

**INSTALLATION OPERATION
AND
MAINTENANCE MANUAL**

**Mayfran CT-20
2-inch Pitch Chip-Tote®
Conveyor**



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IMPORTANT

When calling or writing for service or spare part information, always have your conveyor serial number. It is located on the head end (discharge area) of the conveyor and is stamped on a nameplate or plain steel plate.

It is a six (6) digit number. The first two digits indicate the year of manufacture and the other four digits is the consecutive identification number for that particular conveyor.

We **must have this number** to send the proper parts.

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INTRODUCTION

Mayfran Steel Belt Conveyors are installed in machine tools, presses, die casting machines etc. Their function is to remove chips, scrap, **punchings**, or small components from the machine tool and deposit them in a bin or centralized system.

This manual offers data on service, maintenance and parts replacement. Your conveyor may differ in shape from that illustrated, however the instructions apply to all Mayfran 2- inch pitch conveyors.

Please ensure that this manual is handed to your maintenance staff. To ensure your guarantee it is essential that the instructions under “Maintenance” are carried out exactly.

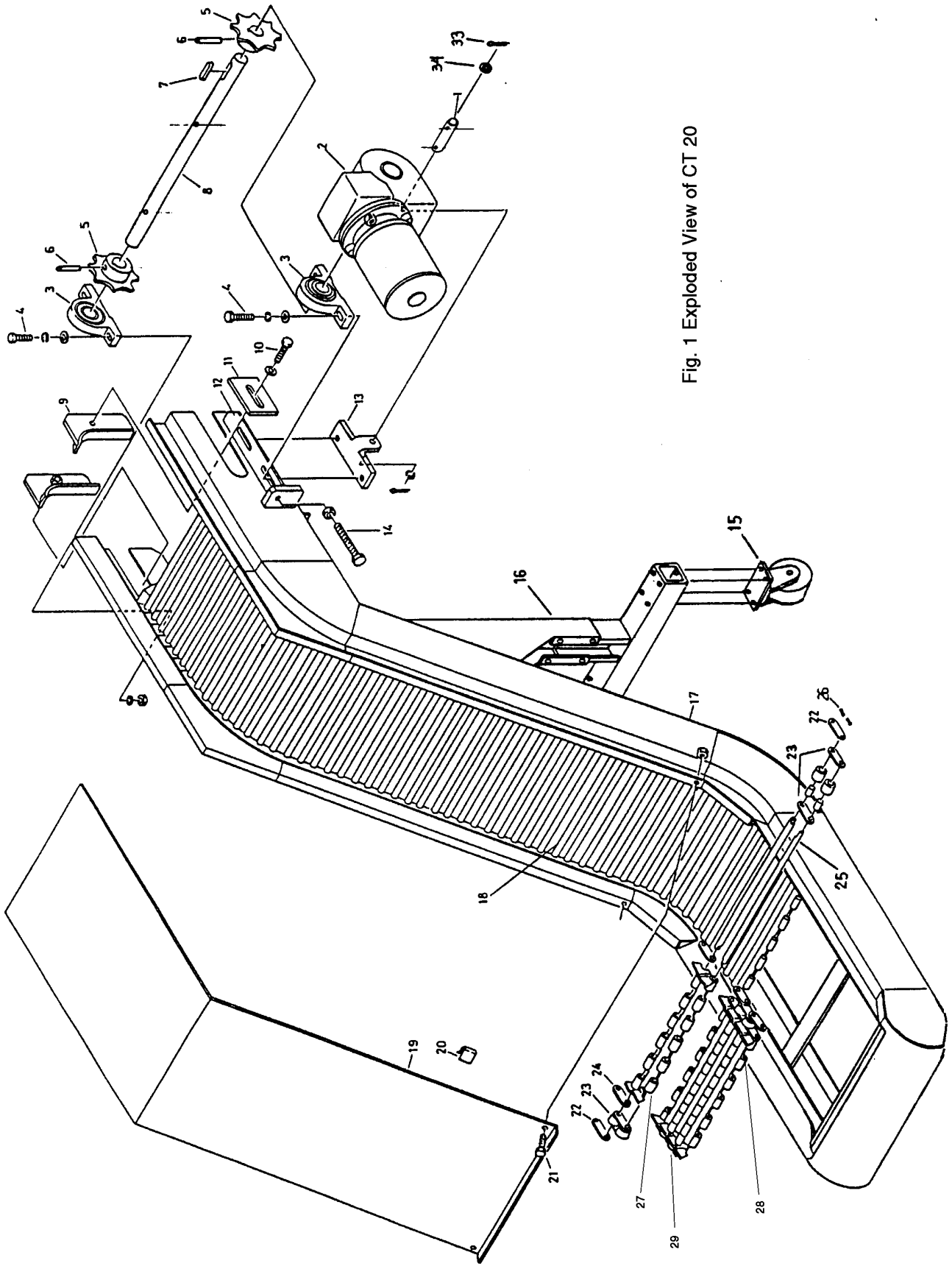


Fig. 1 Exploded View of CT 20

CT 20 CONVEYOR PARTS LIST

(refer to figure 1 exploded view drawing)

