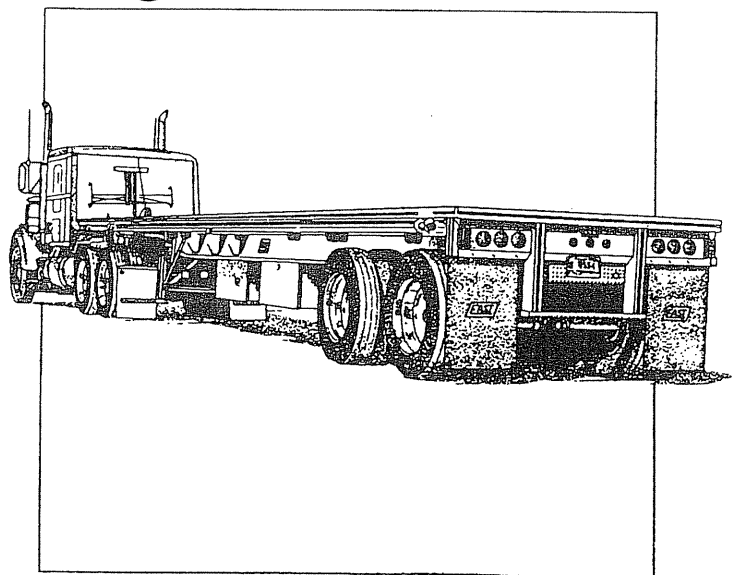




PLATFORM EQUIPMENT



OPERATION & SERVICE MANUAL

THE BASIS FOR THIS MANUAL

The following instructions provide a general description of the proper procedures which must be considered before starting operations with any of East Manufacturing Corporation's platform trailers.

Although the information in this manual was current on the date of issue, East Manufacturing Corporation reserves the right to effect changes as the needs occur without notice or liability.

HOW TO USE THIS MANUAL

The Table of Contents has a breakdown of major topics.

Important advisories are indicated as follows:



A **WARNING!** advisory specifies a procedure which must be followed exactly. Personal injury may likely occur if the advisory is not followed.



A **CAUTION!** advisory specifies a procedure which must be followed exactly. If the advisory is not followed, damage to equipment or components can occur.

NOTE

A **NOTE** indicates a procedure or an instruction which is important for proper operations. A **NOTE** can also provide information which will enable quicker and easier servicing. (For example, some maintenance procedures require the use of special tools for safe and proper service. Failure to use the specified special tools could cause injury to service personnel or damage to vehicle components.)

TORQUE

The amount of force with which certain fasteners (nuts, bolts, etc.) are to be tightened are specified by torque values as noted in foot-pounds (ft-lbs).

FOR ALL MAINTENANCE REQUIREMENTS, USE ONLY GENUINE EAST MANUFACTURING PARTS

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OPERATING INSTRUCTIONS

Normal Trailer Use

This EAST MANUFACTURING CORPORATION trailer was designed for operation within legal highway speed limits on reasonable road surfaces for the type of service it was built to perform in accordance with the following:

1. This trailer was built to carry cargo within the limitations of two weight ratings on the identification label that is located on the main chassis rail, road side, directly to the rear of the landing gear.

These ratings, GAWR and GVWR, are:

- a. The GAWR (gross axle weight rating) is the structural capability of the lowest rated member of the running gear components: suspension and spring system, hub, wheels and drums, rims, bearings, brakes, axles, or tires.
- b. The GVWR (gross vehicle weight rating) is the structural capability of the trailer when supported by the kingpin and the axles with the load uniformly distributed throughout the cargo space.



CAUTION! The maximum load indicated on the identification label may or may not be a legal load on the highway you plan to use.

2. This trailer will carry a total payload of the Gross Vehicle Weight Rating (GVWR) less the weight of the trailer. The load must be uniformly distributed and care should be taken not to exceed the GAWR. Consult specific trailer model literature for concentrated load ratings, or contact the factory. Recommended payload distributions are shown in Figures 1, 2, 3, and 4 on pages 7 and 8.

3. The cargo should be properly loaded, blocked, and braced to prevent load shifts and to comply with the following sections of the Department of Transportation Federal Motor Carriers Safety Regulation, Subpart 1- Protection Against Shifting or Falling Cargo:

- Section 393-100---- General rules for protection against shifting or falling cargo
- Section 393-102---- Securement systems
- Section 393-104---- Blocking and bracing
- Section 393-106---- Front end structure



WARNING! Walk carefully on the trailer. The deck may be slippery. Step onto and leave the trailer only from a dock as high as the trailer floor or by means of a substantial ladder. Advise others of these precautions.



WARNING! Operation of this trailer outside the limitations of this manual is against federal law and East Manufacturing Corporation design criteria. Any operation exceeding the limitations stated will void any responsibility of East Manufacturing Corporation for any of its results.

OPERATING INSTRUCTIONS

Driver's Pre-Trip Inspection



CAUTION! East platform trailers must be operated **ONLY** by trained and qualified professional drivers.

Driver pre-trip inspections must be made before the first trip of the day and should be made before each subsequent trip during the day. Each pre-trip inspection will consist of a visual check for any deficiencies as follows:

GENERAL:

Inspect for any apparent damage.

Check to see that all lights will function and that all reflectors are in place and not obscured.

Look for oil, water, or fuel leaks.

Make sure the spare tire is secure in the carrier to avoid tire carrier damage. Be sure the tire carrier is securely bolted to the chassis.

Perform a visual check for assurance the kingpin is engaged and locked within the fifth wheel.

Examine the support legs (landing gear) for proper road clearance and make sure the crank handle is securely stowed.

Visually inspect all springs for broken leafs and equal arch.

Be sure the springs are positioned within the hangers and equalizers.

Check that there is air in each air spring(air suspension).

By actuation, determine if the brake system is in proper working order before entering traffic.

Check the tire air pressure. Inflate according to tire manufacturer's recommendations.

Check to see that the wheel lugs are tight and the rims are not slipping.

Check the oil level in the wheel hubs.

Check the oil seals for leakage.

Coupling and Uncoupling Procedures

COUPLING:

Prior to coupling the tractor to the semitrailer, place blocks securely against the rear tires of the trailer. Having aligned the tractor with the trailer, the position of the fifth wheel should be checked with respect to the trailer coupler plate for assurance that it is at the proper height. Contact with the fifth wheel and the nose of the trailer should be just to the rear of the center of the fifth wheel. Adjustment of the coupler height of the trailer should be accomplished by adjusting the extension of the support legs.

