

Industrial Conveyor Specialists

Installation, Maintenance & Parts Manual For

MODEL MDR

Motorized Roller Conveyor



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Serial No.





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(A) Seller warrants that the material in and the workmanship on the equipment manufactured by TITAN will be free from defects at time of shipment. If during the first year from the date of shipment, the Buyer establishes to the seller's satisfaction that any part or parts manufactured by TITAN were defective at the time of shipment, TITAN will, at its own expense, repair or replace (but not install) replacement parts. For a time purpose of this warranty, one year will constitute 2080 hours of operation based on an 8 hour day. Sellers liability under this warranty is limited to replacement parts only and the seller will make no allowance for corrective work done unless agreed to by the seller in writing. Charges for correction of defects by others will not be acceptable, unless so authorized in writing, prior to the work being performed, by an officer of the company. Damage caused by deterioration due to extraordinary wear and tear (including, but not in limitation, use said equipment to handle products of a size, weight and shape or at speeds or methods which differ from information originally provided), chemical action, wear caused by the presence of abrasive materials or by improper maintenance or lubrication or improper storage prior to installation, shall not constitute defects. Failure to install equipment properly shall not constitute defects. Warranty does not cover belt tracking or adjustment at installation or periodic adjustment that may be required during normal operation. Refer to the maintenance manual for belt tracking instructions.

(B) Seller has made no representation, warranties, or guarantees, expressed or implied, not expressly set forth on above paragraph. Seller shall not be liable hereunder for any consequential damages included but not in limitation, damages which may arise from loss of anticipated profits or production or from increased cost of operation or spoilage of material.

(C) The components used in manufacture of said equipment which were manufactured by others will carry such manufacturers' customary warranty, which seller will obtain for buyer upon request.

(D) No representative of TITAN has been conferred with any authority to waive, alter, vary or add to the terms of warranty state herein, without prior authorization in writing executed by an officer of the company.

(E) The foregoing is in lieu of any and all other warranties, expressed or implied, or those extending beyond the description of the product.

CONVEYORS CONVEYORS

Safety

The Safety alert symbol is used with the signal words

DANGER, **A** WARNING and **A** CAUTION to alert you to safety messages.

They are used in safety decals on the unit and with proper operation and procedures in this manual. They alert you to the existence and relative degree of hazards.

Understand the safety message. It contains important information about personal safety on or near the conveyor.



CAUTION

POTENTIALLY HAZARDOUS SITUATION which if not avoided, could result in death or serious injury.

POTENTIALLY HAZARDOUS SITUATION which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

POTENTIALLY DESTRUCTIVE SITUATION which if not avoided, may result in damage or reduce the longevity of the equipment.

Safety Decals

ALWAYS replace missing or damaged Safety Decals.

Operational Safety



Keep Hands, feet, hair and loose clothing **away** when conveyor is running



NEVER climb, sit, walk or ride on conveyor



ALWAYS lock out power before servicing to avoid electrical shock.



ALWAYS keep hair and loose clothing away.



ALWAYS keep hands away from conveyor while moving.

ALWAYS keep hands, feet, hair

ALWAYS lock out power

before servicing.





KEEP HANDS,FEET, HAIR AND LOOSE CLOTHING AWAY WHEN CONVEYOR IS RUNNING



ТО PREVENT SERIOUS INJURY NEVER autocontrol mit, proposituat de cua NEVER autocontrol mit, proposituat de cua NEVER autocontrol de la cualitación de la cualitación NEVER Autocontrol de la cualitación de la cualitación is auxones NEVER autocontrol de la cualitación de la cualitación NEVER autocontrol de la cualitación de la cualitación I de la cualitación de la cualitaci ALWAYS read and follow

& loose clothing away.





Never run conveyor without guards in place.

WARNING DO NOT RUN CONVEYOR WITH GUARD OFF

DO NOT run conveyor with guard off.