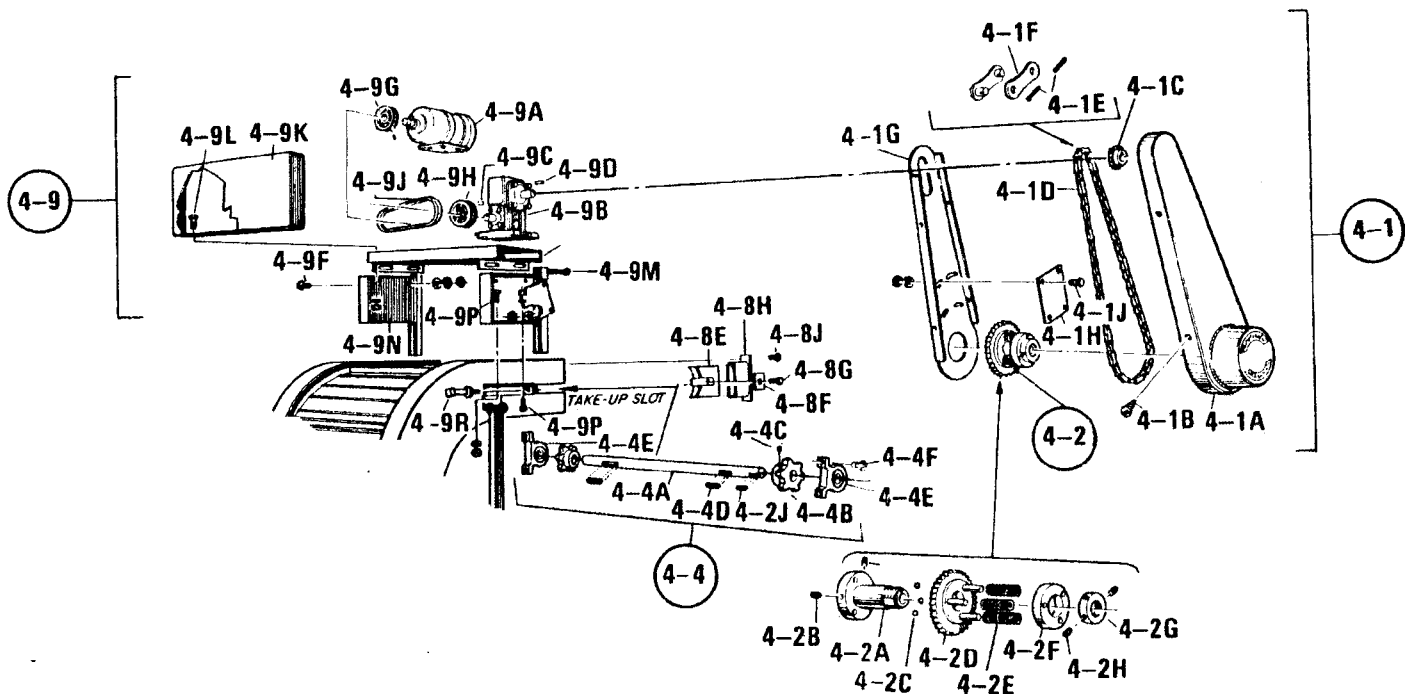
ITEM	PART NO.	PART NAME	NO.
1	CT20-31600	TORQUE PIN	1
2	T642.5288	GEARMOTOR	1
3	068231	PILLOW BLOCK BEARING	2
4	M10 x 35	HEX BOLT	4
5	CT-20-31100	HEAD SPROCKET	2
6	99-456378	ROLL PIN - 1/4" DIA. x 2" LG	2
7	CT-20-31001-2	SQUARE KEY - 7mm x 60mm LG	1
8	CT20-31001-(WIDTH)	HEAD SHAFT ASSEMBLY	1
9	CT20-31200-(R/L)	HEAD END CHAIN COVER	1ea
10	M6 x 16	HEX BOLT	2
11	MT-10-30201-1	SHAFT SLOT COVER	2
12	MT10-30401-(R/L)	DRIVE ADJUST SUPPORT	1ea
13	CT20-31500	BEARING FASTENER/DRIVE MOUNT	1
14	M12 x 80	HEX BOLT FULL THREAD	2
15	136259	SWIVEL CASTER	2
16	SEE CONV ASSY DWG	LEG ASSEMBLY	1
17	SEE CONV ASSY DWG	FRAME ASSEMBLY	1
18	SEE CONV ASSY DWG	BELT ASSEMBLY	1
19	SEE CONV ASSY DWG	TOP COVER	1
20	675700	TOP COVER SPRING CLIP	*
21	N16 x 12	HEX BOLT	2
22 4-7a	CT-20-11700	ROLLER BLOCK ASSEMBLY	*
23 4-7f	CT-20-11730	ROUND HOLE SIDE BAR	*
24 4-7e	CT-20-11731	D-HOLE-SIDE BAR	*
25 4-7g	CT20-1 801 -(WIDTH)	CONNECTING PIN	2
26 4-7b	99-191598	COTTER PIN	4
27 4-7j	CT20-11000-(WIDTH)	HINGE LINK	2
28 4-7k	CT-20-11600-R	SIDE WING RH	*
29 4-7i	CT-20-11600-L	SIDE WING LH	*

*QUANTITIES VARY WITH CONVEYOR DESIGN

DRIVE PARTS LIST

When ordering parts, be sure to include the following information: Serial number (stamped on nameplate), index number, part name, reference to this manual and drawing 87402-B

INDEX NO.	PART NAME	INDEX NO.	PART NAME
4-1	CHAIN DRIVE ASSEMBLY		
4-1A	Chain Guard Cover	4-8E	Movable Guard
4-18	Guard Fastener	4-8P	Movable Guard Support Plate
4-1C	Drive Sprocket	4-8G	Movable Guard Fastener
4-1D	Drive Chain	4-8H	End Closure
4-1E	Cotter Pin	4-8J	End Closure Fastener
4-1 F	Connecting Link		
4-10	Chain Guard Back Plate	4-9	DRIVE ASSEMBLY
4-1 H	Chain Guard Support Plate	4-9A	Motor
4-U	Support Plate Fastener	4-98	Speed Reducer
		4.9C	Input Shaft Key
4-2	MAYFRAN CLUTCH ASSEMBLY	4-9D	Output Shaft
4-2A	Clutch Collar	4-9E	KeyDrive Base
4-2B	Collar Set Screw	4-9F	Drive Base Fastener
4-2C	Ball	4-9G	Drive Sheave and Set Screw
4-20	Driven Sprocket and Hub	4-9H	Driven Sheave
4-2E	Spring	4-9J	Drive V-Belt
4-2 F	Spring Plate	4-9K	Drive V-Belt Guard
4-2G	Adjustment Nut	4-9L	Guard Fastener
4-2H	Set Screw	4-9M	Drive Chain Take-Up Screw and Jam Nut
4-2J	Shaft Key	4.9N	Drive Support Bracket
		4-9P	Drive Support Bracket Fastener
		4-9R	Belt Take-Up Screw and Jam Nut
4-4	HEAD SHAFT ASSEMBLY		
4-4A	Head Shaft		
4-4B	Head Shaft Sprocket		
4-4C	Sprocket Set Screw		
4-4D	Sprocket Key		
4-4E	Pillow Block		
4-4F	Pillow Block Fastener		