OPERATING INSTRUCTIONS

NOTE: If the nose of the trailer is too low and contact with the nose of the trailer is made at the rear of the fifth wheel, too much force will be required to lift the trailer. In this situation, because of the extra force needed to make engagement, impact damage can result to the nose of the trailer. This ramming technique should be avoided. If the nose of the trailer is too high, the kingpin can override the jaws of the fifth wheel and could result in damage to the fifth wheel mechanism or a "high hookup".

Once the proper alignment has been provided, the tractor can be moved rearward until the fifth wheel coupler jaws engage the kingpin. When the locked engagement has been made, the driver must check for a positive hookup by attempting to pull the vehicle forward while the trailer brakes are still applied.

With the coupling completed as described above, the driver must then attach all air lines insuring correct coupling and the electrical connection. At this point, a visual inspection of the fifth wheel locking mechanism must be made. The driver must confirm that the kingpin has been properly positioned within the fifth wheel coupler jaws and that the fifth wheel safety locks are in position. Charge the trailer brakes with air.

NOTE: The final check for complete tractor to trailer coupling is made with the trailer brakes applied. Attempts should be made to move the trailer forward and rearward by tractor power to ensure fifth wheel is locked securely.

The support legs must now be raised. With the support leg crank located in the "low" gear position, the support legs can be raised until ground clearance is achieved. With the support legs off the ground, the support leg crank can be placed in the "high" gear position to raise the legs to the proper height for ground clearance. The crank handle must be stowed in the "high" gear position in the bracket provided for that purpose.

If this procedure has been followed, the trailer brake system has already been actuated and performance checked at the time the coupling check was made. However, if chocks were used and the air brake system has not been checked, it must be done at this time. With the trailer brakes applied, both forward and rearward movement must be attempted by tractor power.

The electrical coupling should be inspected and the operation of the trailer lights must be made by energizing the tractor light switches and with brake application.

UNCOUPLING:

Set the trailer parking brakes.

Preparation for uncoupling the trailer from the tractor is started by placing chock blocks forward of the wheels of the trailer.

The support legs are lowered with the crank handle in the "high" gear position until ground contact is made. With the crank handle in the "low" position, several turns of the crank handle will transfer the weight of the trailer from the fifth wheel of the tractor onto the support legs. The air and electric jumper lines are to be disconnected from the trailer at this point. If the tractor is equipped with shutoff cocks for the airlines they must be closed before disengagement of the gladhands at the front of the trailer.

OPERATING INSTRUCTIONS

The fifth wheel is prepared for uncoupling by activating the release handle (or handles, in some instances) and dis-engagement of the trailer is accomplished by powering the tractor forward slowly until clear of the trailer.

NOTE: Although trailer automatic parking brakes are now required by DOT, chocks are still recommended for safety.

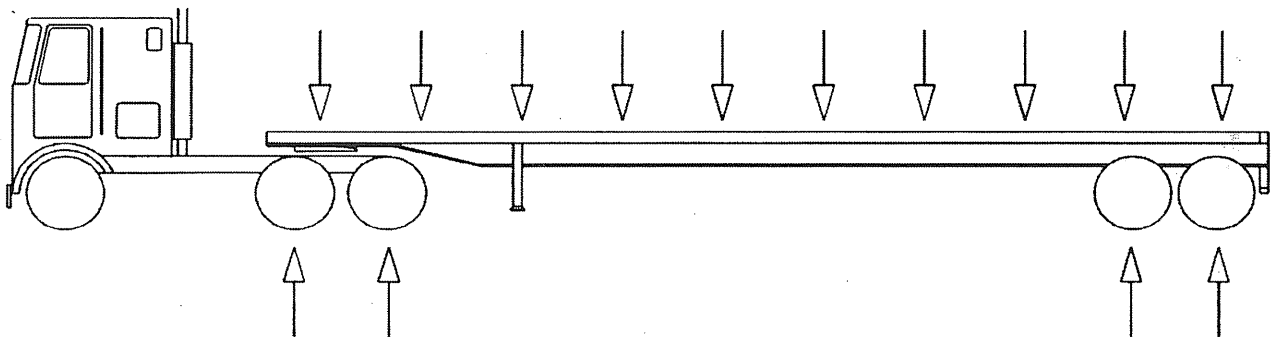
Load Distribution

Loads with high centers of gravity require extra precaution. Stability of the vehicle is always of concern, and a high center of gravity is one of the major factors associated with instability. A high center of gravity reacts through its height as a levering action: the higher it is, the longer the lever and the greater the force which can develop. Speed reduction is one means to compensate for a high center of gravity load. Remember, if the vehicle must stop suddenly, the center of gravity's long "lever" works forward and rearward, as well as sideward. The sudden stop may overload frame members or truck tires if a high center of gravity exists.

OVERLOADING:

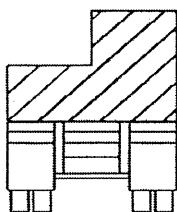
Not only will overloads accelerate damage to tires and springs, but axles can be overloaded to the extent that deformation of the axle beam and the axle spindles will result. This will cause rapid tire wear and early replacement. An overloaded trailer will be more likely to experience highway roll overs as well as being more unstable.

Weight Distribution
FIGURE 1.



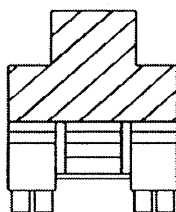
Trailers are designed for uniform load distribution as shown. The load should be distributed equally between the front and the rear of the trailer.

FIGURE 2.



Brace loads against lateral movement.

WRONG



Cross wise weights should be equally distributed. A heavy load should not be loaded on one side because this will overload springs and tires on that side. Place load so that weight will be equal on rear tires, eliminating possible twisting of the frame and overloading of the axle housing and wheel bearings.

RIGHT

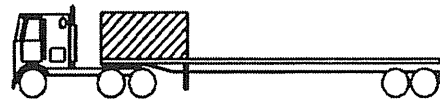
OPERATING INSTRUCTIONS

Weight Distribution

FIGURE 3.

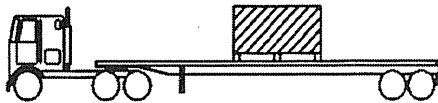


WRONG

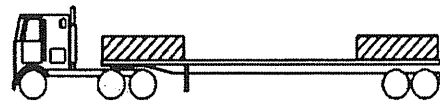


WRONG

FIGURE 4.



RIGHT



RIGHT

Always use a skid of adequate length and construction to properly distribute weight side to side and fore and aft.

45 Foot Platform

50,000 lbs. in Four Feet
60,000 lbs. in Ten Feet
80,000 lbs. Distributed

48 Foot Platform

45,000 lbs. in Four Feet
54,000 lbs. in Ten Feet
80,000 lbs. Distributed

NOTE: These ratings are for platforms with a wide spread tandem air ride suspension. Contact an EAST MANUFACTURING CORPORATION representative for specific information.