CONVEYORS CONVEYORS

INTRODUCTION

The management and employees of Titan Industries thank you for specifying Titan equipment. This manual will give you the basic information to install and maintain your equipment. If special circumstances or questions come up call Titan at 920-982-6600.

I. RECEIVING

Upon delivery of your Titan conveyor, check the packing slip or bill of lading accompanying the unit. If any components are missing, contact Titan IMMEDIATELY with a description of the missing components along with the conveyor serial number(s). The serial number is found on the serial plate normally positioned by the drive.

Check the unit(s) over carefully upon arrival for damage. If you find any damage note it on the bill of lading. **YOU MUST** also file a claim **IMMEDIATELY** with the carrier.

II. INSTALLATION

WEAR SAFETY GLASSES, SAFETY SHOES, AND GLOVES. HAVE AREA AROUND INSTALLATION SITE CLEARED OF DEBRIS.

LOCKOUT POWER TO CONVEYOR(S) UNTIL START-UP.

LOOK OUT FOR SHARP EDGES WHILE HANDLING CONVEYOR COMPONENTS.

BE CAREFUL IN AND AROUND THE CONVEYOR(S) DURING INSTALLATION. ALSO, BE AWARE OF OTHERS IN THE AREA.

ONLY ALLOW QUALIFIED PERSONNEL TO ASSEMBLE AND INSTALL CONVEYORS.

SUPPORT ASSEMBLY

Standard supports are always shipped assembled. See *FIGURE 1* for a component breakdown.

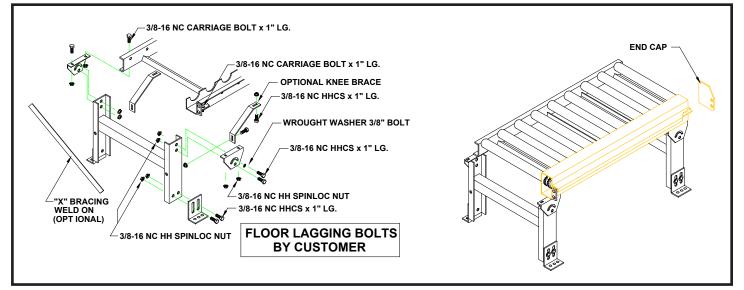


FIGURE 1



IN ORDER FOR THE CONVEYOR TO BE STABLE, THE SUPPORTS MUST BE LAGGED TO THE FLOOR OR SUPPORT STRUCTURE. THIS IS THE CUSTOMER RESPONSIBILITY!!

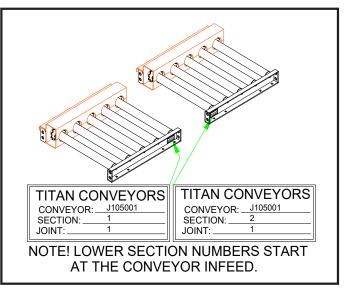
Titan Motorized Roller Conveyors have been assembled and test run at the factory so very little adjustment is necessary after the units have been field assembled. The following information will help with initial installation of possible part replacement.

FRAME ASSEMBLY

1. Along side the area where the conveyor is to be installed, layout the frame sections in their proper position according to the ordered description or refer to your copy of the approval drawing.

NOTE: IF SEVERAL SECTIONS OF FRAME ARE TO BE JOINED IN A PARTICULAR SEQUENCE, THEY WILL BE FACTORY MATCHED MARKED. SEE FIGURE 2.

FIGURE 2



- 2. Layout a line on the floor to represent the centerline of the conveyor. As frame sections are bolted together make sure they remain centered on the line.
- 3. Prior to coupling the conveyor sections, make sure that the drive cards are all on the same side of each conveyor.
- Bolt together conveyor frames finger tight, as shown. See FIGURE 3. Square frames and make sure all frames line 4. up with adjacent sections before securing all bolts. The frames must be level for proper operation. Adjust the supports as necessary for leveling.

