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To our valued customers:

We at Cambelt International Corp. (CIC) are pleased that you have selected the Cambelt Model SP2420D diesel powered transloader to fill your bulk materials handling need. This manual has been prepared to assist you in making the best possible use of our equipment, and in fully understanding its operation. We have attempted to cover most of the pertinent areas, and hope that our efforts have been successful. If, however, you have any questions concerning the installation, operation, or maintenance of our equipment, which are not covered in this Manual, please feel free to contact CIC or the Cambelt Representative in your area.

Read these instructions carefully and pass them on to any others who will be directly responsible for the installation, operation, and maintenance of the Cambelt Model SP2420D diesel powered transloader. It is very important that competent and capable people be responsible for the safe and professional installation and maintenance of the equipment since, while the equipment is quite simple, it nonetheless requires regular inspections and adjustments (if necessary) to keep it in top working condition. Remember, the successful operation of the Cambelt Model SP2420D diesel powered transloader depends on how well these instructions are followed.

IMPORTANT!!

Immediately upon receiving the Cambelt Transloader, inspect for damage or indication of rough handling. Make sure all shafts rotate freely and examine the housing for obstructions or sharp edges in the path of the belt. Check for shortages by referring to packing list or Bill of Materials for a record of items shipped. Report any damage or shortage claims immediately to the carrier, keeping a record of your report; then notify your Cambelt Conveyor representative or CIC. CIC is not obligated to replace, free of charge, items which show as being shipped on the Packing List. CIC must be notified within 10 days after receipt of equipment of any shortages and/or damage. This will not relieve the carrier of its responsibility, but will provide CIC with information we would need if you happen to need our assistance in processing your claim with the carrier. Failure to notify CIC as specified will be understood to be notice that the equipment was received complete, and in good condition.

IMPORTANT!!

In the event that problems are encountered in the final assembly and start-up of your Cambelt Transloader that would be considered to be beyond normal and expected problems, it is necessary that your Cambelt engineer be notified prior to the affectation of a cure, if any claim is to be made against Cambelt as a result of the problem.

**CAMBELT WILL NOT APPROVE OR ACCEPT
BACKCHARGES FOR LABOR, MATERIALS OR OTHER COSTS
INCURRED BY PURCHASER OR OTHERS IN MODIFICATION,
ADJUSTMENT, SERVICE OR REPAIR OF CAMBELT-
FURNISHED MATERIALS UNLESS SUCH BACKCHARGE HAS
BEEN APPROVED IN ADVANCE OF THE WORK BY AN
AUTHORIZED CAMBELT PRODUCT MANAGER, BY CAMBELT
PURCHASE ORDER OR WORK REQUISITION SIGNED BY
CAMBELT.**

I. SERVICE AVAILABLE

The Cambelt Model SP2420D diesel powered transloader is designed to be set up and serviced by your plant personnel. However, if factory service is desired, please contact your local Cambelt representative or CIC. A schedule of current field service rates will be forwarded to you, upon request. Normally, advance notice of your need for field service is required, so plan ahead. An order for field service should be placed with your Cambelt representative at least one week in advance of the date on which you would like service to commence.