PREVENTATIVE MAINTENANCE

Weekly Preventive Maintenance Inspection



CAUTION! Maintenance must be performed only by trained and qualified mechanics following these instructions and those specified in the component manufacturers' instruction manuals.

THE MECHANIC'S WEEKLY PREVENTATIVE MAINTENANCE PROCEDURE WILL INCLUDE THE FOLLOWING:

- Inspect for any damage.
- Check the electrical system for chafed wires, missing clips, and positive grounding.
- Determine if all lights will function and that all reflectors are in place and not obscured.
- Repair or replace any damaged items.
- Check the fifth wheel and the king pin for cracks and unusual or excessive wear.
- Lubricate the fifth wheel.
- Inspect the support leg mounting plates and the bracing for cracks.
- Tighten any loose fasteners.
- Lubricate the support legs.
- Visually inspect all suspension springs for broken leafs and equal arch.
- Be sure the springs are positioned within the hangers and equalizers.
- Visually inspect all air springs for cuts or leaks.
- Check the brake valves for leaks and ensure proper operation.
- Check all air lines and hoses for chafing.
- Adjust the brakes and lubricate the brake cams.
- Check for and remove any foreign material from within the dust shields.
- Drain the condensate from the air reservoirs.
- Check the tire air pressure. Inflate according to tire manufacturers' recommendations.
- Check to see that the wheel lugs are tight and the rims are not slipping.
- Check the oil level in the wheel hubs to assure proper wheel bearing lubrication.

SECTION II

PREVENTATIVE MAINTENANCE

Monthly Preventive Maintenance Inspection

Perform the weekly inspection with these additions:

Check all welds for cracks.

Inspect the suspension system bushings for the recommended installation torque, excessive wear, and freedom of movement. Remove and replace all worn bushings.

Check the wheel bearings for the recommended adjustment.

It is important that every trailer owner and/or operator have an organized Trailer Preventive Maintenance program. The United States Department of Transportation requires by law that maintenance records be kept on every commercial highway vehicle. You can get help in setting up and operating a Trailer Preventive Maintenance program by sending for a "Maintenance Manual for Trailers and Containers." Write to the Truck Trailers Manufacturers Association, 1020 Princess Street, Alexandria, Va. 22314

COMPONENT OPERATING INSTRUCTIONS

General Instructions



CAUTION! East Manufacturing Corporation uses a number of high quality components produced by reliable original equipment manufacturers in all of its custom-built trailers. It is essential to refer to each component manufacturer's service manual for specific information relating to their product.

NOTE: Benefits derived from good maintenance practices will be realized by those truck trailer operators who properly maintain their equipment. Important time and cost savings will result from the appropriate cleaning procedures recommended.

Maintenance for vehicle appearance includes cleaning, brightening, and polishing. A knowledge of proper usage of recommended materials and compounds is essential for satisfactory results. Numerous chemical firms provide materials for these purposes along with instructions for obtaining the best results. Maintenance performed with various chemical compounds will be similar, but variations will occur so it is important to understand and follow the instructions of the manufacturer of the product.

Landing Gear (2 Speed)

Pulling the support leg crankshaft outward engages the "high" gears for fast extension or retraction.

Pushing the support leg crankshaft inward engages the "low" gears for raising or lowering the trailer.

TO EXTEND DOWNWARD:

Engage the crank handle with crankshaft and turn it clockwise.

TO RETRACT UPWARD:

Engage the crank handle with the crankshaft and turn it counterclockwise.



CAUTION! After extending or retracting the landing gear, pull the crank shaft outward, into the high gear fold the crank handle and place it in the crank handle holder. Never leave the gears in the neutral position or allow the crank handle to be unsecured.

LUBRICATION:

Although the landing gear may be adequately greased and packed with high quality lubricants at the time of manufacture, it may be necessary to periodically supplement this lubrication to maintain satisfactory performance. This would be particularly true for operations during which high frequency usage is imposed on the support legs. Lubricate both support legs two times a year through the grease fittings provided or as required by the manufacturer's service manual.

COMPONENT OPERATING INSTRUCTIONS

Trailer Axle Alignment

The most overlooked requirement in achieving proper maintenance is axle alignment. If a new trailer is properly torqued and the torques are maintained, realignment will generally not be necessary unless some manner of impact damage has occurred. After a period of service when new torque arm bushings are installed, it will then be necessary to check and adjust the axle alignment.

Misalignment is often blamed for tire wear resulting from over or under inflation of the tires. "Dog tracking" generally occurs because the trailer axles are not parallel with each other, but it will also occur if the axles are mispositioned with respect to the trailer kingpin. A third condition can also cause a "dog tracking" condition and this can be traced to the relative position of the centerline of the kingpin to the centerline of the axles. This third condition is uncommon, but should be checked by measuring the distances of the centerlines from the sides of the trailer. If the centerlines of both axles and the kingpin are within 1/4", any "dog tracking" condition observed will be attributable to axle misalignment. This can be corrected by maintenance recommended in following paragraphs:

Improper axle alignment with respect to the king pin or non parallel axles with respect to each other will cause excessive tire wear and vehicle dogtracking. In addition to rapid and uneven tire wear, a misaligned trailer will be more expensive to operate because of added "drag" which increases fuel consumption. Vehicles that "dog-track" can be more difficult to maneuver because the characteristics of turning right will differ from those of turning left. In addition to the handling problems, a dogtracking trailer is more unsafe because the trailer wheels will "off track" and could reach the shoulder of the road before the wheels of the tractor.



CAUTION! Upon observing a "dog tracking" condition, the driver should report the problem to those responsible for the needed maintenance.

Visual inspection

For safe operating conditions and longer component life, make these visual inspections before any work is performed:

1. Check the tires. The tires of each dual wheel must be matched to a maximum difference of 0.125" (3.2 mm) of the same static loaded radius or a maximum difference of 0.75" (19mm) of the same circumference. The tires must also have equal inflation.

2. Check the brake drums and linings. Both wheel ends of each axle must have the same type of lining and drums.

3. Check the thickness of the brake lining. The thickness of the brake lining must be the same on each shoe or the brake and on each side of the axle. Linings should be replaced as sets and not individually.

4. Check the brake system. Apply the brakes and check for air leaks at the brake chambers, air tanks, valves, and hoses. When the brakes are applied, the brake shoes must move quickly and the linings must contact the drum. When the brakes are released, the brake shoes must fully retract.