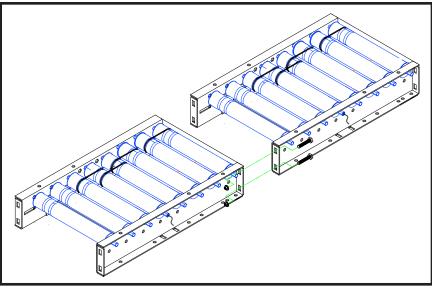


FIGURE 3

 For Chain to Chain Drive and Poly-V Belt Drive: Take off conveyor chain guards and with strands of chain provided, connect the end rollers from one frame section to another or connect Poly-V Belts from one section to another. See *FIGURE 4*.

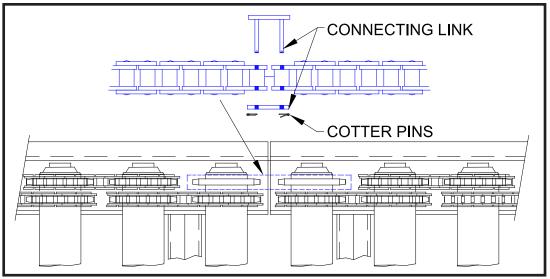


FIGURE 4



MOTORIZED ROLLER - READ BEFORE START-UP

LOCKING:

As a special outer rotor is used for the Power Moller's motor, the coil will not burn out when the POWER MOLLER is locked under conductance for a short period of time. But repeated locking will raise the temperature of the motor coil and result in gradual deterioration of the insulation and eventually cause the motor to burn out. It's unnecessary to turn off the power when the POWER MOLLER is locked under conductance for a few seconds. However, if locking longer than 10 seconds is required, it is necessary to turn off the power or use the accumulation type.

түрі	E	Incidental locking time without rise of motor damage
Standard	PM570AS PM605AS PMT50AS	Maximum 20 minutes
Accumulation	PM570AU PM605AU	Continuous locking allowed

CONTACT TIME / CYCLE TIME / DUTY CYCLE:

Due to temperature rise of the coil winding, the minimum contact time during intermittent operation is approximately as specified below:

TYP	E	Minimum Contact Time
	PM486	1 second ON / 1 second OFF
	PM570AS	3 seconds ON / 2 seconds OFF
Standard	PM605AS	
	PMT50AS	
Accumulation	PM570AU	Limitiana
	PM605AU	Limitless

Example:DUTY CYCLE= TIME ON / TIME ON + TIME OFF DUTY CYCLE = 20 SECONDS ON / 20 SECONDS ON + 20 SECONDS OFF DUTY CYCLE = 0.5 OR 50%

TEMPERATURE RISE:

The POWER MOLLER is designed to operate within an ambient temperature of -10° C (14° F) to 40° C (104° F). The temperature of the roller tube rises about 20° C (68° F) above the ambient during normal usage. Please contact your Itoh Denki representative for information on additional POWER MOLLER models.

INERTIA AND INTERMITTENT OPERATION:

- A. As a result of motor inertia, the POWER MOLLER will not instantly stop rotating after the power is disconnected.
- B. Inertia values differ in accordance with motor type, speed, operation time as well as weigh of the load.
- C. Inertia can be eliminated by using the POWER MOLLER with built-in brake

BRAKE INFORMATION:

In automated conveyor lines, it is sometimes necessary to precisely stop or position the article being transferred. In these cases, the optional built-in electromagnetic brake should be used.

- When not powered, the built-in electro-magnet uses spring force to lock the motor and prevent the tube rotation. The motor is released when the brake is powered (energized). Ordinarily, the power to the brake and motor is controlled simultaneously.
- In most cases, an external mechanical stop can be eliminated by using the POWER MOLLER with the built-in brake. However, the stopping distance may vary slightly depending on the load, speed, etc. In gravity lines, it is often necessary to control the descent of the load to prevent damage to the articles accumulated at the end of the line. In this case, the standard POWER MOLLER can act as a brake roller.
- When the rotation speed of the POWER MOLLER is increased by 10-20% from its nominal speed, it functions as an induction generator and braking torque is applied to the load.
- By incorporating POWER MOLLERs at several points in a self-traveling gravity line, speeding or congestion of the loads will be prevented.
 Braking characteristics vary by POWER MOLLER model and weight transferred.
 Please contact your TITAN representative for additional information.

