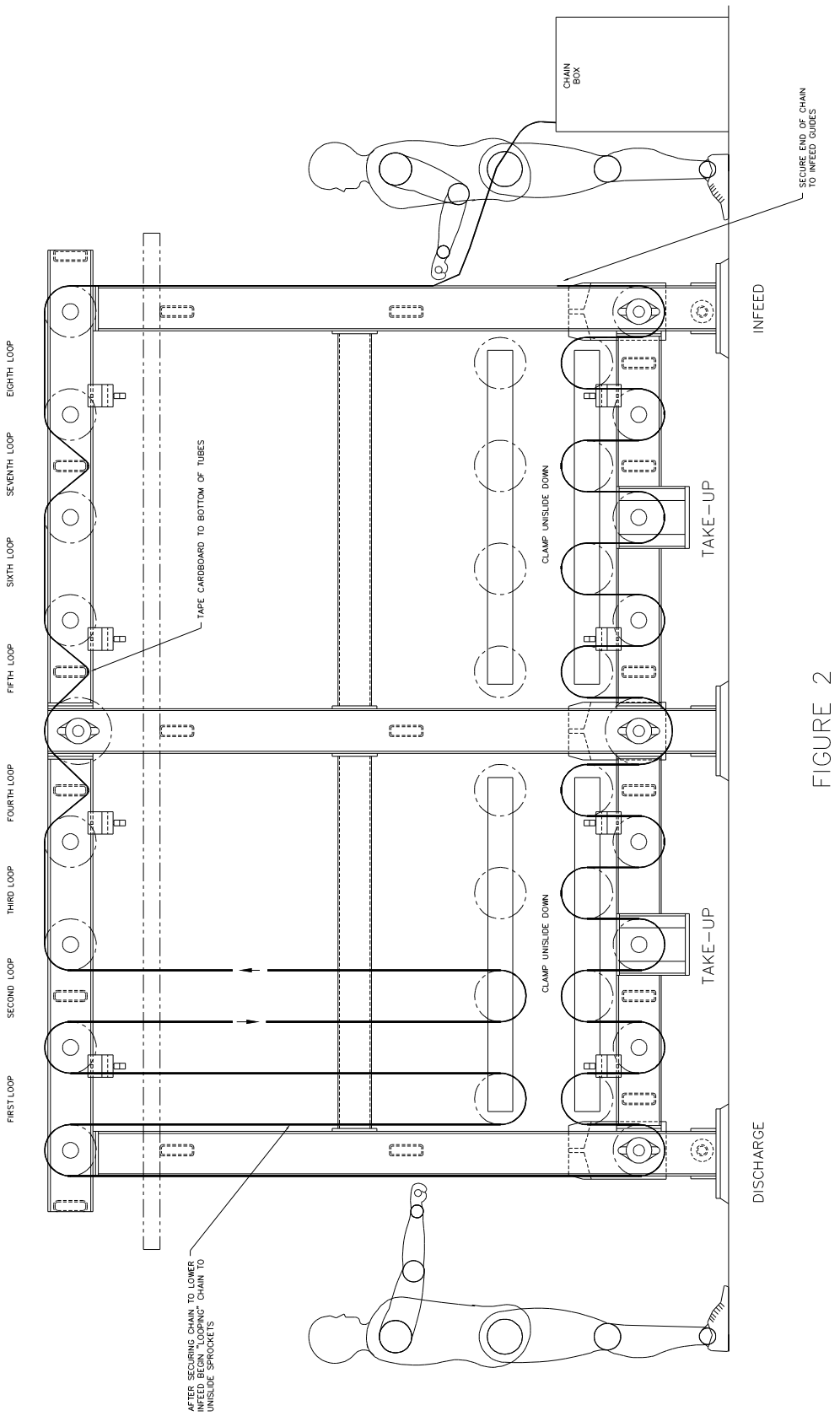

CHAIN BOX
SECURE END OF CHAIN TO INFEED GUIDES
INFEED
TAKE-UP
CLAMP UNISLIDE DOWN
TAPE CARDBOARD TO BOTTOM OF TUBES
TAKE-UP
CLAMP UNISLIDE DOWN
DISCHARGE
AFTER SECURING CHAIN TO LOWER INFEED, BEGIN "LOOPING" CHAIN TO UNISLIDE SPROCKETS
FIRST LOOP
SECOND LOOP
THIRD LOOP
FOURTH LOOP
FIFTH LOOP
SIXTH LOOP
SEVENTH LOOP
EIGHTH LOOP

FIGURE 2

8. The second chain is threaded in a similar manner on the other side of the machine. If force to move chain is excessive, a fourth man will be needed to assist in pulling.