INSTALLATION

1. The conveyor must be aligned accurately without any twist in the frame. The deviation from the center line should not exceed 2mm on either side.
2. The belt and chain should be oiled.
3. Before starting the conveyor check the belt adjustment. It must be possible to depress the belt by hand in the bottom strand near the drive. Loosen the take-up bearings at the head end and use the take up bolt. Tighten the bolts on the bearings when complete.
4. The **sidewings** of the steel belt must be parallel to one another in travel direction. Too much clearance or bent side wings may cause jamming.
5. Most conveyors are equipped with simple pushbutton and magnetic starters or manual starters. Wiring diagrams are included inside the control enclosure. Observe local codes when doing wiring.

The conveyor should run for at least 5 hours without load. During the running-in period, please make sure that the steel belt and the cleats move freely and do not scrape along any frame parts.

MAINTENANCE

By far the most important preventive maintenance activity is to keep the conveyor clean. Removing excess material will prolong the life of the belt, bearings, and reducer, and ensure that limit switches and other electronic sensors will perform as they were designed. The frequency of machine cleaning depends on the type and amount of material being conveyed.

The other vital maintenance item is to insure that all components of the conveyor are well lubricated. This includes the belt chain, roller chain, bearings, take-up screw and reducer. For information on the motor,

reducer, and bearings, refer to the appropriate manufacturers' publication for the type of lubricant to be used.

The only other preventive maintenance that needs to be performed is a periodic inspection and testing of the conveyor components.

The following table lists recommended maintenance items and minimum intervals. It is recommended that the end user's maintenance manager produce their own preventive maintenance schedule based on these minimums. Accurate records of any maintenance performed must be maintained. These are general intervals, consult the technical manuals of your specific components for exact intervals.

ITEM	DESCRIPTION	INTERVAL
1	Check condition of all labels and safety decals. Replace if missing, damaged, or difficult to read.	Daily
2	Clean conveyor and remove any debris	Daily
3	Check reducer oil level	Monthly
4	Check steel belt tension\adjust if necessary — lubricate where required	Monthly
5	Lubricate bearings	10 weeks
6	Check limit switch operation (if applicable)	Quarterly
7	Check roller chain adjustment/lubrication	Every 6 months
8	Check v-belt tension, check sheave alignment	Every 6 months
9	Lubricate take-up assembly.	Every 6 months
10	Change gear reducer oil	Every 6 months*

*Consult the appropriate gear reducer manufacturer manual for proper intervals and break-in requirements.

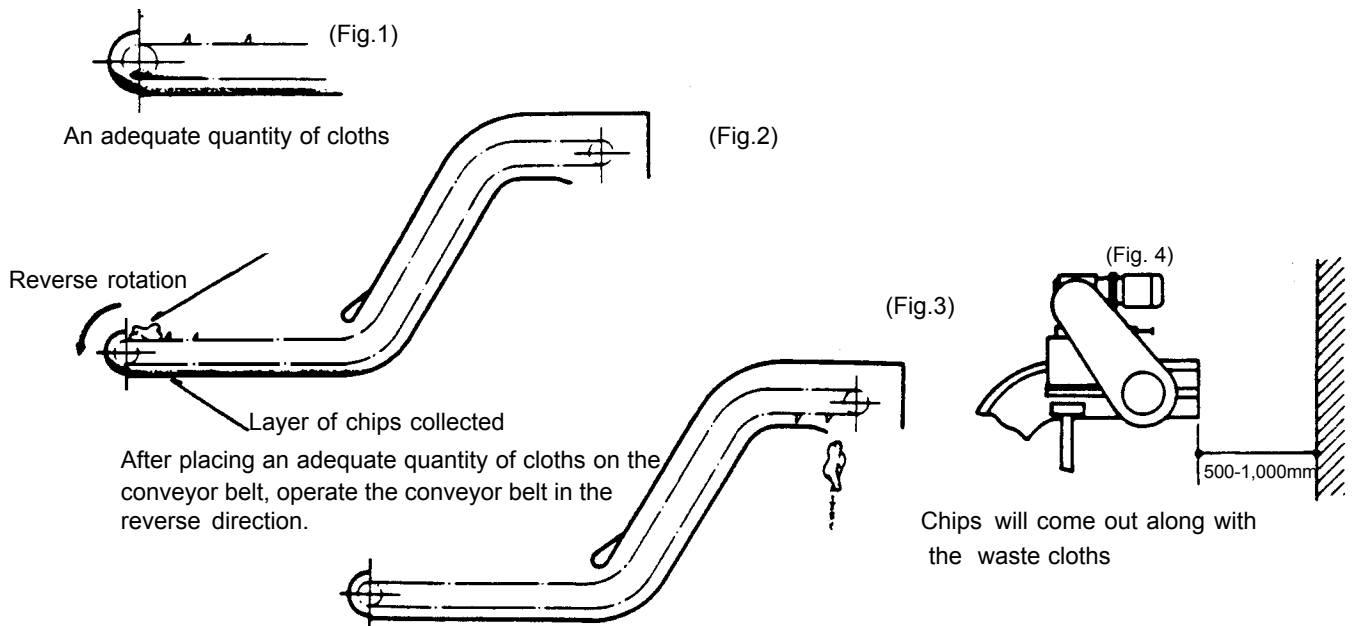
CLEANING THE CONVEYOR

Your conveyor should be cleaned on a regular basis. The frequency of cleaning will vary with your operating conditions. Dry chips or parts would not need cleaning as frequently as operations involving coolant. The worst condition would involve fine, small chips with coolant.