COMPONENT OPERATING INSTRUCTIONS

5. Check for oil leaks at the wheel ends. Leaking lubricant is a condition caused by worn or damaged wheel seals, by using the wrong seals, or by improper seal installation procedures

6. Check the suspension system. Review the following before proceeding with the realignment process.

- a. Hanger bolts should be checked for tightness.
- b. Torque arm bolts should be checked for compliance with recommended torque values.
- c. Bushings should be inspected for looseness or wear.
- d. Torque arm clamp bolts should be checked for tightness.
- e. The U-bolt torques must be checked for compliance with recommended torque values.

The Alignment Process

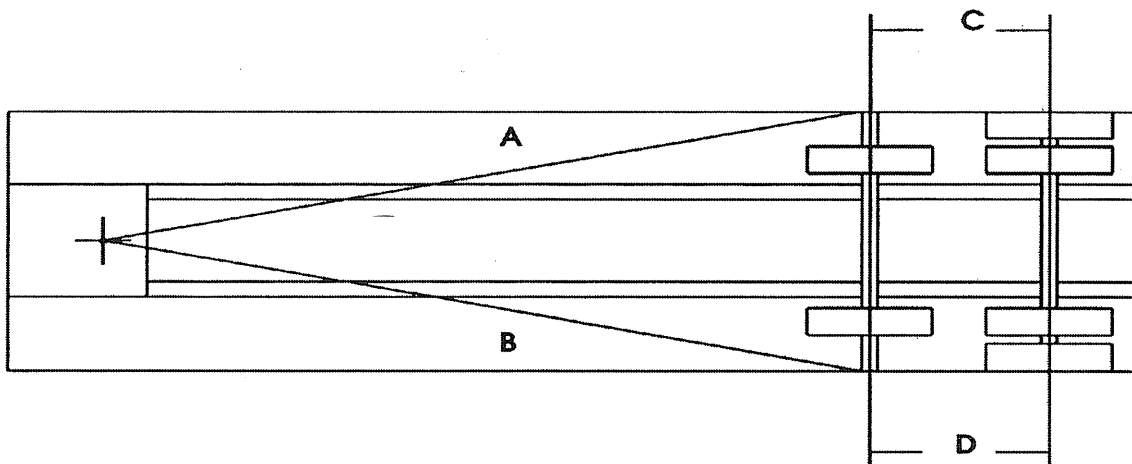
I. THE FRONT AXLE WITH RESPECT TO THE KING PIN:

1. Jack up the vehicle and remove any parts from the undercarriage which will interfere with the tape when it is stretched between the king pin and the ends of the front axle. This will require removal of certain components depending on the type of equipment involved:

- a. The outer wheel if the disc type was used or,
- b. The tire and rim assembly of the steel spoke wheel or,
- c. The complete wheel assembly in some instances.

NOTE: In order to make the king pin to axle end measurements, it is recommended that a small rigid hook, in the shape of a "question mark" hook be made of 1/4" round bar stock sized to wrap around the king pin and having the means to attach a steel measuring tape.

2. Level the trailer.
3. Attach the "question mark" hook with the attached steel tape to the king pin.
4. Measure the "A" and "B" distances from the king pin to the ends of the front axle as shown in the illustration. These measurements must be within 1/8" of each other to prevent "dog tracking".



SECTION III

COMPONENT OPERATING INSTRUCTIONS

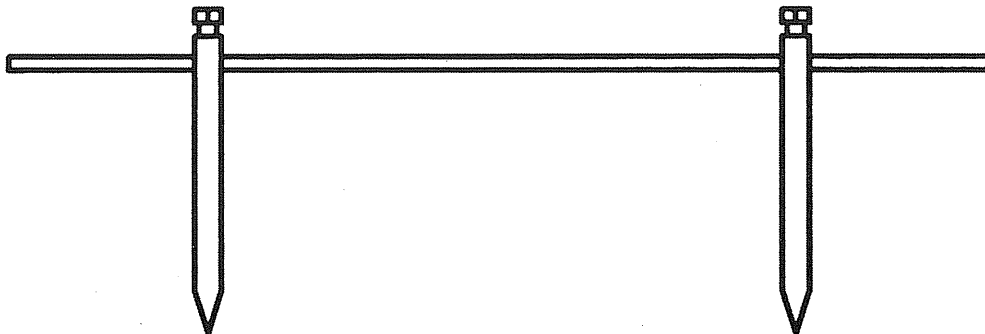
NOTE: The process for alignment of the front axle to the kingpin is used to align both single axle and tandem axle trailers. Completion of this process concludes the kingpin alignment portion of the realignment process and the balance of the realignment activity can be performed after assurance the tandem is in its natural working position. This requires reinstallation of the front wheel components in order to accomplish Step A of the axle to axle alignment process described below:

II. THE REAR AXLE WITH RESPECT TO THE FRONT AXLE:

1. Roll the vehicle back and forth over a level floor a few times to permit the connecting linkage to properly position itself and to center the front and rear wheel tracks. The final movement should be in the forward direction with a brake application to shift the springs into the running position.
2. Level the trailer across its transverse axis and along its longitudinal axis.
3. Measure the "C" and "D" distances between the front and rear axles. These dimensions must be within 1/16" each other. See illustration on page 23.

If any of these measurements do not fall with the stated limits, any worn or damaged parts should be replaced before making the necessary change to the length of the adjustable torque arm to bring the axles into alignment. The limits of 1/16" and 1/8" may appear very small in comparison to the overall dimensions of the trailer, but they are recognized by most suspension manufacturers and have been stated in recommendations of The Maintenance Council.

The small gauge sketched Below illustrates a device which simplifies the "C" and "D" measurements. The gauge can be made of drill rod or pipe fittings. The materials used are not important as long as the parts are rigid and true. The pointer arms of the gauge should be parallel and held in the same plane.



COMPONENT OPERATING INSTRUCTIONS

Suspensions

On inspecting the trailer for the first time following delivery, check it for a level ride condition, that it is at the specified height, that all welds are of acceptable quality, and that all bolts are securely in place. The articulation of the suspension should be checked for assurance that no interferences exist.

NOTE: Suspensions in "over the road operations" require periodic checks to assure continued trouble-free performance. It is recommended that during the predelivery inspection and following the first 1,000 miles of operation, that the following items be checked:

1. Check all bolts for the specified torque. A decal is mounted on each East Manufacturing Corporation chassis which has the required torque values for the bolted connections of that vehicle.
2. Check all hanger mounting Huck bolts to verify a tight fit of the hanger to the frame.
3. Check the fit of the suspension springs within the hangers and equalizers to realize a continued "good ride" characteristics.
4. Perform the recommended suspension alignment inspection and adjustment.