9. CAUTION: When inserting master links, cotter pins should be toward inside of machine. Possible interference and chain jams can occur if done incorrectly.

NOTE: Threading is shown beginning at the infeed in this example, however, it may also be initiated at the discharge if necessary. Bot infeed and discharge have guide blocks which are needed to prevent undesired movement of chain by "jamming" with a screwdriver or steel rod.

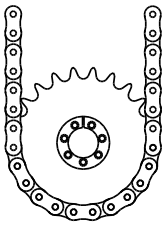
PHASING CHAIN AT INSTALLATION

Phasing chain at installation aligns the chain pin of one side of machine to the chain pin of the other side. This is necessary for proper machine operation. If chain pins are aligned then carriers are level as they travel through machine providing maximum machine clearances.

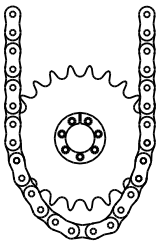
1.) Assure the unislides are level as they rest (on blocks) on lower machine frame.

2.) Assure that all shaft sprockets are seated properly on the taper-lock fittings, and not resting on the shafts. (All taper lock fittings should be loose and free wheeling at this time.)

3.) Assure that there is no excess chain bubbled around any of the sprockets.



RIGHT



WRONG

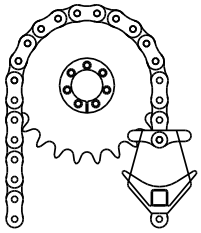
4.) Snug chain take-ups (hand tight), and ensure that they are relatively even on both sides of each module.

5.) Adjust chain on either side of machine to line chain carrier pins on both sides of machine. (This is just a rough adjustment at this time.)

6.) Begin at the shaft nearest the infeed, located on the upper portion of the accumulator. Proceed with step 6 through step 16. Once done with this shaft, move to the next shaft towards the discharge, (step 6 through step 16, must be done on every shaft.) Once you have reached the discharge end, move to the lower portion of the accumulator, and work your way back towards the infeed. Once you reach the infeed, the accumulator's carrier chain will be phased.

PHASING CHAIN AT INSTALLATION

7.) Place a carrier between chains, as near to a shaft sprocket as possible, without going into the radius of the sprocket.



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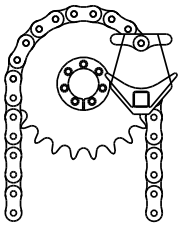
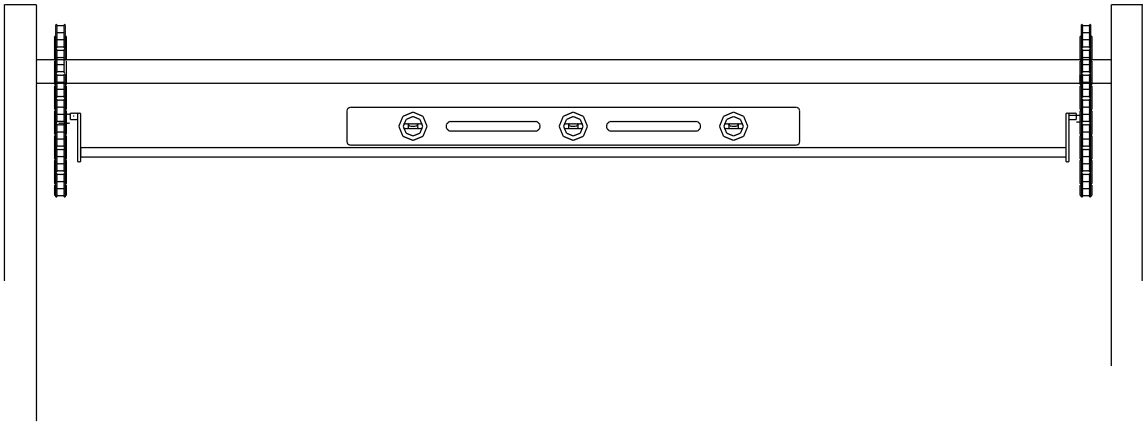
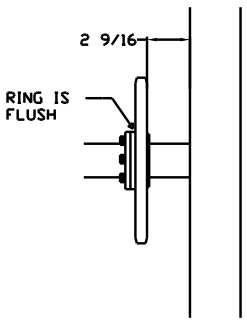


WRONG

8.) Place a level on the centerline of the carrier.
(Tape the level to the carrier to aid in phasing the chain.)