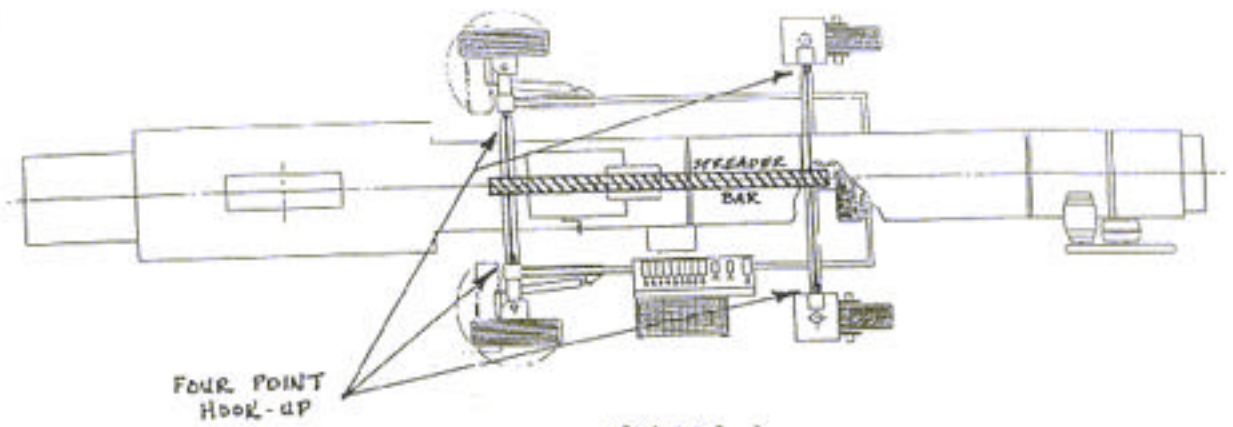


FIGURE 1

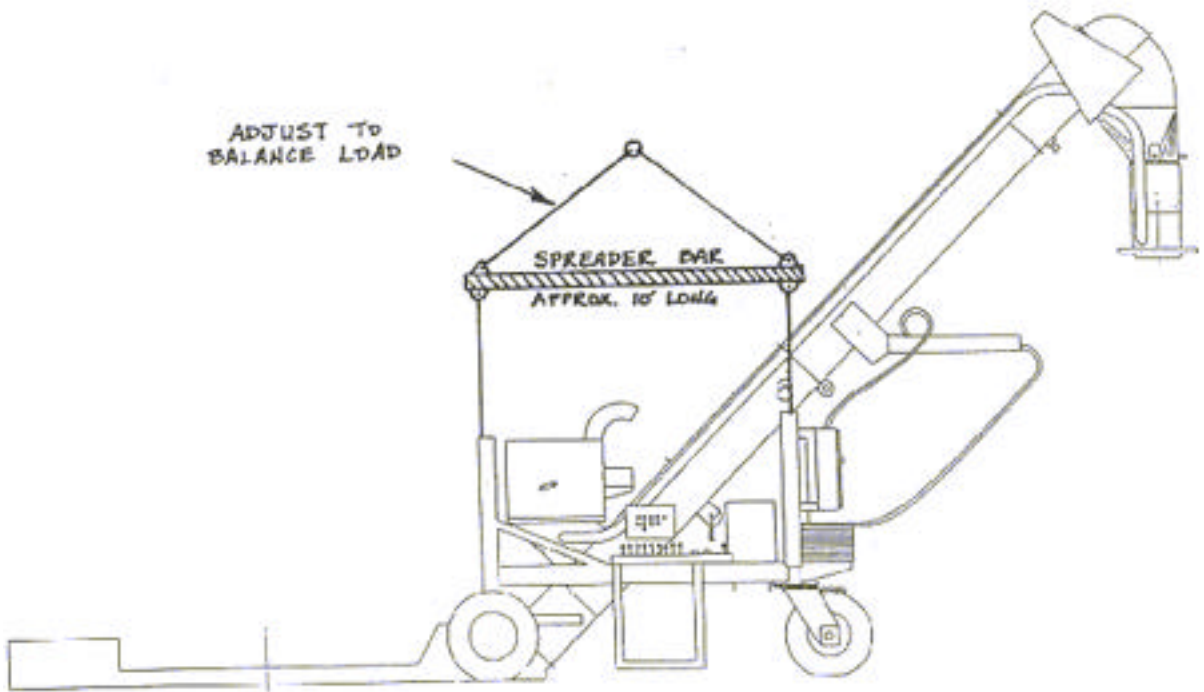


FIGURE 2

II. SET-UP OF THE CAMBELT

TRANSLOADER

In order that the Cambelt Transloader can be trucked down the highway, it has been designed to allow the upper half of the inclined portion of the conveyor to be folded down. You have received your transloader in just such a fashion. Before the transloader can be removed from the trailer, the folded down section must be raised to its full upright position, and bolts must be re-installed and tightened in the connection flange. All **eleven (11)** bolts must be in place to ensure that no damage will be done in lifting the transloader from the trailer. The head section of the conveyor has been equipped with a lifting lug to assist in raising the conveyor to its full upright position.

As a minimum equipment requirement for lifting the conveyor from its shipping trailer, we recommend a 25,000 lb. capacity rubber-tired extendable arm crane. We also recommend a spreader bar approximately 10 feet long be used to lift the transloaders from the trailer (see figures 1 and 2) to prevent damage to the engine and dust collector. Lifting lugs are provided at each point to which your chains or cables should be attached. The lugs are clearly marked near the top of each vertical tube.

When the lift cables are in place and ready, and the load is properly balanced, raise the transloader approximately one foot above the trailer. Have the truck pull out from underneath the transloader. The transloader can then be lowered straight to the ground.

The Cambelt Transloader is now ready to be driven to a convenient location where the belt ends can be re-connected. Until the belt ends are re-connected, the transloader is not ready to be operated.

III. SPLICING OF THE CONVEYOR BELT

The conveyor belt in your Cambelt Transloader has been installed, spliced, and operated in Cambelt's factory prior to shipment. To ship the Transloader by truck, the upper half of the inclined portion of the conveyor was folded down. Folding the conveyor down necessitated the removal of the hinge pin from the mechanical splice of the conveyor belt; therefore, before the conveyor belt in your transloader can be operated, the belt **MUST** be re-connected.