To conduct a "simple" cleaning of the conveyor, we recommend the following procedure:

- 1) Make sure conveyor is not running.
- 2) Remove the top cover.
- 3) Remove all the chips you can by hand.
- 4) Put a shop cloth(s) near the tail end (Fig. 2).
- 5) Run the conveyor in the reverse direction until the shop cloth(s) drop out. Repeat this procedure as required. (Fig. 3)
- 6) Replace top cover and make sure conveyor is set for running in the proper direction.

To conduct a *thorough* cleaning the belt must be removed from the head (discharge) end. By rinsing or brush, clean both sides of the belt and the inside of the housing. Make sure your installation provides adequate space in front of the conveyor (Fig. 4). Re-assemble the belt and adjust as instructed in this manual.



MAJOR COMPONENT REPLACEMENT (REFER TO FIGURE 1)

BELT REMOVAL

Turn the belt until the belt pin (25) with split pins (26) appears at the open section of the drive-end. Loosen the bolts (10) and remove the chain guards (9). Loosen the take-up bolts (4) about 1.5 mm, the belt will now slacken off.

Remove the split pin (26) from the belt pin in the bottom strand. The belt pin can now be pulled from the belt. Remove the chain-connecting link on both sides. The belt is now split, so it can be removed from the frame using the drive motor.

REMOVING THE GEARMOTOR (2):

Remove the torque arm pin. The gearmotor can now be pulled from the shaft.

REMOVING DRIVE SHAFT:

Remove belt and pull gearmotor as specified before from the drive shaft. Loosen bolts (4) of the bearing block (3).

ASSEMBLY:

Assembled in reverse order. Please note the direction of belt travel. The side wings should overlap in travel direction (see drawing). Make sure before assembly that all worn or damaged parts are replaced.

IMPORTANT:

Both adjustment bolts (14) must be tightened evenly. Incorrect adjustment may result in excessive wear of chain and/or sprockets.

TROUBLESHOOTING

Overview

Mayfran conveyors are designed to be the most reliable in the industry. However, problems may occur on occasion. Problems are normally discovered in one of two ways:

- A fault is received on the main control panel. Troubleshooting for these faults is briefly discussed in the charts on the following pages. For a complete guide to troubleshooting of electrical controls, consult your Mayfran Electrical Controls Manual.
- The second indication that problems are discovered is simply by the operator noticing that there is something different about the way the conveyor is operating; usually there is some sort of unusual noise. The only way to correct this problem is to examine the conveyor and determine the source. The common sources of noise are different for new conveyors and for conveyors that have been operating properly for some time.

Common causes for both cases are listed in the tables below:

NEW CONVEYORS	OPERATED CONVEYORS
Side wings contacting the frame Rollers binding in frames or curves Uneven tracks Poor alignment at frame joints or belt sprockets Stiff hinge links (belt not articulating through curves or around shafts) Sprocket rubbing against chain guard Cleats striking frames	Bent side wings Material on tracks Poor alignment Worn rollers Broken welds Material between the belt and frames Failed bearings Failed motor or gear reducer Improperly adjusted and/or worn roller chain/v-belts Loose take-up Binding in the belt

It is imperative that any unusual noises are identified, diagnosed, and corrected immediately to prevent serious damage from occurring.

TROUBLE	PROBABLE CAUSE	REMEDY
Excessive jam-ups without apparent blockage.	Not enough belt tension.	Loosen jam nuts. tighten take-up screws, then tighten jam nuts.
Bent or missing side wing.	Obstruction or jam-up due to overload or entry of foreign object.	Straighten side wing or replace.
Bent or missing loop on hinge link.	“Freezing” due to rust or lack of lubrication.	Oil hinges as needed. Replace link if necessary. Keep water off belt (except belts designed for water-quench operation).
Loose side bar. Excessive wear on outside of wings.	Missing cotter pin. Twisted frame, or conveyor not leveled. Loose sprockets on head or tail shaft.	Replace cotter pin. Level frame and straighten as required. Remove belt. Align sprockets. Tighten set screws.

JAM CLEARING SEQUENCE

- 1 Clear the top surface of the belt and jog reverse the conveyor to see if the jam clears itself.
2. Check for foreign objects jammed between the belt and the frame.

Check the belt tension in as many places as possible. One section of the belt will normally be tight. The rest of the belt will normally be loose (slightly movable). The jam will be at the end of the tight section.

3. Check the space between the belt and the bottom cover for any foreign matter. Clear any jam in this area by removing the material with a long bar. Do not attempt to remove it by applying force to turn the head shaft.
4. Check the sprockets at the tail and head of the conveyor for foreign matter.
5. Finally, check the tail and head shaft bearings

The following tables briefly describe faults that may appear on the conveyor control panel. Most conveyors have some type of motion sensor, and others may be equipped with a clutch limit switch used with a Mayfran Safety Clutch. All conveyors are equipped with an overload sensing device that will shut down the conveyor in the event of a motor overload. Note: this is an abbreviated listing only, please consult your Mayfran Electrical Controls manual for a complete list of diagnosis.

CONVEYOR MOTION FAULTS

The input for conveyor motion faults is the zero speed sensor discussed in previous sections. Always ensure that the sensor and actuator are clean and properly adjusted.