9.) Ensure that the sprocket is seated properly on the taper-lock fitting, and that there is a 2 9/16" gap between the sprocket and the side frame of the accumulator.
Also ensure that the ring on the taper-lock is flush with all sides of the taper-lock fitting.



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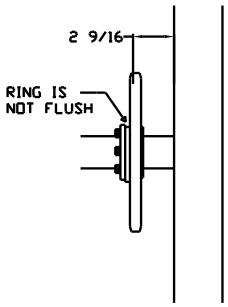
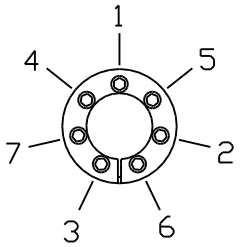


WRONG

10.) Tighten the taper-lock fitting. When tightening the taper-lock fitting, tighten every other bolt at a time, working your way around the taper-lock fitting. While tightening, ensure that the ring is still flush with all sides of the taper-lock fitting. Keep tightening in this fashion until every bolt has met the torque specifications listed below.



TORQUE SPECS. 1 15/16" BORE TORQUE AT 30 ft.lbs.
2 15/16" BORE TORQUE AT 60 ft.lbs.

11.) Move to the sprocket on the opposite end of the shaft.

12.) Adjust sprocket and taper-lock fitting to get the 2 9/16" gap between sprocket and sideframe of the accumulator.

13.) Adjust chain in either direction until the carrier is level.

14.) Check again for the 2 9/16" gap between the sprocket and side frame of the accumulator.

15.) Tighten the taper-lock fitting. (Remember to follow the same procedure which was used in step 9.)

16.) After both shaft sprockets have been tightened, check the carrier one last time to ensure that it is level.

17.) Move to the next shaft, and repeat step 6 through step 16.

18.) After the carrier chain of the accumulator has been phased, tension all take-ups. To tension take-ups, turn the take-up nut by hand till snug, then two additional turns with a wrench. Take-up adjustment on each side of accumulator module should be approximately equal to assure carriers remain level.