LEVEL OF CONVEYING SURFACE:

- 1. If the bottom surface of the load is not flat or the conveyor rollers are not level, then the POWER MOLLER may rotate freely and the load may not be transferred or may tend to drift. It is especially important when transferring relatively heavy loads that the static load limit of the POWER MOLLER is not exceeded.
- 2. Transferring light loads (less than 5kg) may be impeded by the resistance of idler rollers. Check to be sure that the idlers spin freely.
- 3. Due to packing (binding) bands, bulging of the bottom of the load, etc., the load may lean to one side during transfer. The use of rubber lagging on each end of the POWER MOLLER would facilitate a straight transfer of the load.
 - When the diameters of the roller tube and the shafts of the POWER MOLLER are the same as that of idler rollers, the existing shaft holes in the conveyor frame can be used without any modification.
 - If these dimensions are not the same, the level of the POWER MOLLER must be adjusted by hanging the height of the shaft holes in the frame so that the load will be evenly applied to all the rollers.

CONVEYORS CONVEYORS

CHAIN & SPROCKETS

For longest chain life a constant film of oil is recommended. We recommend a good quality non-detergent petroleum base oil. Use the chart below.



SHUT OFF CONVEYOR BEFORE REMOVING GUARDS TO APPLY OIL.

TEMPERATURE	RECOMMENDED OIL VISCOSITY
20 degrees - 40 degrees F	SAE 20
40 degrees - 100 degrees F	SAE 30
100 degrees - 120 degrees F	SAE 40
120 degrees - 140 degrees F	SAE 50



REMEMBER - ALL GUARDS AND BOTTOM PANS, IF PROVIDED, MUST BE REPLACED BEFORE RUNNING CONVEYOR. TITAN INDUSTRIES IS NOT RESPONSIBLE FOR INJURIES CAUSED BY NOT COMPLYING WITH SAFETY INSTRUCTIONS.

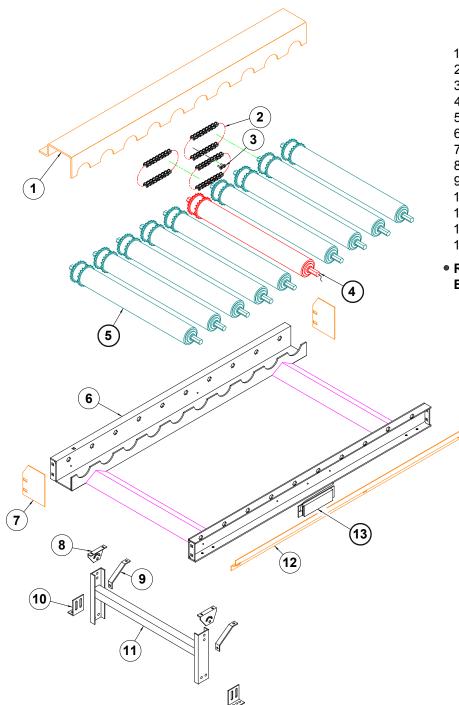
PRE-START-UP

- 1. Verify that conveyor sections, supports are installed properly. Feet are lagged to floor.
- 2. Verify that all zone-to zone cabling is connected properly.
- 3. Verify that all sensor cabling is connected properly.
- 4. Verify that conveyor is not loaded with product.
- 5. Verify drive rollers are securely bolted to side frame.
- 6. Verify all slave rollers are attached to drive roller with proper drive bands/chains.
- 7. Check all drive rollers, photo-eyes and drive modules for proper wiring.
- 8. Check all drive module DIP switch settings.