The disconnection of the belt splice was done directly beneath the plate that covers the inlet area of the Transloader. Remove the necessary bolts and lift the inlet cover away from the transloader to access the area in which the splice may be re-connected.

When the conveyor belt was originally spliced in Cambelt's factory, it was done so that the belt would be fairly tight, leaving an optimum amount of take-up travel remaining at the tail pulley. For this reason, re-connection of the splice and insertion of the hinge pin back into the splice may prove difficult.

If you find you cannot manually pull the belt ends back together, check the take-up pulley, making sure it is in its full forward position, nearest the Transloader inlet. If that alone is not enough to allow you to manually pull the belt ends together, then the use of belt clamps and a come-a-long may be required.

When the hinge pin is completely in place, be sure to set the crimp washers on each end of the pin to prevent the pin from wandering out of the splice. Crimp the washers securely so they will not slip off the ends of the pin.

IV. INSTALLING A REPLACEMENT

BELT

When a new replacement belt is being installed in the Cambelt Transloader, do not remove the old belt until the new belt is ready to be installed.

Prepare the leading end of the new belt according to the belt splicing instructions included with your new splice kit. Then pull the hinge pin from the old belt and connect the leading end of the new belt to the trailing end of the old belt by re-inserting the hinge pin between the two belts. As you then extract the old belt from the Transloader, the new belt will be pulled into place.

When the new belt is in place, complete the splice strictly in accordance with the belt splicing instructions included in the splice kit box.

Tools normally required to complete a mechanical splice:

- * Two pairs of belt clamps - one pair for each end of the belt;
- * One or two "come-a-longs" to pull the ends of the belt tightly together;
- * 1/2" drill motor;
- * Hammer;
- * Wrenches;
- * Carpenters' square;
- * Utility knife with extra sharp, new blades.

Great care must be taken to prepare the two ends of your belt with clean and square ends. Do not attempt to "eyeball" a straight (90°) cut. Use the carpenter's square

and check the line you are about to cut from all angles. Make sure it is square with the belt - if it is not, difficulty in belt alignment/adjustment will be experienced. Do not "hack" at the belt with a pocket knife when making your cut(s). Use a utility knife against a straightedge, making long, smooth cutting strokes in order to provide a smooth, clean edge against which to place your splice fasteners.

FOLLOW THE INSTRUCTIONS included with the splice kit!

V. BELT TAKE-UP / TENSIONING THE

CONVEYOR BELT

The Cambelt Model SP2420D Transloader utilizes a manual screw-type belt take-up device for removing the slack from the belt. It is simple, yet effective, and requires only a minimum of effort to make it work.

No specific formula exists to determine the amount of tension that should be applied to a belt. A simple rule to follow, however, is that the belt should only be tensioned to a point that:

- A. When the belt is first started, no slipping of the belt on the drive pulley is observed;
- AND
- B. Enough tension has been applied to allow for good control of belt alignment at the conveyor pulleys.

When both A and B are achieved, then tighten it just a little bit more (maybe another 1/4 inch).

A new conveyor belt will experience most of the expected stretch in a short period of time. A belt normally stretches approximately 1.5% of the conveyor length. In other words, your Cambelt Transloader of roughly 40' length will experience belt stretch of approximately .6 feet, or 7 1/2" of travel in the belt take-up. Again, the major part of this stretch will occur in the first several weeks of operation, and once that initial stretch is gone, belt tensioning maintenance may be done on a less frequent basis. Initially, however, much attention must be paid to belt tension in order to avoid damaging a belt by allowing it to run too loose.

As a belt is tensioned, care should be taken to prevent misalignment of the belt at the pulleys. If misalignment occurs, correct it immediately!

VI. ALIGNMENT OF THE CONVEYOR

BELT

In order to realize maximum life from your conveyor belting, keeping the belt in proper alignment is a matter of the highest priority. Improper alignment may result in deterioration of the edge(s) of the belt, and will likely cause a considerable amount of spillage of the conveyed material at the inlet to the conveyor.