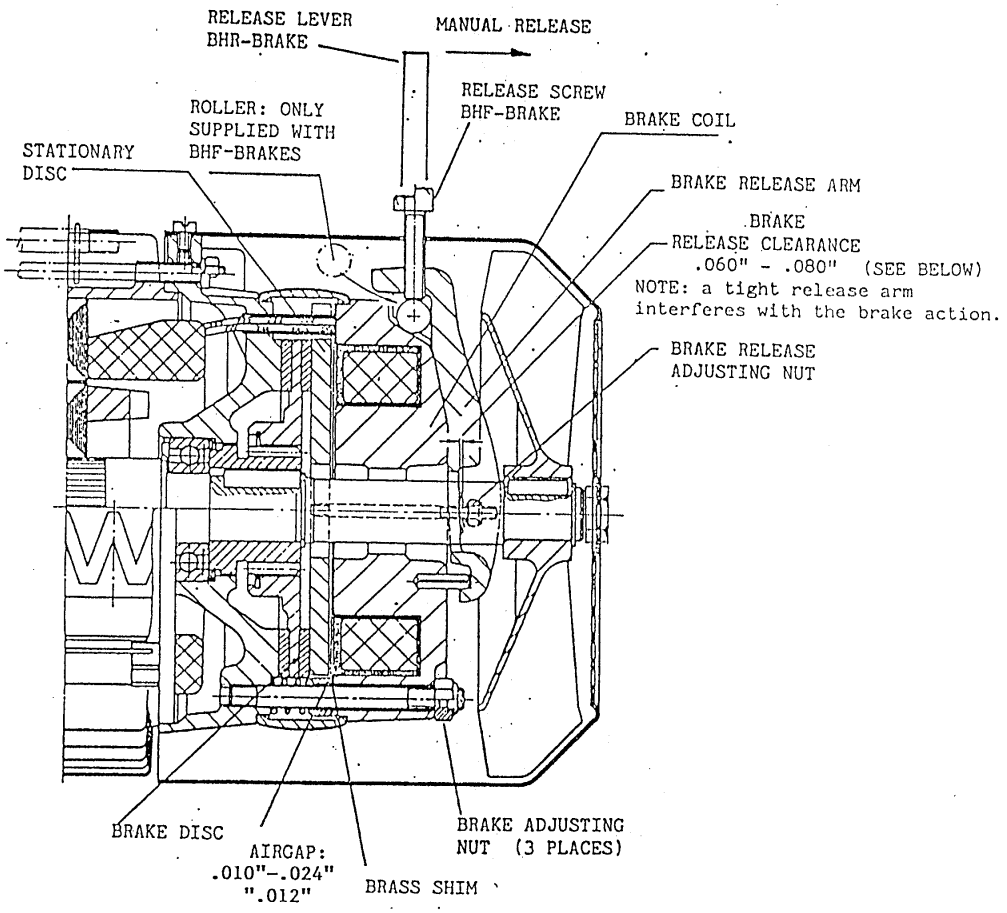
START-UP CHECK LIST

SAFETY GUARDS
All safety guards must be in place before machine is energized.

MESH GUARDS
Mesh guards are to be installed before machine is operated.

CHAIN TENSION
Apply final tension to carrier (gondola) chains before carriers are installed onto the chains. Chain tension can be checked by pulling in a horizontal direction at a point midway between an upper stationary sprocket and the top sprocket on a slide when the slide is in its lowest position. A horizontal pull of 20 pounds should result in a deflection of .156 inches per foot of unsupported vertical chain. Example: A distance of 10 feet between sprocket centers would result in a total horizontal deflection of 1.56 inches.

EURODRIVE HAND RELEASE



Turning Over Drives With All Power Off

Drives can be turned over by releasing the brake on the motor with the manual brake release lever and turning the hex bolt in end of brake moter (outside fan-guard end) by means of a rachet.

EURODRIVE HAND RELEASE

MAINTENANCE

1. Product carriers must be maintained in good condition. Ensure that all log holders are in place and seated properly. Carriers with deflected tubes must be replaced.

2. Photoeyes must be cleaned to ensure no dirt or dust inhibits their vision.

3. Product carrier chain must be tensioned regularly to compensate for chain stretch. Follow instructions as defined in section “TAKE-UP TENSIONING”.

4. Set Eurodrive brake, infeed, discharge once a year.

* .012" - .015" on brake

5. Check oil level in gearboxes once every year and fill as required.

** Recommended Gearbox Oil - See Vendor Sheets.

6.Compressed air supply

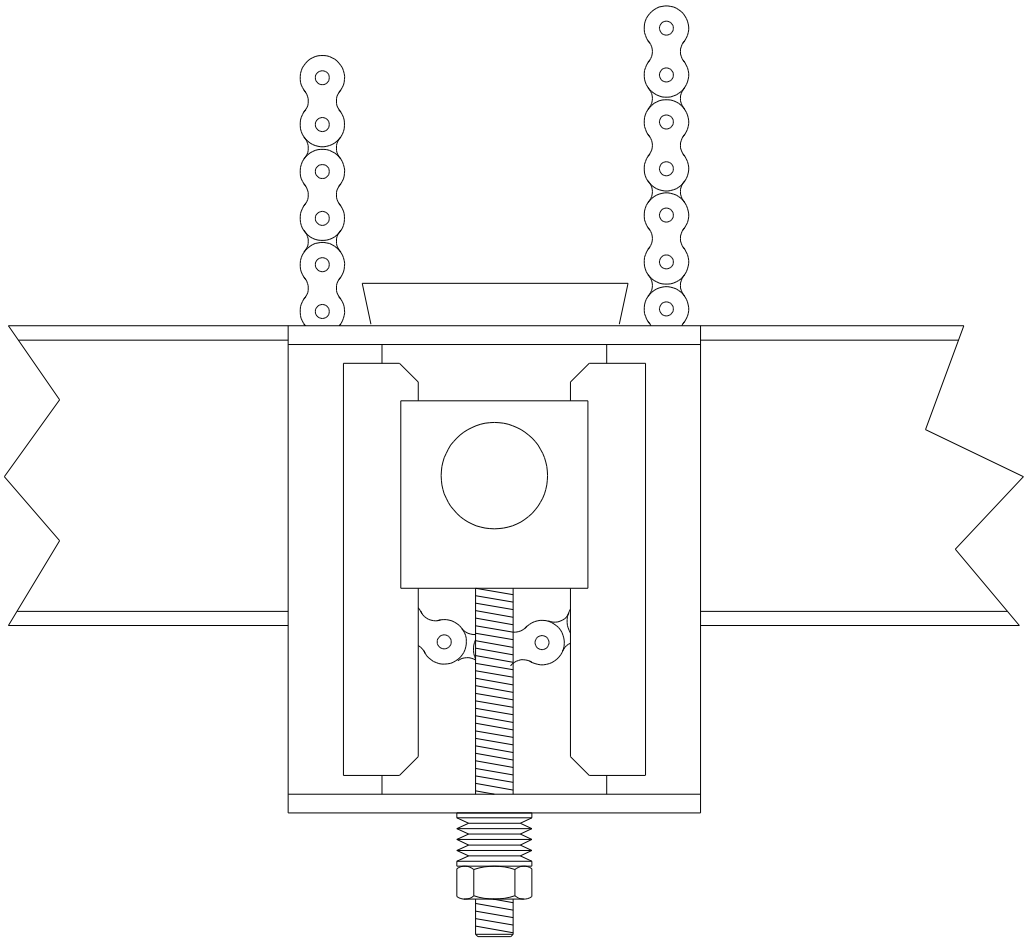
* Check oil level in lubricator weekly and add when necessary.
* Check weekly , replace filter element as needed.