Air Suspensions

Air springs will last almost indefinitely in most applications. However, they fail quickly if rubbed, scuffed, or punctured. If an air spring fails, the vehicle will settle down on the internal rubber bumpers, allowing the vehicle to be taken to the next convenient service facility. It is essential to determine what caused the air spring failure in order to avoid a costly repetition of the problem.

To replace an air spring, the vehicle should be raised and supported in a safe manner. If jacks are used, jack stands must also be used at the rear corners of the trailer. With all air drained from bags, the damaged air spring can be unbolted from its mount and the connecting air lines to allow the replacement spring to be installed.

Shock absorbers absorb energy to prevent suspension oscillation. Contrary to popular belief, shock absorbers do not absorb shock. They are also used as rebound stops in most air suspensions. Air springs can be pulled apart if their stroke is not restrained by the shock absorber or some other device. In many operations the air suspension functions very well without shock absorbers. Unless operational problems are detected, immediate replacement of shock absorbers may not be necessary.

To replace the shock absorbers when considered necessary, merely remove the end fasteners. The new shock absorber must be secured with the correct size and grade of bolts and lock nuts. Because your suspension may have unique travel requirements, the shock absorber used will probably have its own special characteristics. For that reason, replacement shock absorbers should match the original specifications for performance range as well as complying with other recommendations of the suspension manufacturer.



CAUTION! Do not lift the trailer without the shock absorbers in place. Damage will likely occur to the air springs because of over extension.

COMPONENT OPERATING INSTRUCTIONS

Air Controls

Many types of air controls are available for use with your suspension. The most common system automatically regulates the design height by controlling the air pressure supplied to the air springs. When an air suspension is used in conjunction with other suspensions, such as the mechanical leaf spring type, an operator controlled pressure regulator is often used. This allows the operator to select the appropriate amount of air pressure to equalize the axle loadings.

If lift axles are installed, other special control circuits and components must be added to properly coordinate this independent suspension with the others.

All air suspensions on the trailer operate from its isolated compressed air supply.

In addition to providing for equalized axle loadings, the air suspension is also capable of changing the suspension height within a limited range.

The suspension design height has been established by the suspension manufacturer and this information is contained in the component manufacturer's operating manual. The design height is the distance from the center line of the axle to the underside of the chassis at the location where the height control valve is located. The height control valve automatically reacts to changes in the relative position of the axle and the chassis. Air is added to or released from the air springs as influenced by variations in the axle load. Air pressure corrections are also caused by changes of temperature.

Mechanical Suspensions

NOTE: Suspensions in "over the road operations" require periodic checks to assure continued trouble-free performance. It is recommended that during the pre-delivery inspection and following the first 1,000 miles of operation, that all of the above suspension items be checked, including a check of the alignment. The recommended 90-day inspection procedure includes the following:

1. Check all bolted connections for proper tightness. A decal is mounted on each East Manufacturing Corporation chassis which identifies the required torque values for all critical fasteners.
2. Check all hanger mounting Huck bolts and/or welds to assure a tight fit of the hanger to the chassis frame rails.
3. Check the engagement of all springs within the hangers and equalizers to assure good "ride" characteristics.

COMPONENT OPERATING INSTRUCTIONS

Brakes

NOTE: A schedule for the periodic cleaning, inspection, adjustment, and lubrication of all brake components should be established by the operator based on past experience and the intensity of operations. The following parts should be carefully checked and replaced as required:

1. Anchor pins for wear or misalignment.
2. Brake shoes for wear at the anchor pin holes.
3. Cam shafts and cam shaft bearings (bushings) for wear.
4. Brake shoe return springs should be replaced when brake linings are replaced.
5. Inspect brake linings for oil saturation, wear, loose rivets, and loose bolts.
6. Check the brake drums for cracks, scoring, or other damage.

Manual Slack Adjusters

NOTE: The wheel bearings should be checked for proper adjustment before attempting to adjust the slack adjusters. The brakes should always be adjusted with the wheels off the surface. This is the only way to be assured the brake is in adjustment and the wheel is "free running".

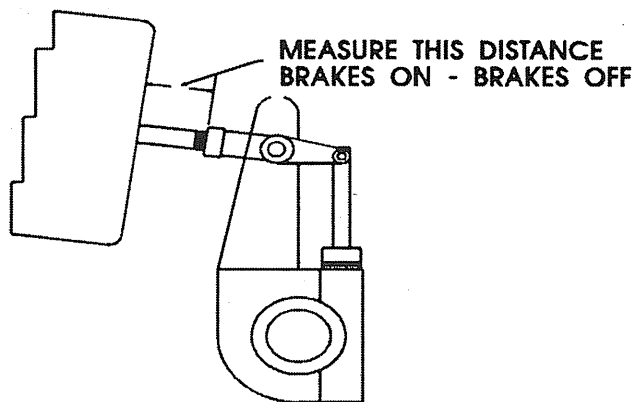
1. For the first adjustment, turn the adjusting nut until the brake lining touches the drum.
2. Turn the adjusting nut in the opposite direction for only one or two clicks to the point where the brake lining just clears the drum. Rotate the wheel to check the clearance between the drum and lining.
3. To adjust for lining wear, rotate the adjusting bolt 1/4 turn. Each 1/4 turn causes the lining to move .0025" (.06mm) at the center of the shoe.

COMPONENT OPERATING INSTRUCTIONS

Automatic Slack Adjusters

At the time of installation, the automatic slack adjuster must be manually adjusted as follows:

1. Remove the adjusting pawl.
2. Rotate the adjusting nut until the lining contacts the drum surface.
3. Turn the adjusting nut in the opposite direction for 1/2 turn.
4. Measure the distance from the clevis to the bottom of the chamber (see illustration).



5. Use a pry bar to move the slack adjuster so that the linings are against the drum. The difference between this measurement and the measurement in Step 4 is the "free stroke".
6. Adjust the brake until the "free stroke" is between 5/8" and 3/4".
7. Check the adjustment. Apply the brakes and hold the pressure. With the pressure at 85 psi., again measure the distance from the clevis to the bottom of the chamber.
8. The difference between this measurement and the measurement in Step 4 is the chamber stroke. Adjust the brake as required to get the correct chamber stroke length which is less than 2".

COMPONENT OPERATING INSTRUCTIONS

Wheel Hubs & Seals

At the time of any maintenance activity, check the hub bore for burrs and the spindle for any imperfections. The entire wheel cavity should be thoroughly cleaned. Apply a thin layer of sealant to the outer diameter of the axle shoulder. Place the seal assembly on the spindle with the words "oil-bearing side" positioned toward the cavity of the hub which will contain the lubricating oil. Place the recommended axle tool over the spindle. Drive the seal assembly onto the spindle until it contacts the face of the shoulder. Rotate the tool and tap it several times to insure that the seal is properly seated. Wipe away all excess sealant.