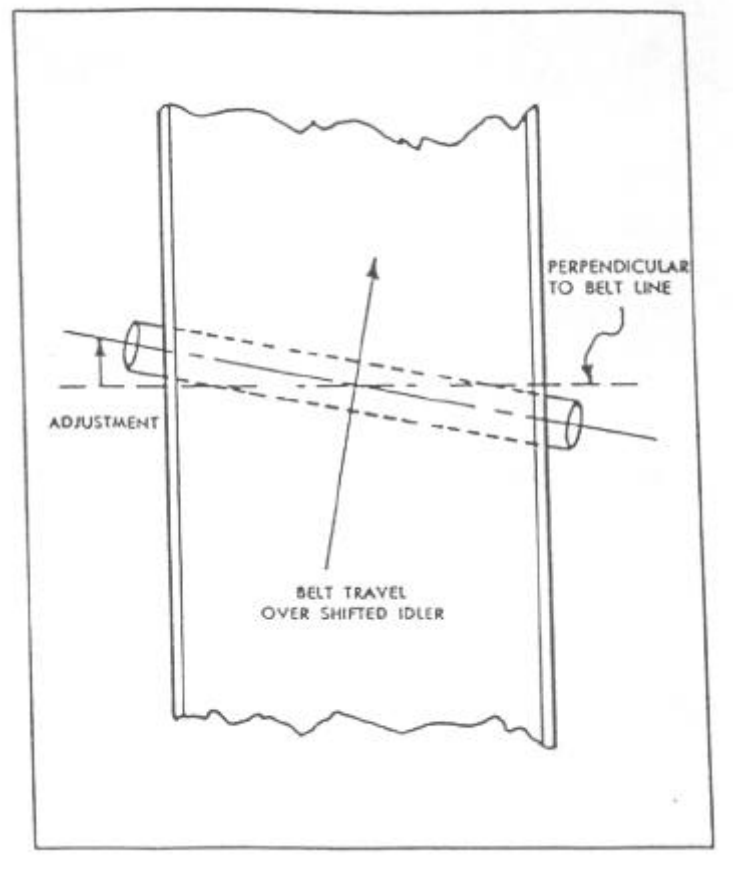
When the belt has been installed, the system should be started while empty and checked for alignment. A properly aligned conveyor has the belt running evenly in the center of the idlers, and therefore, prevents injury to the belt edges from contact with supporting structures or other objects. It is common, however, with most belts, to see some "wandering" of the belt from side to side on the conveyor. As long as the wander is not severe, simply set the belt alignment such that it averages out pretty well in the middle. If a misalignment problem exists, adjustment of the belt may be accomplished by readjusting the head, tail or turn pulleys.

If one section of a belt runs true and another section runs out of line, then generally the belt ends were not properly squared when the splice was installed. If the belt runs out of line consistently at one point in one of the conveyor straight runs, or if adjustment of the pulleys will not correct misalignment at a pulley terminal, the condition may be attributed to misaligned idlers. Usually the idlers that require adjustment will be located upstream of the point at which the belt runs out of line.

Proper alignment is achieved by first loosening the mounting bolts of the idlers on

the side of the conveyor from which the idler can be removed from the conveyor housing.

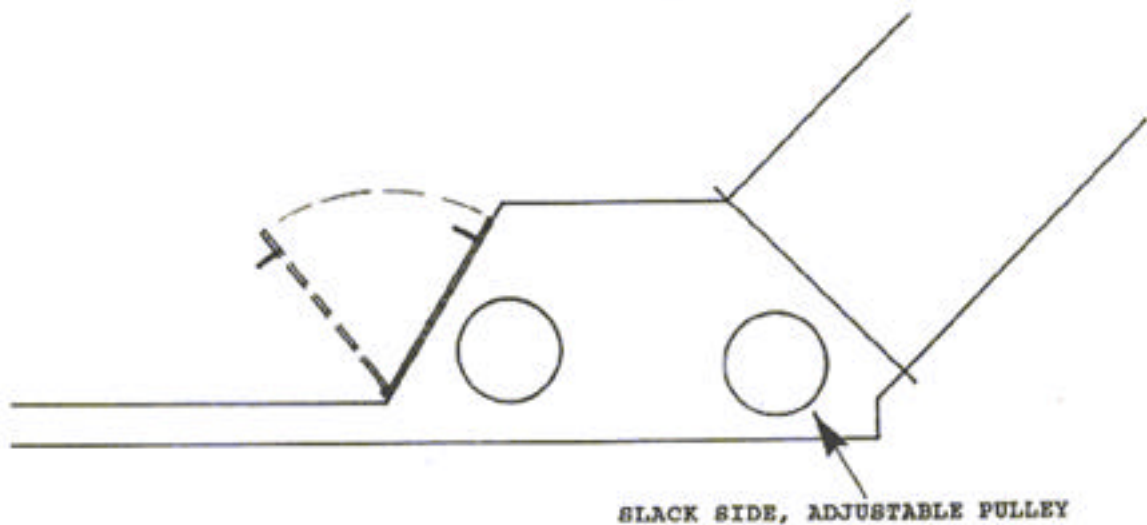
Do this on several idlers on the upstream side from the belt misalignment, and skew the idlers slightly. When one side of an idler is shifted ahead of the other, the belt shifts to the side which is behind. Re-tighten the mounting bolts before restarting the conveyor.