** Recommended Air Line Oil - Ingersoll-Rand #CL-164 PNEU-LUBE Oil

7. Lubricate product carrier chain manually once a year.

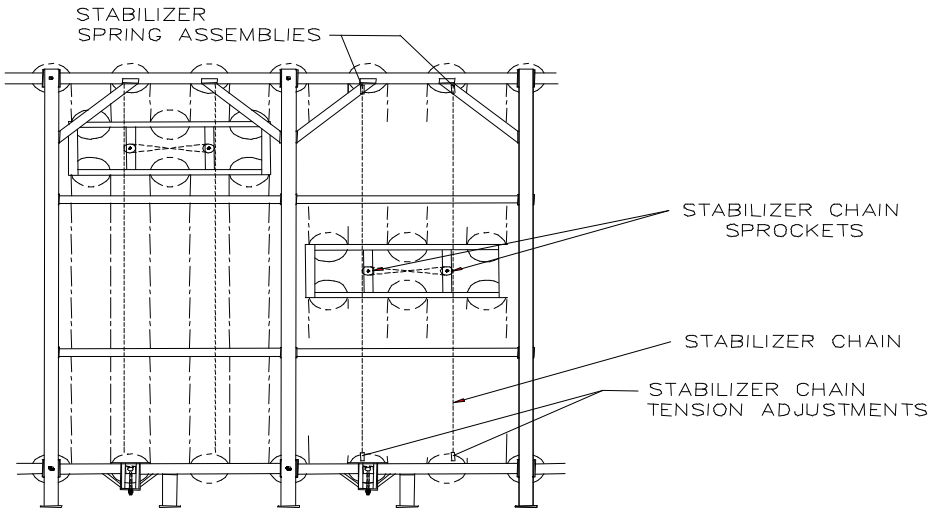
* Lubriplate FP-150-1

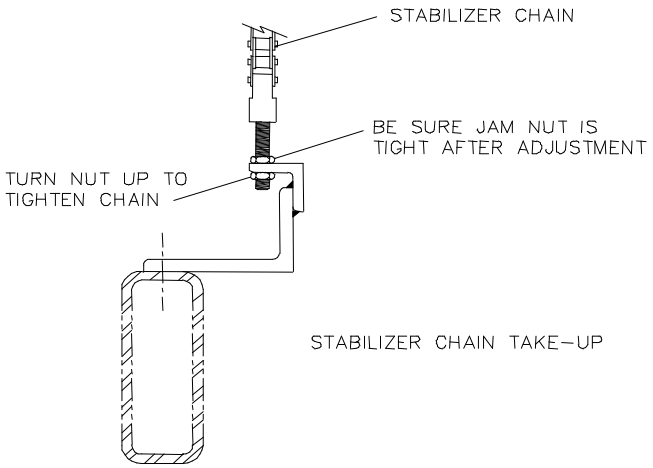
TAKE-UP TENSIONING



THE PRODUCT CARRIER CHAIN IS TENSIONED BY TURNING THE TAKE-UP NUT BY HAND TILL SNUG, AND TWO ADDITIONAL TURNS WITH A WRENCH. TAKE-UP ADJUSTMENT ON EACH SIDE OF ACCUMULATOR SHOULD BE APPROXIMATELY EQUAL TO ASSURE CARRIERS REMAIN LEVEL.