SYMPTOM	PROBABLE CAUSE	POSSIBLE SOLUTION
Conveyor not running: Motor not running	Breaker open Open circuit to motor Bad motor	Reset Breaker Correct wiring Check motor
Conveyor not running: Motor running	Clutch engaging Loose belt Broken/slipping v-belts Broken drive chain	Clear blockage, restart conveyor Adjust take-up to tension belt Replace/tension v-belts Repair/replace drive

OVERLOAD FAULTS

An overload fault is caused by tripping the overload device that supplies power to the conveyor. At the overload device is reset, and any obvious cause corrected, the conveyor should be run in local mode, and the amperage draw on the motor **checked. Also, check the current setting on the overload device.**

SYMPTOM	PROBABLE CAUSE	POSSIBLE SOLUTION
Overload Fault	Conveyor loaded beyond rated capacity Conveyor Jammed External drag or load Component failure	Reduce loading Clear jam Check skirt boards, flaps, wipers, etc. properly installed Check/clean/replace bearings, gearbox, and belt rollers which may be binding

GEARMOTOR INFORMATION

This Mayfran conveyor uses an exclusive gearmotor that has its own self contained clutch. It is lubricated for life and requires no adjustment or maintenance.

The gearmotor is pre-adjusted to the proper torque.

Allowable temperature of the motor and gearbox is as follows:

Gearbox ——— Ambient + 40° C
Motor ——— Ambient + 50° C

NOTICE

Prior to 1996, Mayfran supplied a gearmotor manufactured by Tsubakimoto. Mayfran currently supplies a gearmotor manufactured by Rheingetriebe.

If you are replacing a Tsubakimoto gearmotor, note that on your order and Mayfran will include a small hardware piece needed for the changeover. (Refer to drawing on page 15)

BELT ADJUSTMENT—STEEL BELT CONVEYOR

Proper chain tension is critical to the reliable operation of any hinged steel belt conveyor. Chains can loosen up after initial run-in on new conveyors or after longer periods of time as components begin to wear. One of the signs of a loose chain is an observed jerking motion of the belt pans when running. A chain that is too loose may jam and cause the conveyor to become inoperable. A chain that is too tight may cause excessive wear of chain component and create overloads on the drive system.

A good question is, “How do I know when my hinged steel belt has the correct tension?” The answer is found in the steps listed below:

- 1.0 Lock out the power to the conveyor.
- 2.0 With a hammer, tap hard on the center of the hinge link that is just beyond the head shaft (going toward the tail end). This can be done to either the top or bottom of the belt.
- 3.0 If the hinge link collapses and stays collapsed, the belt is too loose. See *“Tightening the Chain”* below.
- 4.0 If the hinge link collapses and springs back to its original position, the chain is properly tensioned.
- 5.0 If the hinge link cannot be collapsed, the chain is too tight. See *“Loosening the Chain”* below.
- 6.0 Turn power back on the conveyor.

Tightening the Chain

1. Loosen jam nuts on the head shaft take-up assembly.
2. Adjust the take-up bolts inward, evenly on each side, until the belt feels proper (refer to explanation in item 4.0 listed above).
3. Make sure the head shaft is square to the machine. This can be checked by measuring the distance from the head shaft to the front face of the conveyor. The dimension should be the same on both sides. If the belt runs to the side, the head shaft is not square.
4. Tighten the jam nuts.

Loosening the Chain

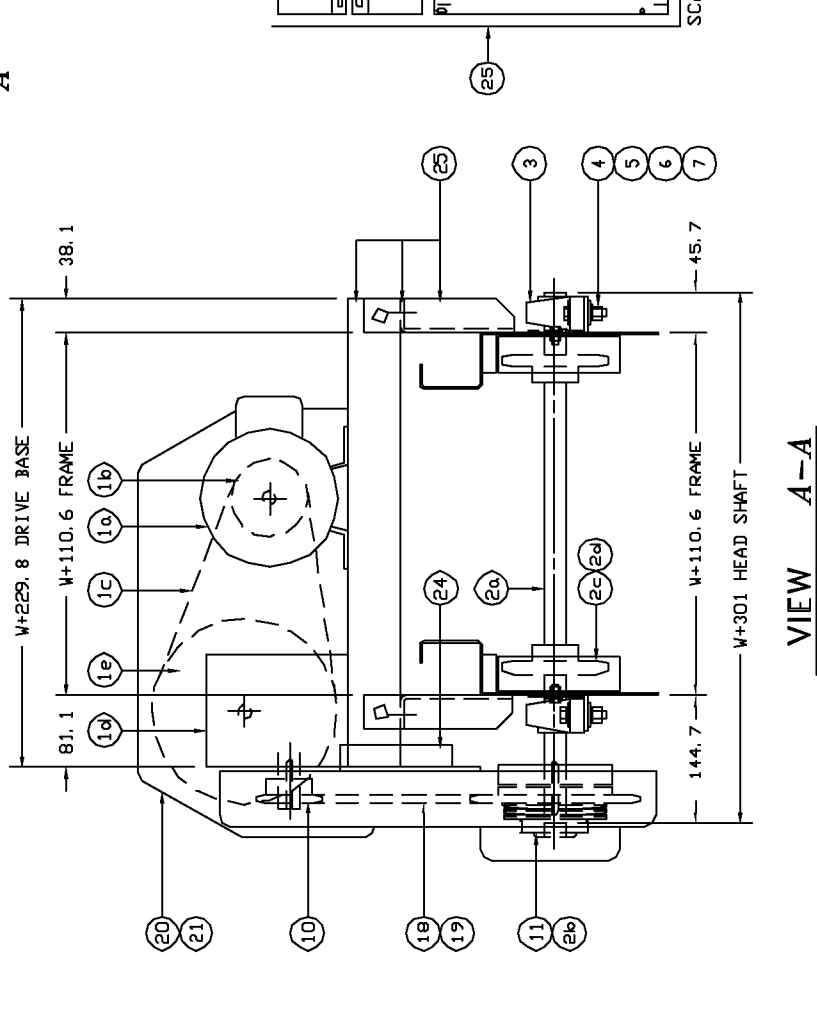
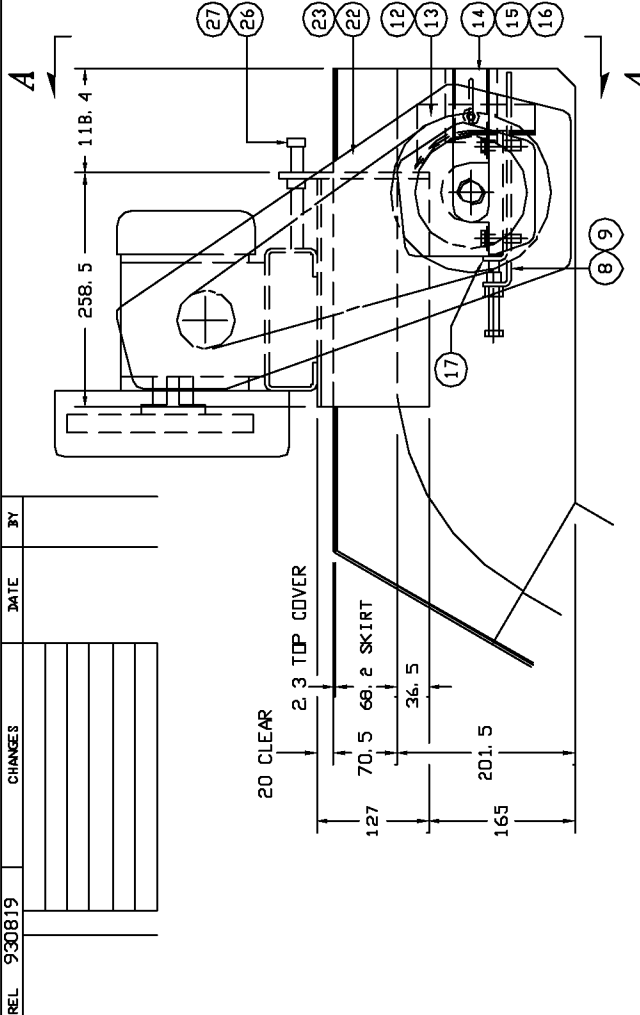
1. Loosen jam nuts on head shaft take-up assembly.
2. Adjust the take-up bolts out, evenly on each side, until the belt feels right (see 4.0 above).
3. Make sure the head shaft is square to the machine. This can be checked by measuring the distance from the head shaft to the front face of the conveyor. The dimension should be the same on both sides. If the belt runs to one side, the head shaft is not set square.
4. Tighten the jam nuts.