Once constant central alignment has been achieved with an empty belt, the conveyor should be checked while carrying a full load.

It is not unusual to have to readjust belt alignment while the belt is loaded, even though the empty pre-aligned belt was running straight.

The Cambelt Transloader conveyor is configured in an "L" configuration. This presents an alignment anomaly, in that it contains one adjustable pulley on the slack side or return side of the belt. This pulley(s) is the lower pulley in the increasing angle turn section (see illustration).



Belt alignment on the slack side pulley is accomplished by adjusting it exactly opposite from all other pulleys on the conveyor; in other words, the belt will naturally climb to the "high side" of a slack side pulley, so adjustment on this pulley will be opposite that which seems natural.

Be aware that adjustment of any pulley will likely have an affect on belt alignment at other pulleys. Be sure to check all pulleys for alignment before assuming that the adjustment on one pulley only is all you need.

Belt alignment just ahead of or prior to the hold-down flange pulley in the conveyor turn section is critical. Misalignment in this area will cause the belt to enter the flange pulley in such a way that the corrugated sidewall will scrub against the interior side of the pulley flange(s) causing severe abrasion to the belt sidewall . The existence of this condition will be clearly evident if you observe that the smooth, round edges of the corrugations of the sidewall are being "squared off". THIS IS A COMMON CONDITION, SO LOOK FOR IT! When it occurs, the remedy is pulley adjustment and better leveling of the conveyor during the transloading operation.

VII. MANEUVERING AND

POSITIONING OF THE CAMBELT

TRANSLOADER

The Cambelt Transloader is a highly maneuverable machine for its size and bulk. It is capable of being driven on a variety of terrain and/or roadbed conditions.

Forward, reverse, sideways, and other motions of the Cambelt Transloader are all accomplished by employment of the three (3) wheel motors and positioning of the front wheels in a variety of combinations. All operations are performed from the hydraulic valve bank located at the operator's platform.

Proper maneuvering of the Cambelt Transloader is always accomplished when the Left Rear and Right Rear wheels (the swivel casters) are allowed to swivel according to design. Except in cases where exact forward and reverse motions of the Transloader are required, the detent pins on each swivel caster should be removed and stored in its keeper stand.

CAUTION: Attempting to negotiate turns with the Cambelt Transloader while the detent pins are prohibiting revolution of the swivel casters may result in damage to the wheels, tires, or steering assemblies of the Transloader.

The operator's platform is equipped with a safety chain that should be used at all times when the Transloader is being maneuvered. Inexperienced operators may find driving the Transloader to be a "jerky" experience at first until a "touch" is acquired for operation. Therefore, use of the operator's platform safety chain is a must.

A. Forward Motion

1. Make sure the center rear wheel is in its fully retracted position so it will not drag along the ground. This is done by stroking the hydraulic valve marked "Lift System, Center Rear" to the "DOWN" position (away from operator).
2. Make sure there is adequate ground clearance underneath the conveyor. If more clearance is needed, this is accomplished by stroking the hydraulic valves marked "Lift System, Left Rear, Right Rear, Left Front, and Right Front" to the "UP" position (toward the operator) as indicated on the valve bank legend. Usually it is most effective to stroke both the "Left Front" and "Right Front" valves simultaneously, and then the "Left Rear" and "Right Rear" valves, again simultaneously. This will most often result in the smoothest up and down motions of the Cambelt Transloader.
3. To maneuver the Transloader forward, stroke the hydraulic valves marked "Wheel Motors, Left Front, and Right Front" to the "FWD" (forward) position. Stroke them both together; do it in a smooth and slow motion at first until you acquire a feel for the valves. Quick stroking of the valves will cause the Transloader to lurch forward in an uncontrolled fashion. Likewise, immediate release of the valves will result in the Transloader lurching to a halt. These jerky motions should be avoided whenever possible.

B. Reverse Motion

1. Make sure the center rear wheel is in its fully retracted position so it will

not drag along the ground. This is done by stroking the hydraulic valve marked "Lift System, Center Rear" to the "DOWN" position (away from operator).

2. Make sure there is adequate ground clearance underneath the conveyor. If more clearance is needed, this is accomplished by stroking the hydraulic valves marked "Lift System, Left Rear, Right Rear, Left Front, and Right Front" to the "UP" position (toward the operator) as indicated on the valve bank legend. Usually it is most effective to stroke both the "Left Front" and "Right Front" valves simultaneously, and then the "Left Rear" and "Right Rear" valves, again simultaneously. This will most often result in the smoothest up and down motions of the Cambelt Transloader.
3. To maneuver the Transloader in reverse, stroke the hydraulic valves marked "Wheel Motors, Left Front, and Right Front" to the "REV" (reverse) position. Stroke them both together; do it in a smooth and slow motion at first until you acquire a feel for the valves. Quick stroking of the valves will cause the Transloader to lurch backward in an uncontrolled fashion. Likewise, immediate release of the valves will result in the Transloader lurching to a halt. These jerky motions should be avoided whenever possible.