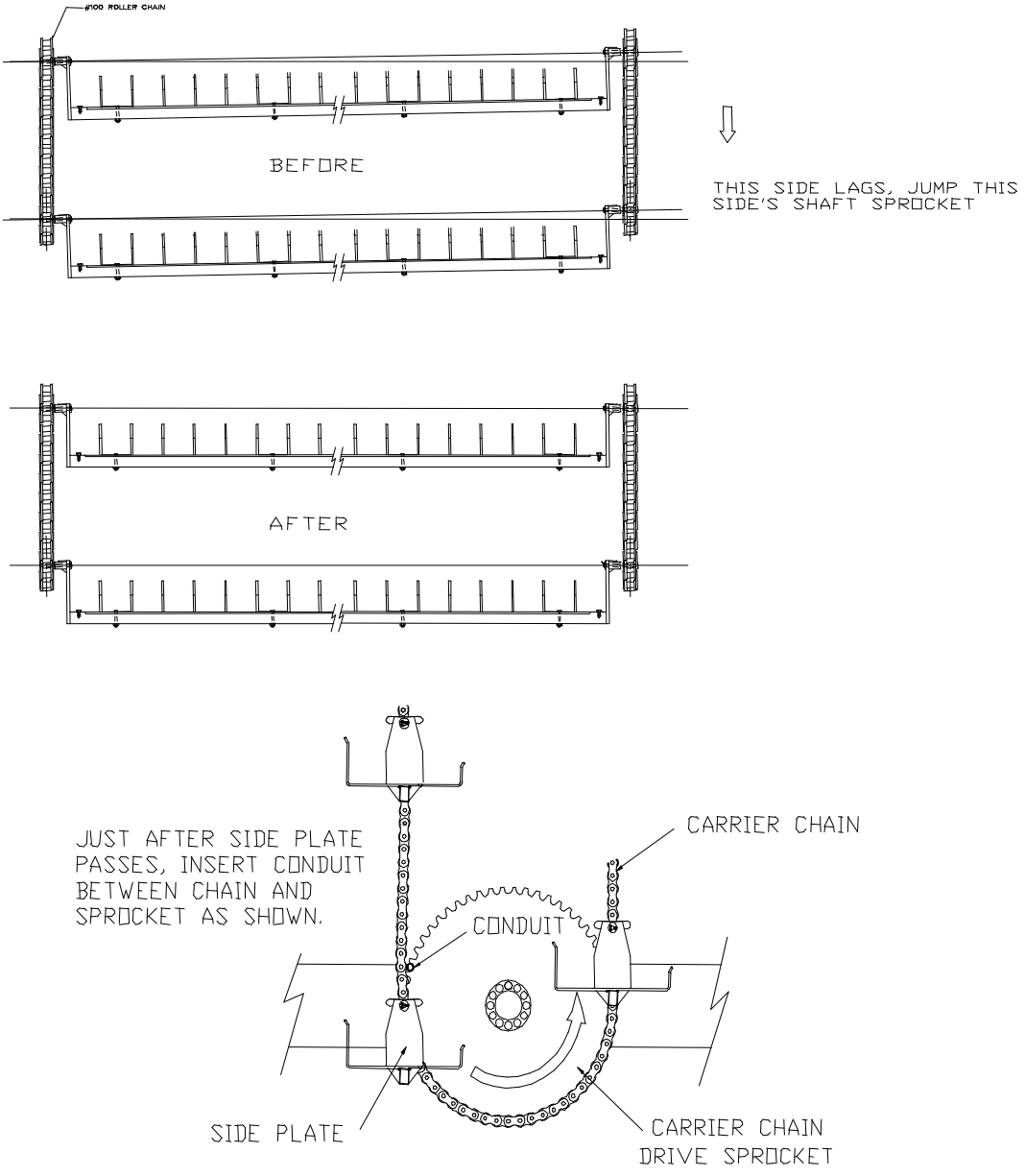
STABILIZER CHAIN TENSIONING





Tighten when excessive chain whip occurs during unislide movement or slack chain is observed.