Dip the inner bearing in lubricating oil and place it on the spindle. No additional lubrication is required on the outer diameter of the wheel seal or in the hub. The wheel seals are lubricated at the time of packaging at the factory. With the wheel supported by a wheel dolly, carefully place the wheel onto the axle spindle until it contacts the seal.

Dip the outer wheel bearing in lubricating oil and place it onto the spindle and into the bearing cup. Assemble the inner nut and tighten it to 50 foot pounds of torque. Rotate the hub several turns after which the inner axle nut can be backed off and repositioned to achieve its final adjustment in accordance with the bearing manufacturer's specifications. Complete the assembly with the addition of the lock washer and the outer nut.

Install the hub cap using a new gasket and fill the hub cavity with oil to the proper oil level which can be observed through the clear plastic of the hub cap.

Wheel Bearings

It is recommended that the wheel bearing lubricant be changed every 25,000 miles or twice a year depending on the conditions of speed, load, and general operating conditions. If foreign material is found in the lubricating oil, the bearings must be checked for wear or damage.

The bearing adjustment should be periodically checked with a dial indicator or with a pry bar under the wheel or tire. The end play should be within the range of 0.001" to 0.008". If the bearings are found to be out of adjustment, they should be inspected for wear or damage.

The following procedures should be used to check the bearings for wear or damage:

1. Remove the wheel assembly and the bearing cones from the axle spindle.
2. Clean all old lubricants from the hub cavities of the wheel, the bearings, and the hub caps with a good grade of commercial cleaner and a stiff brush (not steel). Cleanliness is most important.
3. Wipe all parts dry with a clean, absorbent cloth or paper after all old lubricant has been removed. All tools used in the maintenance operations should be clean and dry.



WARNING! Do not use an air hose in the cleaning operations

COMPONENT OPERATING INSTRUCTIONS

Wheel Bearings Continued

4. Inspect the bearing cups, the bearing cones, and the axle spindles for damage or wear. Should a bearing cone require replacement, it is recommended that the bearing cup also be replaced for added service life.
5. Reinstall the wheel assembly on the axle in accordance with the manufacturer's installation procedures. A new wheel seal and wiper ring should be used as part of the maintenance procedure.

Spoke Wheels

Check the rim nut torque values.



CAUTION! Do not over tighten the rim nuts. The recommended torque value is 200 foot pounds to 250 foot pounds on bolts of 3/4" diameter.

Check the wheel runout. This can be done by placing a block of wood or an object on the floor and rotating the wheel. If run-out exceeds 1/16" for the front wheels or 1/8" for the rear wheels, the runout should be adjusted by loosening the nut on the side of the wheel having the greatest deviation and tightening the nuts on the opposite side. All nuts should then be tightened to the torque recommended by the component manufacturer.

Check for rim slippage. If rim slippage has occurred, it may be possible that either an under torque or an over torque condition existed at one time. It is recommended that if rim slippage has

occurred, that the rim spacer be replaced. When replacing the rim spacer, check the mounting surfaces for excessive wear. If excessive wear exists, it may be necessary to replace the wheel. This recommendation is made because of the difficulty of determining the amount of damage which may exist because of the amount of improper torque that may have been applied.

Disc Wheels



CAUTION! Make sure all wheel cap nuts are properly torqued to values ranging between 400 foot pounds and 500 foot pounds. These should be checked often. Whenever tires are changed, the nuts and studs should be inspected for assurance they are in good condition. If nuts require frequent tightening, if studs break frequently, or wheel nut seats pound out, the assembly and mounting practices should be reviewed in order to eliminate any inappropriate procedure.

COMPONENT OPERATING INSTRUCTIONS



WARNING!

1. **DO NOT** use two piece cone lock nuts to mount wheels machined for use with ball seat cap nuts. Wheels which are machined to accept ball seat cap nuts will not have enough surface area to properly support a cone lock nut. Loss of torque, broken studs, and cracked wheels can result from this mismatched component assembly.
2. **DO NOT** weld aluminum wheels for any reason.
3. **DO NOT** heat aluminum wheel in an attempt to soften them for straightening or to repair damage from impacts or other causes. Heating will weaken the aluminum alloy structure of the wheel.



CAUTION! Lubricants must not be applied to the cap nut seats nor to the wheel. Lubricants must be wiped cleanly from the cap nut seats if applied accidentally.

TROUBLE SHOOTING

Landing Gears (2-speed)

HARD TURNING OPERATION:

- A binding cross shaft caused by excessive torquing of the cross shaft bolts.
- Support leg tubes may be bent or damaged.
- Legs may be misaligned - must be parallel.
- Legs and gear box may need lubrication.
- Misaligned crankshaft/extension or holder connection.
- Internal nut and screw mechanism damage due to dropping trailer on support legs.
- Binding of the through axle.

Brake Drum

CRACKED-NEW:

Mishandling.

CRACKED-USED:

Heat checks connected together and progressed through drum section.

LOW MILEAGE WEAR:

Improper shoe contact.

HEAT CHECK -LIGHT:

Normal condition.

HEAT CHECK-HEAVY:

Unbalanced brake systems, dragging brakes or driver abuse. Caused by constant braking and cooling of brake contact surface.

GROOVES -FINE:

Abrasive material or poor quality brake lining.

GROOVES-COINCIDE WITH RIVETED HOLES:

Loose rivets or bolts or foreign material collecting in rivet holes.

GROOVES-ALONG EDGES OF LINING:

Abrasive material collecting at edges of lining.

BLUE OR DISCOLORED BRAKE SURFACE:

Excessive heat from dragging brakes.

TROUBLE SHOOTING

HEAT SPOTTED OR HARD SPOTS:

High localized heating and (Drum Surface) cooling cycles.

OUT OF ROUND:

Heat distortion.

BALANCE:

Balance weight has fallen off or a balanced drum was not specified.

VARIATION IN DIAMETER:

Heat distortion.

ECCENTRICITY:

Improper fit to pilot or improper seating on wheel or hub.

EXCESSIVE WEAR:

Abrasive material or poor quality lining.

GREASE STAINED DRUMS:

Leaking oil seal or improper lubrication of brake components.

POLISHED BRAKE DRUM SURFACE:

Non asbestos lining - Normal condition.

GLAZED BRAKE DRUM SURFACE:

Improperly cured brake lining.

FADE AND/OR DIMINISHED BRAKE POWER:

High temperature in brake system due to sustained application, improper adjustment or inferior brake lining.

NOISE, CHATTER, OR PULSATIONS(during brake application):

Heat spotted drums, grease stained drum, loose brake drum or components.

