Approved

BARRIER SYSTEMS INC.

TECHNICAL BRIEF

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TTM *200 SERIES*

SHIPPING INSTRUCTION

TTM's are shipped on a 48' drop deck flat bed. ***The main deck must be at least 37'***. The maximum height from the ground to the top of the deck is 41". If the truck is within those dimensions and the machine is properly prepared for shipment, the load will be a legal load ***that does not require permits***.

TTM LOADING

The following is a procedure to simplify the breakdown and loading of a TTM.

Equipment and Personnel required.

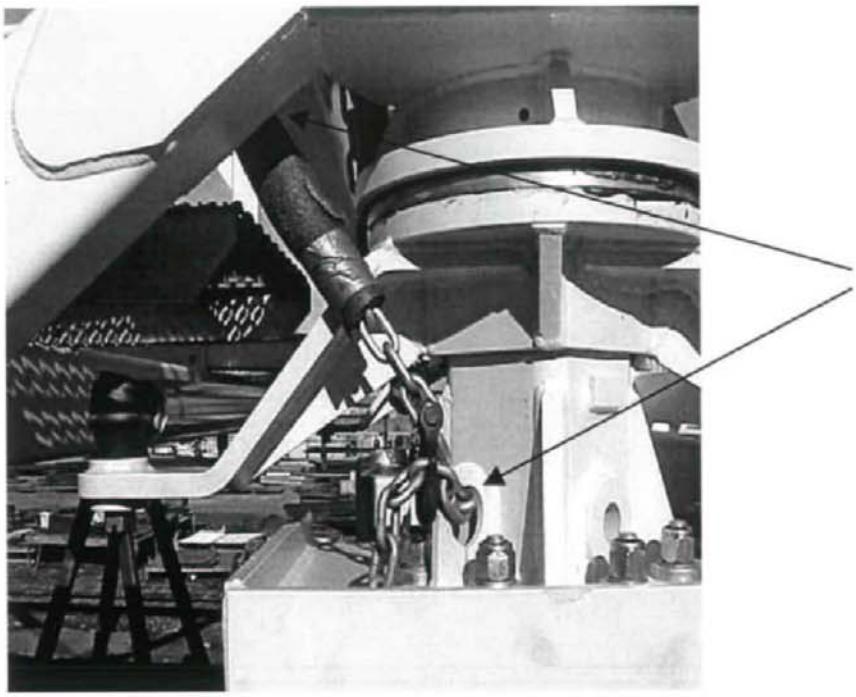
- 3 people required. ***crane operator, mechanic, and laborer.***
- 1 crane capable of lifting 42,000 lb. at the distance required.
- 20 foot 4 way cable slings adequate for 42,000 lb.
- Air compressor for air tools.
- General mechanics tools.

Disassembly

The machine must be partially disassembled for shipment. The following is a list of components that must be removed from the machine.

- Leg height-adjusting pins. With the engine started, slightly lift each end of the machine. Note: The axle end of the machine is lifted with the machine lift cylinder and several blocks of 6"x12"lumber (located in tool box). Remove the height adjusting pins, located on the top of each leg assembly (there are four leg assemblies). After the pins are removed lower the machine the full extent of travel. Failure to do this will cause the machine to be over height. The pins are not reinstalled, store them in tool box.

- Install 2 chains as shown in photo. The chains are used to suspend the axle during loading. Chains are only needed on drive end (axle end).



Chain is installed through lug on inner leg tube and around the frame as shown in photo
The chains were shipped with the machine and should be in the tool box.
DO NOT LIFT MACHINE WITHOUT CHAINS INSTALLED

- **Conveyor disassembly**. The conveyor must be partially disassembled to allow for shipment. Refer to machine assembly section of the 200 series manual for instructions.
- After pickup section, turn section and all miscellaneous parts are removed slide support tubes completely into main frame and pin for shipment.

- **Engine muffler**. The bolt that secures the muffler to the manifold can be reached from inside of the engine compartment. PLACE DUCT TAPE OVER THE OPEN MANIFOLD. **Failure to seal the manifold opening will result in damage to the engine turbo and result in subsequent back charges**.