ALTERNATE “TOP MOUNTED” DRIVE

For some applications (usually due to customer specification) we will provide a conventional drive assembly mounted over the discharge area. This drive consists of a belt drive between the motor and reducer and a chain drive between the reducer and conveyor headshaft. A Mayfran ball detent clutch is mounted on the conveyor headshaft for drive protection. Mayfran also offers a limit switch mounted inside the drive guard to detect actuation of the clutch.

The following page illustrates our top mounted drive, right hand. Your conveyor may look slightly different, but the components should be the same. Our standard speed is 4.2 F.P.M. If you have a special speed, the sheaves, sprockets or belt may vary. Make sure you include your conveyor serial number when ordering spare parts.

REL	CHANGES	DATE	BY	PART NUMBER	ITEM REQ'D	DESCRIPTION	MATERIAL	WEIGHT	MATERIAL CODE
930819				BDP-AR104	1	MOTOR & REDUCER RH 6FPM CONSISTING OF:			
				486080	1a	MOTOR 1/2HP # 172SRM 56F TEFC 230/460-3-60			
				B47021	1b	DRIVE SHEAVE #K24 5/8" ϕ BORE			
				1182301	1c	V-BELT 4L-370			
				11820150RH	1d	WORM GEAR REDUCER 50:1 RATIO			
				B47060	1e	DRIVEN SHEAVE #K24 5/8" ϕ BORE			
				CT20-31001-	2	25mm HEAD SHAFT ASS'Y ---mm WIDE CONSISTING OF:			
				CT-20-31001-2	2a	ROUND BAR 25mm DIA X W/301mm LG	CR10M5		302-DA1
				CT-20-31100	2b	SQUARE KEY 7mm X 60mm LG			
				99-456278	2c	BELL SPOCKET 2082R6 23mm BORE			
				068231	2d	BELL PIN 1/4" ϕ X 2" LG PLAIN			
				99-11510931	3	PILLOW BLOCK BEARING 25mm			
				99-11510024	4	HEX BOLT M10 X 35			
				99-11510024	5	HEX NUT M10			
				99-11510024	6	LOCK WASHER M10 REGULAR			
				99-11510024	7	FLAT WASHER M10 REGULAR			
				HT10-34403-R/L	8	FLAT WASHER M10 REGULAR			
				B54650	10	DRIVE SPOCKET 50B13 1" ϕ BORE			
				300023	11	CLUTCH R1-1/4 V/30A36 SPROCKET 25mm BORE			
				CT20-31200-R/L	12/13	HEAD SPOCKET GUARD ASSEMBLY RH/LH			
				HT-10-30201-1	14	HEAD SHAFT SLOT COVER			
				99-11510387B	15	HEX BOLT M6 X 16			
				99-11510387B	16	FLAT WASHER M6 REGULAR			
				CT20-34403	17	BEARING TAKE-UP BRACKET			
				139450	18	ROLLER CHAIN #50			
				468330	19	CONNECTING LINK #50 CHAIN			
				250830	20	SHEAVE GUARD (PLASTIC)			
				250826	21	SHEAVE GUARD BACK PLATE-RH			
				250826	22	CHAIN GUARD (PLASTIC)-RH			
				250828	23	CHAIN GUARD BACK PLATE-RH			
				250871	24	CHAIN GUARD SUPPORT ASSEMBLY			
				30001- (NCP)	25	DRIVE BASE & SUPPORT BRKTS BLANK(LASER CUT)	76A HRS		314-024
				99-121339	B6	SQUARE NUT 1/2"-13			
				99-131571	27	SD HD OVAL POINT SET SCREW 1/2"-13 X 3-1/2"			