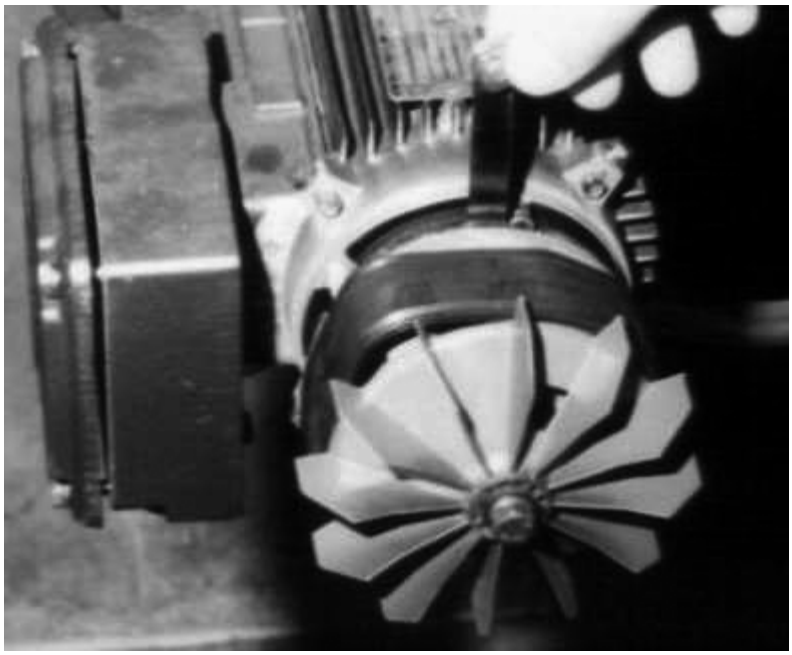
JUMP CHAIN TO PHASE

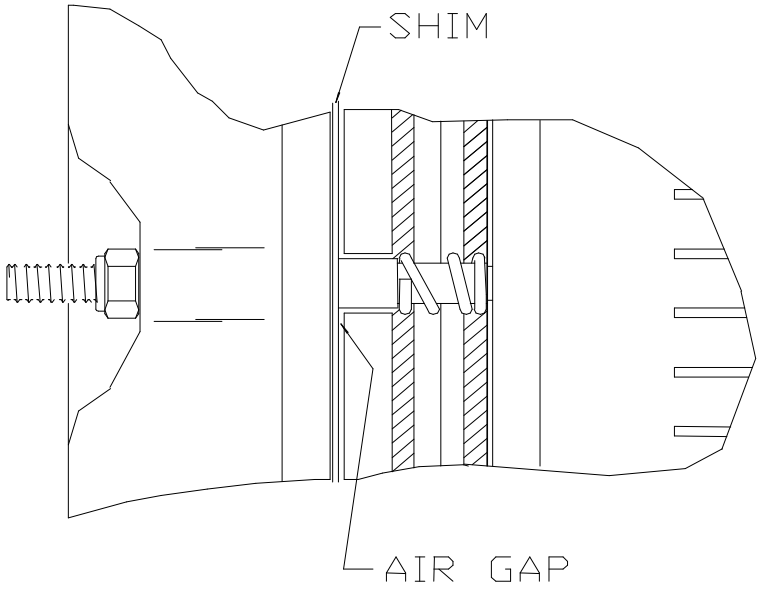


NOTE: Chain is jumped at sprockets with shafts

-Follow mill "Lockout and Tagout" policy
-Identify which carrier chain lags behind
-Have sideplate past 1/2" conduit coupling placement
-Jog drive till coupling travels around and is not held by chain
-Remove ½" conduit coupling
-Check carrier chain is in phase