- **Remove the ladder** from the non-drive end of the machine. This is to allow the machine to hang over the step deck of the trailer.

- **Capstan wheels**. Remove the 6 lug nuts that secure each capstan wheel to the inner hub. These wheels along with the spare should be strapped to the grating near the main engine.

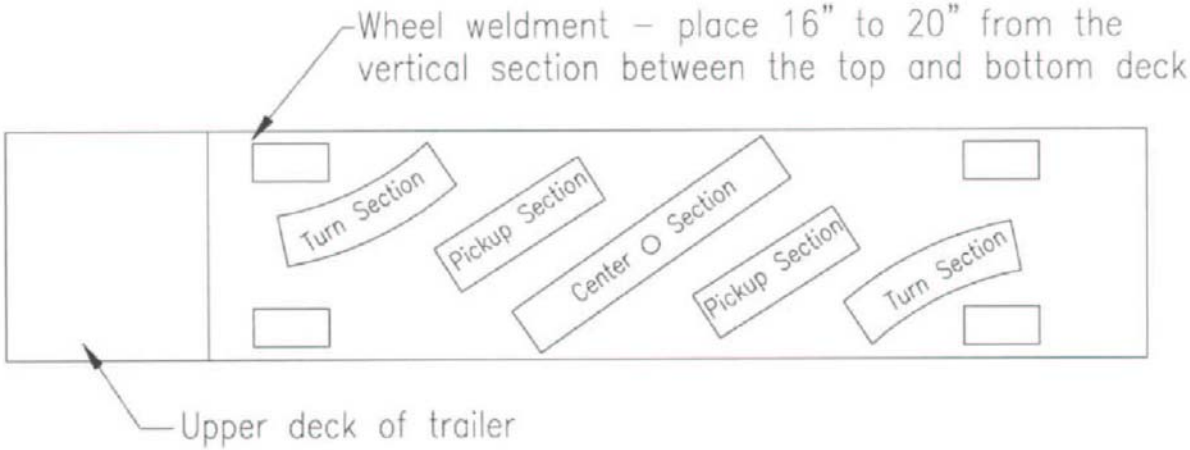
Loading. The following sequence will minimize the time and effort that is required to load the machine.

- Load the mast, turn and pickup sections on the trailer as shown on the attached diagram. The turn and pickup sections should be loaded with the carrier wheels in the down position. This will make it easier if these sections have to be slightly moved later when the machine is loaded.
- Secure lifting slings to the machine lifting points. Use 4 way 20 foot slings adequate for 42,000 lb. They should be secured to the lifting points with adequate shackles. The lifting points are vertical plates located in each corner of the center of the machine. There are holes in these plates that will accept 1" pin shackles. They can be reached from the upper catwalk.
- Raise the machine until the tires just clear the ground.
- Remove the wheels from the machine.
- Load the machine onto the trailer. Care must be used when placing the machine over the top of the parts that have already been loaded. The bottom of the wheel weldments should be placed directly onto the trailer, providing the trailer is strong enough to accept the 11,000# load from each wheel weldment. 1" Plywood (approximately 2' square) can be used to spread the load of the wheel weldment to prevent damage to the trailer. This extra inch will not bring the load over height providing the trailer requirements are met (page 1). The machine must be centered side to side to prevent an over width condition.
- Load the 5 tires (4 from machine and 1 spare) onto the upper deck of the trailer.
- Finish loading all of the small parts onto the trailer.

Securing the Load

Securing the load will be the responsibility of the trucking company. The center section of the machine will swing freely around its center pivot point. This section needs to be secured ***only*** to prevent the swinging movement. **Over tightening this center section will cause damage to the pivot area and the alignment of the section. Do not use straps over machine, this will damage the paint.**

This is a general layout to show where the conveying section parts should be placed on the trailer.



Shipping Dimensions:

Length:	***486"***
Width:	***102"***
Height:	***123"***
Weight (approximate):	***42,000 lbs.***