C. Right Turns

1. Turning during forward motion
 - a. To turn right, slowly release pressure from the hydraulic valve marked "Right Front". This will slow rotation of the Right Front

Wheel Motor, which will cause the front end (inlet end) of the transloader to swing right.

- b. To terminate the right turn, stroke the valve marked "Right Front" fully to the "FWD" position, at the same time slowly releasing pressure from the valve marked "Left Front". Alternately "feather stroke" both these valves to bring the Transloader back to a straight ahead motion.

2. Turning from a Stop

- a. Lower the Center Rear Wheel by stroking the valve marked "Lift System - Center Rear" to the "UP" position (toward the operator).
- b. When the Center Rear Wheel is in solid contact with the ground, raise the Left Rear and Right Rear Wheels (swivel caster wheels) slightly off the ground by stroking the valves marked "Lift System - Left Rear and Right Rear" to the "DOWN" position (away from operator).
- c. Stroke the valve marked "Wheel Motors - Left Front" to the "NEUT" (neutral) position in a very quick motion. Release the valve and it will remain locked in the "NEUT" position. This disengages the Left Front Wheel Motor and will allow it to freewheel in either a forward or reverse rotation.
- d. Slowly and simultaneously stroke the valve marked "Wheel Motors - Center Rear" to the "LEFT" position (away from operator) AND

the valve marked "Wheel Motors - Right Front" to the "RIGHT" position (toward the operator). The Transloader will spin right upon its own axis.

- e. To terminate this right spin, slowly release pressure from both valves, bringing the transloader to a halt.

D. Left Turns

1. Turning during forward motion
 - a. To turn left, slowly release pressure from the hydraulic valve marked "Left Front". This will slow rotation of the Left Front Wheel Motor, which will cause the front end (inlet end) of the transloader to swing left.
 - b. To terminate the left turn, stroke the valve marked "Left Front" fully to the "FWD" position, at the same time slowly releasing pressure from the valve marked "Right Front". Alternately "feather stroke" both these valves to bring the Transloader back to a straight ahead motion.
2. Turning from a Stop
 - a. Lower the Center Rear Wheel by stroking the valve marked "Lift System - Center Rear" to the "UP" position (toward the operator).
 - b. When the Center Rear Wheel is in solid contact with the ground, raise the Left Rear and Right Rear Wheels (swivel caster wheels) slightly off the ground by stroking the valves marked "Lift System - Left Rear and Right Rear" to the "DOWN" position (away from

operator).

- c. Stroke the valve marked "Wheel Motors - Left Front" to the "NEUT" (neutral) position in a very quick motion. Release the valve and it will remain locked in the "NEUT" position. This disengages the Left Front Wheel Motor and will allow it to freewheel in either a forward or reverse rotation.
- d. Slowly and simultaneously stroke the valve marked "Wheel Motors - Center Rear" to the "RIGHT" position (toward the operator) AND the valve marked "Wheel Motors - Right Front" to the "LEFT" position (away from operator). The Transloader will spin left upon its own axis.
- e. To terminate this left spin, slowly release pressure from both valves, bringing the transloader to a halt.

E. Lateral Motion

1. Lower the Center Rear Wheel by stroking the valve marked "Lift System - Center Rear" to the "UP" position (toward the operator).
2. When the Center Rear Wheel is in solid contact with the ground, raise the Left Rear and Right Rear Wheels (swivel caster wheels) slightly off the ground by stroking the valves marked "Lift System - Left Rear and Right Rear" to the "DOWN" position (away from operator).
3. Stroke the valve marked "Wheel Motors - Left Front" to the "NEUT" (neutral) position in a very quick motion. Release the valve and it will remain locked in the "NEUT" position. This disengages the Left Front

Wheel Motor and will allow it to freewheel in either a forward or reverse rotation.

4. Rotate the two front wheels to a position perpendicular to the conveyor belt by stroking the valve marked "Front Wheels" to the "90°" position (away from operator). Do not release the valve until you hear a definite change in the sound of the hydraulic system and the pressure gauge jumps up to a 2500 PSI reading.
5. Slowly and simultaneously stroke the valves marked "Wheel Motors - Center Rear" and "Wheel Motors - Right Front" to the "LEFT" position (away from operator) to move the Transloader to the left, or to the "RIGHT" position (toward the operator) to move the Transloader to the right.
6. To terminate lateral motion, slowly release pressure from both valves, bringing the transloader to a halt.