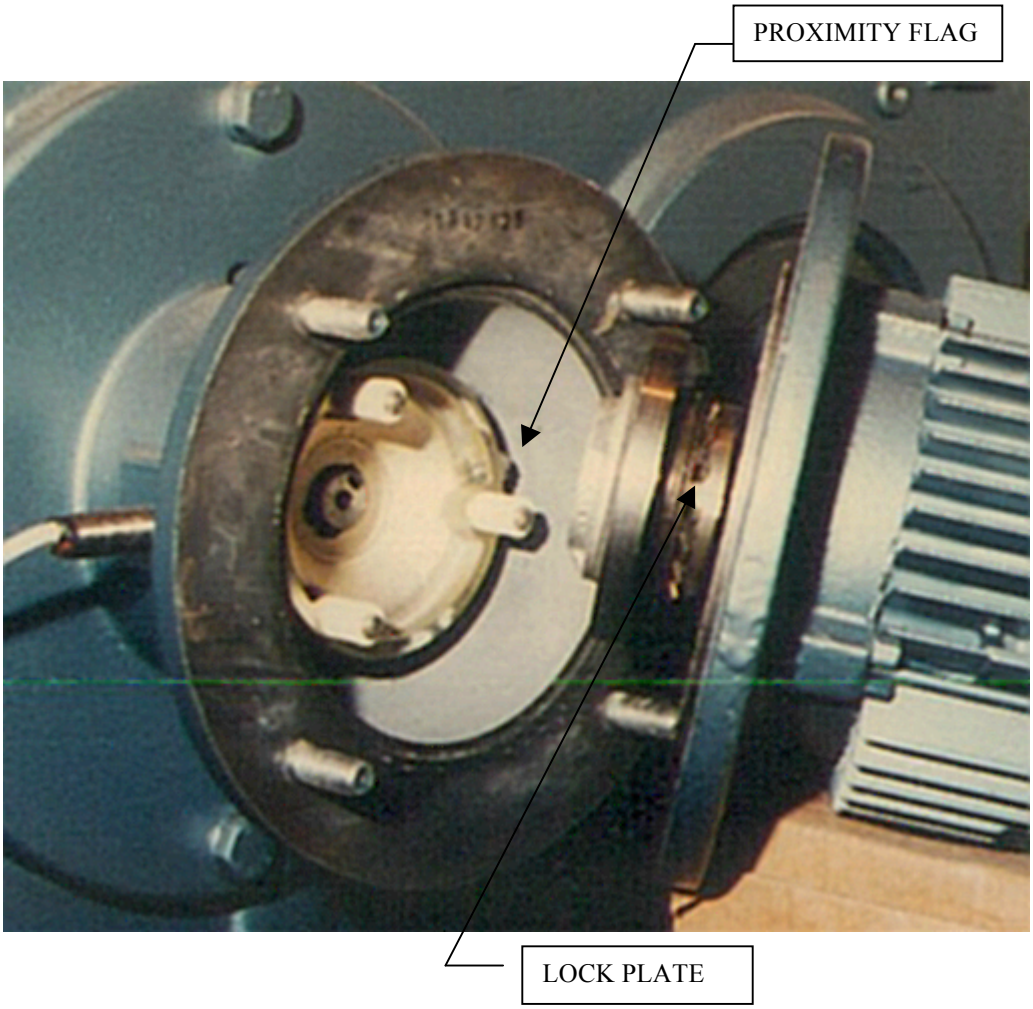
EURODRIVE BRAKE ADJUSTMENT





1. Lockout and tagout the machine.
2. Remove the hand release lever by unscrewing it from the brake release arm.
3. Remove the fan cover.
4. Pull back or remove the rubber sealing collar around the brake assembly.
5. Using a feeler gauge measure the air gap between the shim and the stationary disc on both sides of the three retaining studs.
6. Reference drives air gap specification. BM brakes (.010 to .024") set to .012-.015".
7. Tighten or loosen nut on retaining stud to set air gap.
8. Check air gap with feeler gauge at all three retaining studs.
9. If possible use hand release lever to spin motor and recheck air gap at all three studs.
10. Replace rubber seal and fan cover.
11. Clear personnel and remove lockout and tagout.

LR ADAPTER AND SPEED SENS0R



WARNING: Accumulator unislides can free fall when brakemotor is removed from gearbox. Brakemotor provides force to hold drive shaft from turning.

Proximity sensor alignment:

1. Align the proximity flag (screw) with the proximity sensor.
2. Screw in proximity sensor till touches the screw head.
3: Unscrew the proximity sensor one half turn.
4. Rotate screw (coupling) under proximity to assure clearance.
5. Tighten proximity jam nut.

LR Adpater setting:

-The LR Adapter is factory set for the load of the drive shaft. Keep LR Adapter matched to the drive shaft (load).
-The lock plate is bent into a keyway to lock torque setting of LR Adapter.
1. Straighten lock plate bent into keyway.
2. Turn “pressure adjusting nut” to change setting.
   Use shaft/key/torque wrench assembly to measure in lbs.
   Trial and error, turn “pressure adjusting nut” one quarter turn.
3. Bend lock plate into keyway to lock torque setting.