ALL BENDS
UP 90 DEG
FOR RH DRIVE

DATE	BY	SCALE
12-22-92	ME	1 = 4
CHECKED		
APPROVED		

TOP MOUNTED DRIVE AY
RIGHT HAND
1/2HP - 6 FPM
150-1000W CT20 CONV

INTERNATIONAL

PART NUMBER
CT20-30001-

VIEW A-A

SCALE: 1 = 8

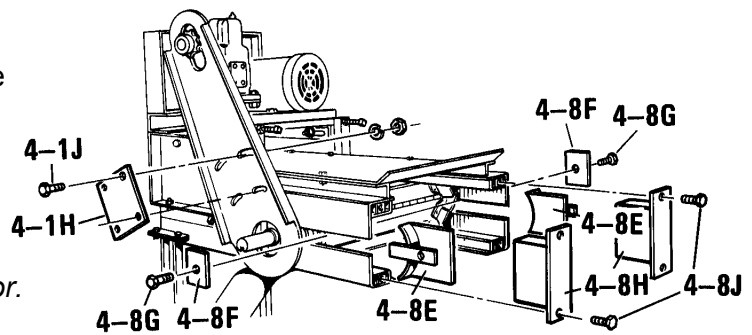
SERVICE INSTRUCTIONS

DISASSEMBLY

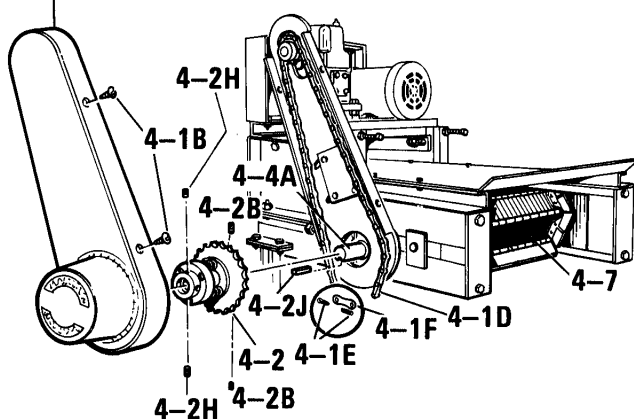
Disassemble parts, as required, by referring to the exploded view shown on pages 4-5. Observe specific instructions given in the following paragraphs.

NOTE

The following procedures cover complete disassembly of your CHIP-TOTE conveyor. Perform only those steps of disassembly necessary for the particular repair, inspection, cleaning, lubrication or other operations required.



4-1A BELT REMOVAL

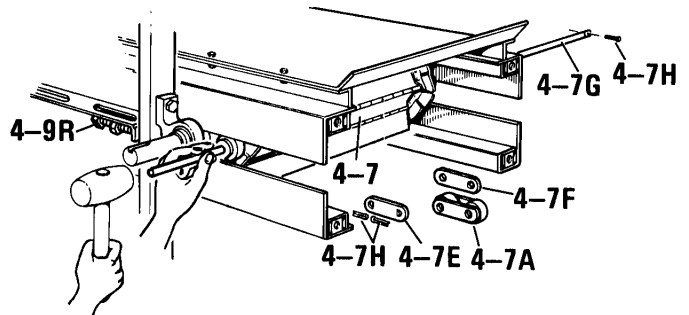


Remove chain guard cover (4-1A) by disengaging four screws (4-1B). Move belt (4-7) to line up a belt pin (4-7G) with the center of the take-up slot in the discharge end of the frame.

Disengage drive chain (4-1 D) by removing two cotter pins (4-1E) from master link (4-1F). Remove two set screws (4-2B) which secure Safety Clutch (4-2) to head shaft assembly (4-4) and remove clutch, releasing key (4-2J). Next, free plate (4-1H) by loosening four bolts (4-1J).

On the side of the head end opposite the clutch, unbolt and remove the movable guard support plate (4-8F) by removing bolt (4-8G). Take out two bolts (4-8J) and slide end closures (4-8H) and movable guards (4-8E) out of the frame. This leaves a slotted opening from the shaft to the end of the conveyor frame.

Remove cotter pins (4-7H) on both ends of belt pin (4-7G). Turn belt (4-7) until the other end of the small D-hole side bar (4-7E) and its corresponding belt pin (4-7G) line up with the slot.



Next, remove the cotter pins (4-7H) on both ends of this second belt pin, and remove the small D-hole side bars (4-7E) from both sides of the conveyor belt. Loosen the two take-up bolts (4-9R) on each side about 1/2 inch to relieve some of the belt tension.

Using a rod with a diameter of less than 3/8 inch, drive the belt pin (4-7G) through one of the rollers and round-hole side bar (4-7F). Remove the freed roller assembly (4-7A) and round-hole side bar (4-7F).

With the belting (4-7) separated, pull on the bottom strand to remove it. Maintain some tension on the upper strand as it feeds through the conveyor frame to prevent any tendency of the belting to "run away".

Complete disassembly by referring to the exploded view shown on pages 4-5. Note that before tail shaft assembly (4-6) can be released, two clip pins (4-6E) must be removed. Ball bearings are press-fit into the sprocket and must be pressed out for removal.

INSPECTION AND CLEANING

Inspect track and roller chain after approximately three months of service for any premature signs of wear. To inspect, pull conveyor, and remove belt. During check, make sure rollers turn freely. Lubricate if necessary.

No single inspection-and-cleaning period can be stipulated for all CHIP-TOTE conveyors. Clean and inspect CHIP-TOTE periodically at intervals set according to the type of service to which your unit is subjected.

CLUTCH ADJUSTMENT

The Mayfran Ball Detent Clutch (4-2) is adjusted at the factory to handle a belt carrying a normal load. A properly adjusted clutch will slip if the conveyor belt is overloaded or jammed. Therefore, if the clutch slips repeatedly, check the belt for obstructions and clear.

If no obstructions are found, contact your nearest Mayfran Factory Engineer to review the live load design criteria.

If the clutch has to be adjusted during installation, refer to the General Arrangement Drawing of your conveyor. The Bill of Material will list the set dimension to which the clutch should be adjusted. Do not exceed the set dimension without written authorization from a Mayfran Factory Engineer, as improper setting could result in damage to the drive components and/or the conveyor.