When an operator has become familiar with the basic maneuvers of the Cambelt Transloader, he is ready to position it underneath a railcar. Move the Transloader under the railcar using the Transloader's forward motion, aiming the conveyor tail section into an area BETWEEN two hoppers of the railcar. Then, using the Transloader's lateral motion, move the inlet of the Transloader into position directly beneath a hopper of the railcar. When the inlet is properly positioned, the Transloader elevation may be raised up to meet the bottom of the railcar hopper. Usually, the closer the conveyor inlet is in relation to the railcar hopper, the cleaner the transloading operation will be.

**CAUTION: DO NOT ALLOW RAILCAR WEIGHT TO BE BORNE BY
THE CAMELT TRANSLOADER!!**

The hydraulic lifting system on the Cambelt Transloader is extremely powerful. When the Transloader is in position beneath a railcar hopper, never allow the railcar weight to be borne by the Transloader. Do not lift the railcar! Severe damage to the Transloader may result.

***VIII. LEVELING THE CAMELT
TRANSLOADER***

The Cambelt Transloader is capable of being operated and driven on a variety of

terrain and/or roadbed conditions. The ground upon which the Transloader is operating need not necessarily be level; but it is important that when the conveyor belt is in operation during the actual transloading process, the conveyor itself be as level as possible.

Each wheel of the Cambelt Transloader is equipped with the ability to raise or lower, independent of all the others. Leveling of the Transloader is accomplished through raising and/or lowering of each individual wheel according to the requirements of the particular terrain.

CAUTION: Operate the conveyor belt only when the Transloader is level!!

IX. GENERATOR

The Cambelt diesel-powered Transloader is equipped with a generator, located beneath the diesel engine, which provides electrical power to operate the dust collector and the 120 volt duplex receptacle.

The Transloader is equipped with a voltage meter that is mounted on the electrical

control panel next to the operator's platform. The voltage meter is easily visible from the operator's platform. It is very important that whenever the dust collector and/or the 120 volt duplex receptacle are in operation, the engine RPM be adjusted to a point where the reading on the voltage meter is 240 volts.

CAUTION: VOLTAGE METER MUST READ 240V whenever dust collector and/or duplex receptacle are in use!!

Be aware that engine RPM may change as the conveyor belt is started or stopped. Re-adjust engine RPM as needed to maintain a 240V reading on the voltage meter.

X. LIGHTING SYSTEM

The Cambelt Transloader is equipped with flood lights to allow for nighttime transloading operations. Three (3) flood lights are included, aimed toward the following:

- a. The conveyor inlet area;

- b. The operator's platform and hydraulic valve bank;
- c. The discharge spout and top of trailer area.

The lights are powered by the 12 volt system of the diesel engine, if you have a diesel-powered Transloader; or if you have an electric-powered Transloader, the lights are powered by a 120 volt source that is converted from the 480 volt power source by means of a transformer that is included on the Transloader.

All flood lights are on a single circuit and are operated by a toggle switch located at the operator's platform.

XI. DUST COLLECTOR

The Cambelt Transloader is equipped with a dust collector that is powered by the 240 volt current from the generator described in section IX of this manual.

The dust collector, when activated, maintains a negative pressure on the entire conveyor housing and also will draw dust from the trailer during the transloading operation.

When the engine RPM is correctly set and the voltage meter is reading 240 volts, the dust collector can be started by pushing the start button located on the side of the electrical control panel.

CAUTION: **Whenever dust collector is in operation, voltage meter must read 240 volts. Adjust engine RPM as necessary to attain 240 volts before dust collector is started; then maintain 240 volts by adjusting engine RPM as required!**

The filter bags inside your dust collector require frequent cleaning. At the conclusion of loading each truckload of material, the bags should be shaken clean. The shaker is manually operated by pulling quickly and repeatedly on the handle located above the operator's platform. Approximately 10 to 15 pulls should adequately shake the material loose from the bags. Do not attempt to shake the bags while the dust collector is in operation. The blower motor must be "off" in order to shake the bags. Material that falls from the bags drops into the hopper below the collector and feeds back onto the conveyor belt.

An adjustable plate is located in the hopper beneath the dust collector. In order to allow the dust collector to pull enough air and dust from the discharge spout, keep negative pressure on the conveyor housing, and also allow material shaken from the filter bags to re-enter the conveyor belt, the plate must be adjusted properly. The plate is pre-set at Cambelt's factory to allow approximately a 3/8" gap at the bottom of the hopper. A

periodic check to be sure the plate remains in proper adjustment is essential to satisfactory operation of the dust collector. If a build-up of material in the hopper has blocked the 3/8" slot in the bottom of the hopper, remove the material build-up.