TROUBLE SHOOTING

Spoke Wheels

UNEVEN TIRE WEAR:

- Misaligned axles.
- Improper tire alignment.
- Loose bearing adjustment.
- Loose or worn suspension bushings.
- Low tire pressure.

BROKEN BACK FLANGE:

- Improper rim clamp.
- Overload.
- Over or under torqued rim clamp nut.

RIM SLIPPAGE:

- Improper rim clamp torque.
- Collapsed rim spacer.
- Incorrect rim space width and/or incorrect rim clamps.

10 Stud Hub

BROKEN STUDS:

- Loose cap nut.
- Overloading.

STRIPPED THREADS ON STUDS OR CAP NUT:

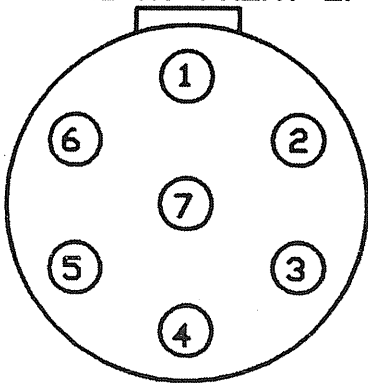
- Excessive torque.

DAMAGED INNER OR OUTER CAP NUT:

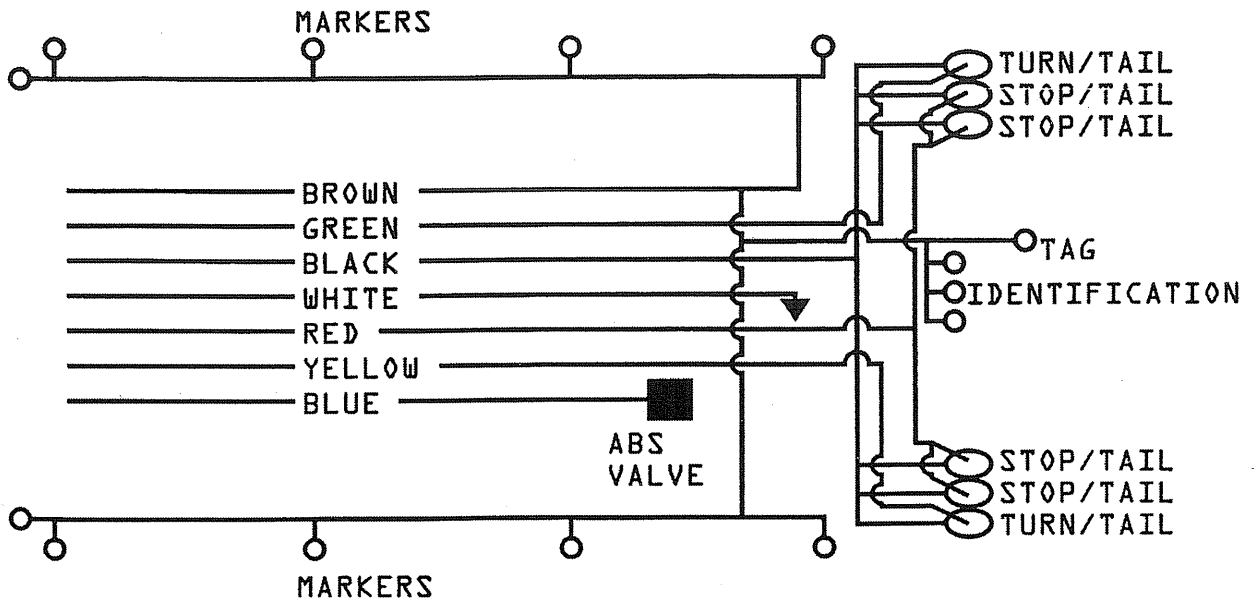
- Loose wheel assembly.

ELECTRICAL DIAGRAM:

WIRING FOR 7 WAY CONNECTOR
LOOKING AT FRONT OF CONNECTOR



CONNECTOR NUMBER	WIRE COLOR	CIRCUIT
1	WHITE	GROUND RETURN TO TRAILER
2	BLACK	TAIL AND IDENTIFICATION
3	YELLOW	LEFT TURN SIGNAL
4	RED	STOP LIGHTS
5	GREEN	RIGHT TURN SIGNAL
6	BROWN	SIDE MARKERS
7	BLUE	ABS POWER



NHTSA INFORMATION

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), in addition to notifying East Manufacturing Corporation.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or East Manufacturing Corporation.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20506. You can also obtain other information about motor vehicle safety from the Hotline.

EAST FIVE YEAR LIMITED WARRANTY

PLATFORM TRAILER Warranty and Limitation of Liability

East Manufacturing Corporation warrants each new platform trailer manufactured (hereinafter referred to as the equipment) by us to be free from defects in materials and workmanship, provided that the equipment warranted hereunder is operated by the purchaser in accordance with generally approved practices and with loads not exceeding the manufacturer's rated capacity.

PLATFORM FRAME STRUCTURE of equipment found to be defective within the warranty period shall be repaired or replaced (at East's sole option), as set forth below, at East's factory location or authorized service facility provided, however, the purchaser notifies East or an authorized distributor as soon as any defect becomes apparent. The period of the warranty is for five years from the date of delivery of the equipment, and East shall bear that portion of the cost of repairing or replacing defective parts of the equipment on the following basis:

1 year	100%
2 years	80%
3 years	60%
4 years	40%
5 years	20%

COMPONENT WARRANTY SCHEDULE

Axles, suspensions, landing gear, wheels, rims, hubs, hydraulic cylinder.	1 year...100% over 1 year...0%
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Air lines, springs, air bags, leveling valves, bearings, brake valves, tarp and side kit.	1-6 months...100% over 6 months...0%
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Oil seals, shock absorbers, brake drums, hub caps, suspension alignment.	1-3 months...100% over 3 months...0%
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Tires.....Warranty claims must be made
direct to tire dealers.

All warranties, if any, extended to East by the makers and suppliers of component parts, accessories or other goods included in the manufacture of East's equipment will be assigned, if contractually permitted, to the purchaser. Specific component warranty details will be provided to the purchaser upon request. Tire warranties are expressly excluded from East's warranty herein.

This warranty does not expand, enlarge upon, or alter in any way, the warranties provided by the manufacturers and suppliers of component parts and accessories.

The purchaser agrees to return the defective equipment or parts to East's factory location or authorized service

facility, freight prepaid, within fifteen days after the defective condition is discovered.