CONVEYORS CONVEYORS



Model MDR Motorized Roller Chain to Chain Driven Conveyor

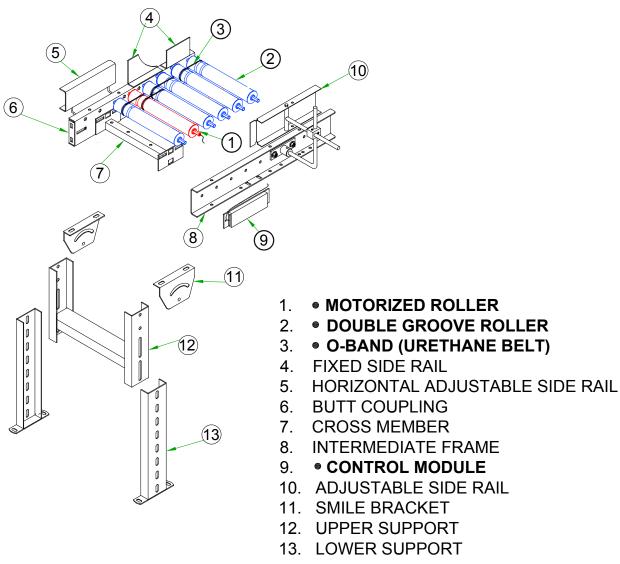


- 1. CHAIN GUARD
- 2. CHAIN LOOP
- 3. CONNECTOR LINK
- 4. MOTORIZED ROLLER ASSEMBLY
- 5. ROLLER ASSEMBLY
- 6. FRAME WELDMENT
- 7. END CAP
- 8. SMILE BRACKET
- 9. KNEE BRACE (OPT.)
- 10. SUPPORT FOOT
- 11. H.D. SUPPORT
- 12. Z STRIP GUARD
- 13. CONTROL MODULE
- RECOMMENDED SPARE PARTS TO BE STOCKED AT YOUR LOCATION

CONVEYORS CONVEYORS



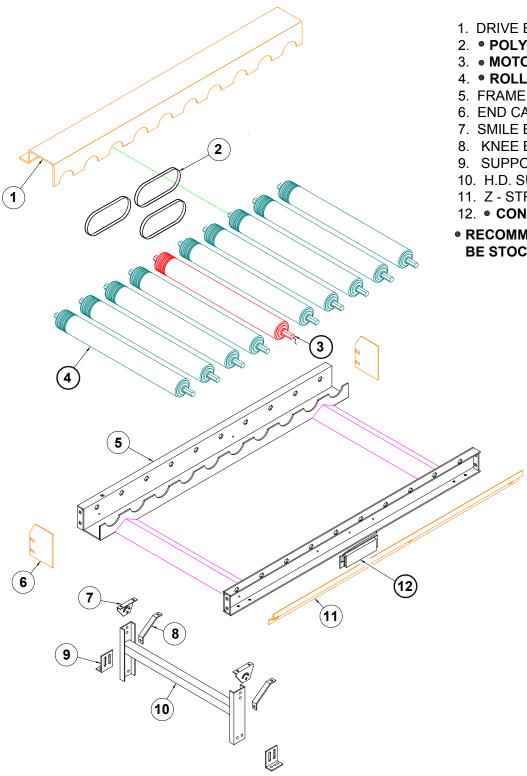
Model MDR Motorized Roller Poly-O Belt Driven Conveyor



• RECOMMENDED SPARE PARTS TO BE STOCKED AT YOUR LOCATION CONVEYORS CONVEYORS



Model MDR Motorized Roller Poly-V Belt Driven Conveyor



- 1. DRIVE BELT GUARD
- 2. POLY BELT
- 3. MOTORIZED ROLLER ASSEMBLY
- 4. ROLLER ASSEMBLY
- 5. FRAME WELDMENT
- 6. END CAP
- 7. SMILE BRACKET
- 8. KNEE BRACE (OPT.)
- 9. SUPPORT FOOT
- 10. H.D. SUPPORT
- 11. Z STRIP GUARD
- 12. CONTROL MODULE
- RECOMMENDED SPARE PARTS TO **BE STOCKED AT YOUR LOCATION**

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