XII. VIBRATOR

The Cambelt Transloader is equipped with a railcar vibrator. The vibrator is located just above the conveyor turn section, and is stored in a carrying bracket on the front side of the main transloader bulkhead.

The vibrator is a hydraulically actuated vibrator, activated by stroking the hydraulic valve marked "Vibrator" at the operator's platform. Move the valve to the "ON" position (toward the operator) to activate the vibrator, and to the "OFF" position (away from the operator) to terminate the vibrating action.

The vibrator is fitted with a wedge that slides into both the carrying bracket on the transloader and the vibrator bracket on each hopper of the railcar. Simply insert the vibrator wedge into the bracket on the railcar hopper; then activate the vibrator.

NOTE: Because of high noise levels produced by the vibrator, it is advisable to use hearing protection devices during vibrator operation.

XIII. THE CONVEYOR INLET

History has shown us that a high percentage of problems experienced with belt conveyors originate at the conveyor inlet. Improper feeding of the belt may result in material spilling over the edge(s) of the belt and in overfilling the belt with material beyond what the belt is capable of carrying away.

It is vital that, as much as possible, the flow of material into the conveyor inlet be directed toward the center of the belt and away from the sidewalls. If your Cambelt Transloader has been supplied with a set of orifice plates at the conveyor inlet, **DO NOT DISCARD THEM!** They will aid greatly in directing the flow of material onto the belt as is required to minimize spillage and overfilling.

XIV. THE CONVEYOR DISCHARGE

Always make sure that the conveyor discharge chute and spout are kept free from material build-up or obstruction. The results of such a condition can be disastrous, as the conveyor housing will quickly fill full of material and jam the entire system. Regular inspection of the discharge chute and spout will go a long way toward eliminating such an unfortunate occurrence.

XV. STARTING THE CAMBELT

TRANSLOADER

Good conveyor engineering practice requires that a conveyor belt be started prior to the introduction of material onto the belt. Whenever possible, adherence to this rule is very important. First, activate the conveyor belt by moving the large hydraulic valve marked "CONVEYOR", to the "FWD" position. This is the correct position for transferring material through the transloader from the railcar to the truck. Second, begin opening the slide gate on the bottom of the railcar hopper you are unloading. Open the gate only wide enough to initiate flow of material from the railcar sufficient to deliver your required capacity. Do not completely open the slide gate of the railcar except to assist in totally emptying the hopper.

CAUTION: Conditions such as a full conveyor housing, overloaded belt at conveyor inlet point, extremely cold temperatures, etc., may cause failure of the conveyor to start.

Only move the hydraulic valve marked "CONVEYOR" to the "REV" position to assist in unjamming the conveyor belt after the belt has become overloaded and jammed. Operation of the belt in reverse direction is not recommended under normal conditions, since the belt will not align itself on the conveyor pulleys properly. Again, only use

reverse to help free a jammed belt, at the same time digging out the material that is packed into the conveyor housing.

XVI. SHUT-DOWN OF THE CAMBELT

TRANSLOADER

Good conveyor engineering practice requires that the feed source to a belt conveyor be terminated prior to the shut down of the belt conveyor itself. Whenever possible, adherence to this rule is of major importance. This will prevent excessive build-up of material on the belt at the inlet point which, if allowed to occur, could make restarting of the belt difficult, and could also cause product spillage at the inlet since the belt would not be carrying product away.

XVII. LUBRICATION OF THE CAMBELT TRANSLOADER

All of the bearings on your Cambelt Transloader (both pulley bearings and idler bearings) have been pre-greased by their respective manufacturers. The bearing cavity may not be completely filled with grease, however, so you should lubricate all bearings prior to commissioning your transloader.

**CAUTION: DO NOT OVER-LUBRICATE BEARINGS - SEAL
DAMAGE MAY OCCUR!**

It is not necessary to see grease "oozing" from the bearing to know it is full of grease. If you do observe grease oozing from the bearing, you have just ruptured the seal, and lubrication will now need to be performed on a much more frequent basis than would be required if the seal were still intact. When pumping the grease gun and resistance greater than normal pumping resistance is felt, STOP!! Your bearing is full! Further pumping will rupture the bearing seal!

Only you can determine the right bearing lubrication frequency for your particular operation. A few factors that should be considered in determining your frequency of lubrication are:

- * Duty Cycle (hours per day of operation)
- * Temperature at which conveyor operates

- * Cleanliness of installation - dusty conditions
- * Quality of the bearing seal

BE AWARE that the small gear reducers located at each of the three (3) wheel motor assemblies have been filled with the required oil. It is very important, however, that these fluid levels be checked periodically to make sure the reservoirs are kept full. Use lubricants as indicated on the gearbox nameplates.