DRIVE-UNIT INSTALLATION

Because a great variety of drive units can be used of the conveyor, each installation will have to be considered separately. However, these general rules should be followed:

- Make sure the V-belt and chain are aligned and slightly loose.
- Mount the pulleys and sprockets as close as possible to their bearings with sprocket and pulley faces in line.
- Check the oil level in the reducer. If there is a pin in the vent, remove it.

ELECTRICAL EQUIPMENT INSTALLATION

Most conveyors are equipped with simple pushbutton and magnetic starters or manual starters. Diagrams are usually found inside the

starter cover. Observe local codes when doing the wiring.

LUBRICATION

The type of material carried on the conveyor will usually determine the frequency of lubrication. Any good grade of machine oil, applied with an oil can, brush, or spray gun, is satisfactory. However, graphite compound oil might be preferred since it needs to be used less frequently than regular oil. Belt joints and chains are the main components that need lubrication..

For best results, an Alemite "Oil Mist" system is recommended. This electrically controlled unit is wired to the motor circuit and is activated by an automatic timer. With this system, no other belt lubrication is required. An alternate oil brush type is available as optional equipment. In some cases only the conveyor belt chain needs lubrication. The pillow blocks are factory lubricated and, under clean conditions, require grease (not oil) only two or three times a year. Too much grease will damage the seals.

Change the oil in the speed reducer after the first two weeks of operation, and once every six months from then on. Read the nameplate for the proper grade of oil to use. Under normal indoor operation, SAE 140 should be satisfactory for worm gear speed reducers. Check oil level in the speed reducer about twice a month.

Oil the drive chains occasionally (about once every 4 to 5 weeks).

CAUTION

If the conveyor is not operating smoothly, and slipping occurs frequently, do not attempt to service the clutch; it is doing the job for which it is designed. Instead, locate the obstruction or other cause of overloading, and remedy the trouble. Do not under any conditions lock the clutch so that it cannot slip. This will make the clutch worthless and leave the drive without protection; the clutch is very strong and will not break, but the more expensive drive components might.

REASSEMBLY

To reassemble, repair or replace any defective parts, and follow reverse order of removal. Before resuming operation of the conveyor unit, make sure the necessary belt-tension adjustment has been mad and the adjustment screw locked in position.

LUBRICATION INSTRUCTIONS

Electric Motors, Pillow Blocks, and Similar Sealed Bearings

Bearings of this type should be lubricated with a Lithium based #2 EP Grease. As this grease is very common, no specific brand names are listed.

Lubricate before operating. Repeat every 1,000 hours of operation. Be careful not to inject too much grease. Ideally, the bearing should be half full. Too much grease can cause overheating in the bearing or damage the seals.

DRIVE CHAIN

Chains Require a light oil that can penetrate into narrow openings and will not hold dust. Use an I.S.O. Grade 22 oil such as:

Chevron CP Oil 22X
Imperial Molub-Alloy Chain Oil 22
Shell Clavis 22. Oil

Lubricate before operating. Repeat weekly.

GEAR REDUCER

Unless otherwise specified on the reducer nameplate, use the A recommended lubricant from the accompanying chart. For convenience, a list of selected brand names is included. Other brands meeting AGMA specifications are also acceptable.

The reducer must be filled to the oil level plug. Check the oil level before operating. Change the oil after the first 250 hours of operation. Repeat every 2,000 hours of operation.

When changing the oil, it is preferable to drain the gear box immediately after operating the conveyor, while the oil is still warm.

WARNING

- 1) Never remove any oil level or breather plugs while a reducer is operating. On some models internal pressure could cause injury.
- 2) As with any and all maintenance functions performed on mechanical equipment, all power sources must be locked out while the conveyor is being lubricated.

GEAR REDUCER LUBRICATION

AGMA Recommended Lubricants for Gear Reducers

REDUCER TYPE	50°-225° F	15°-60° F
Most Worm Units*	#8 Compound	#7 Compound
Helical & Planetary	#3 EP	#2 EP

SELECTED BRAND NAMES

AGMA NO.	#2 EP	#3 EP	#7 Comp.	#8 Comp.
I.S.O.VISCOSITY GRADE NO.	68	200	460	680
AMOCO	Permagear BP 068	Permagear BP #100	Cylinder Oil #460	Cylinder Oil #680
CHEVRON	NL Gear Compound 68	KL Gear Compound 100	460X Cyl. Oil	680X Cyl. Oil
CITGO	EP Compound 68	EP Compound 100	—	680-7 Cyl. Oil
EXXON	Spartan EP 68	—	Cylesstic TK-460	Cylesstic TK-680
GULF	EP Lubricant HD 68	EP Lubricant HD 100	Transgear EP 460	Transgear EP 680
IMPERIAL	Molub-Alloy #804 Gear 01	Molub-Alloy #80 Gear 09	—	Molub-Alloy #170W Gear
SHELL	Omala 68	Omala 200	Omala 460	Omala 680
TEXACO	Meropa 68	—	Vanguard 460	Honor 680
MOBIL	Gear 626	Gear 627	600 W	600 W Super

**Including worm units with center distances up to 6" and with input shaft speeds up to 1750 RPM. For other worm gear units, and for conditions not shown in this chart, consult the manufacturer.*

STORAGE INSTRUCTIONS

Indoors and for no longer than three months, coat all exposed surfaces with a I.S.O. Grade 22 oil such as:

Amoco Anti-Rust Oil No. 26
Chevron CP Oil 22X
Gulf Oilcoat A
Shell Clavis 22 Oil

For indoor storage of three to nine months, or for sheltered outdoor storage of up to two month, coat all exposed surfaces with an I.S.O Grade 46 oil, such as:

Chevron CP Oil 46X
Gulf Oilcoat R

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.

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 Preventive
Imperial Astrol RP Extra
Gulf No-Rust 7

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.

Service Notes



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