This warranty also excludes the following: normal wear, tear and deterioration of the equipment; maintenance items including, but not limited to, light bulbs, paint, brake lining, oil seals and bearings; used equipment sold "as is"; equipment that has been repaired, replaced or altered by someone other than East or one of its authorized service facilities unless, however, East in its sole opinion determines that the defective condition of the equipment was in no way caused or was attributable to said repairs, replacements or alterations.

EAST AND THE PURCHASER AGREE THAT IN CONSIDERATION OF THE ABOVE EXPRESSED WARRANTY, ALL OTHER WARRANTIES OTHER THAN TITLE, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER LAW OR EQUITY INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED FROM THIS CONTRACT, FURTHER, THE FOREGOING WARRANTY IS MADE SOLELY TO THE FIRST PURCHASER FROM EAST OR FROM AN AUTHORIZED DISTRIBUTOR.

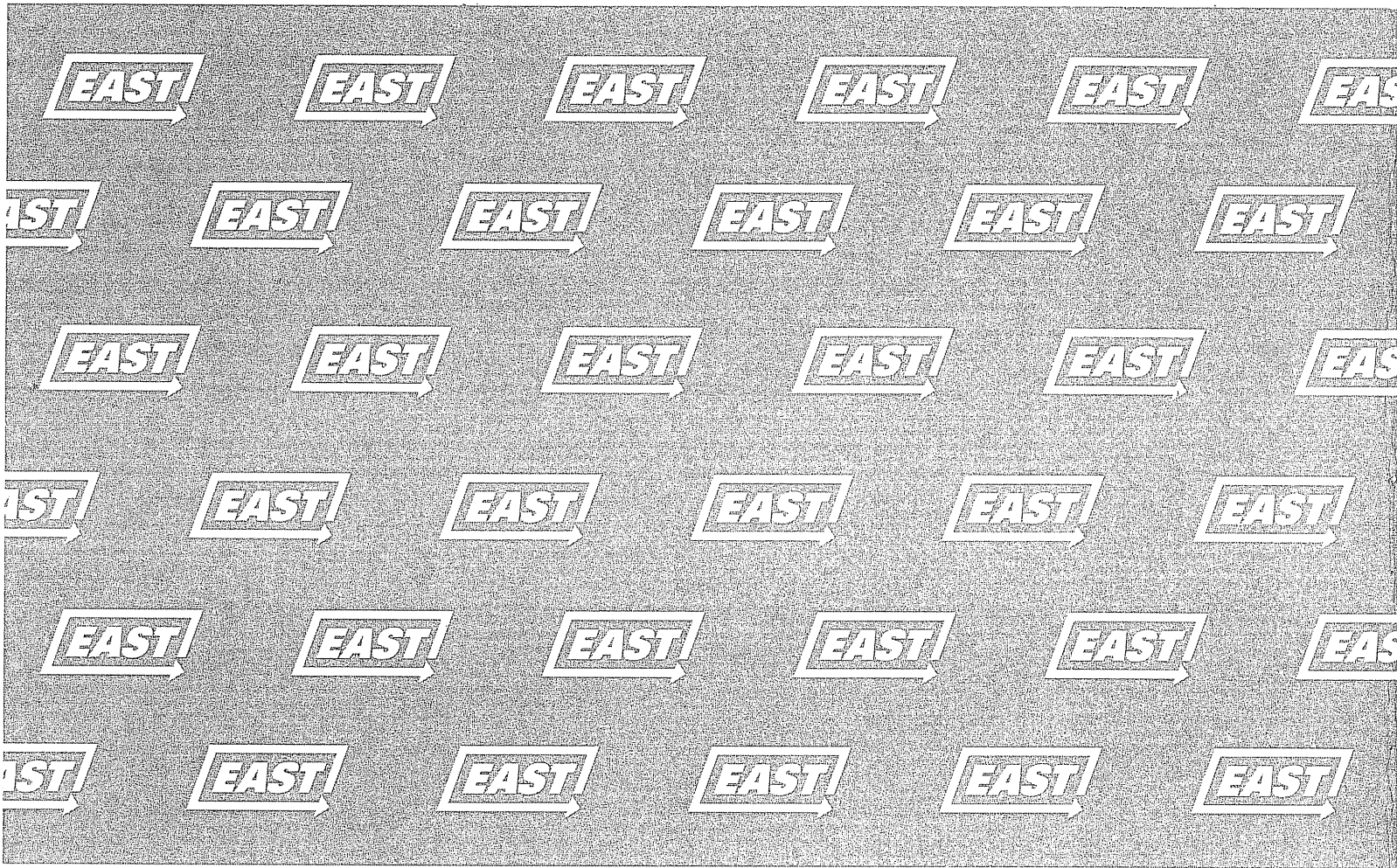
The sole liability of East and the exclusive remedy of the purchaser arising out of the manufacture, sale or use of the equipment provided hereunder, on warranties or otherwise, shall be limited to the cost of repair or replacement of defective parts as herein specified. Further, East's maximum liability hereunder arising from any cause whatsoever, including but not limited to, breach of contract or tort (including negligence), shall not exceed the contract price of the equipment furnished hereunder. Further, East shall not be responsible for work done, equipment or parts furnished or parts or repairs made by others unless the work is specifically ordered by East or an authorized distributor for the fulfillment of this warranty. In no event shall East be liable for removing defective parts or for reinstalling said parts when repaired or replaced by anyone other than East or an authorized service facility or for any costs incurred with such removal or reinstallation.

CONSEQUENTIAL DAMAGES

Notwithstanding any other provision of this agreement, in no event shall East be liable, whether arising under contract, tort (including negligence) or otherwise, for loss of anticipated profits damage to loads or contents of the equipment, transportation expenses due to repairs, nonoperation or increased expense of operation cost of purchased or replacement equipment, claim of customers, cost of money, loss of use of capital or revenue, or for any special, incidental or consequential loss or damage of any nature arising at any time or from any cause whatsoever.



EAST MANUFACTURING CORP.
1871 State Route 44, P.O. Box 277
Randolph, Ohio 44265-9921



COMPANY MISSION

East Manufacturing's business is the design, manufacture, and marketing of top quality bulk commodity transportation equipment and related after-market products. Our products must be of superior design, workmanship, and of the highest quality materials to assure our customers durable, high performance equipment. East exists as a company to make a fair profit, and serve our distributors and customers with great responsiveness and concern for their needs. East realizes that our most important resource is our people. We are therefore committed to providing an operating environment for all employees with foster respect for the individual, while offering security and an opportunity for personal growth and achievement. We also strongly believe in the importance of product innovation, to continually provide our customers improved ways to meet their transportation needs, while insuring the long term prosperity of the company. With our commitment to being the best at what we do, and with God's guidance, we will press on with confidence and persistence toward the achievement of our goals.