

OPERATOR'S MANUAL



mac-lander
OSCEOLA, IOWA



The Standard for Quality

To You . . . Our Valued Customer

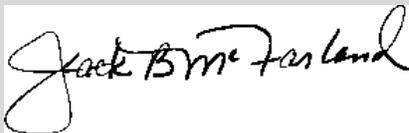
Thank you for your recent purchase of a Mac-Lander trailer. We are excited to have you as a new member of our loyal and satisfied customer base. You'll find there are many reasons Mac-Lander customers take such great pride and satisfaction in ownership of our quality products.

Years of design and manufacturing experience have gone into each and every one of our units. And, thanks to stringent production standards and a strong dealer network we are able to meet and exceed our customers needs. Additionally, each trailer is backed by one of the strongest warranties in the industry.

On an ongoing basis, Mac-Lander is always working and striving to implement innovative changes and improvements to its product line.

Our customers expect the best — and we're dedicated to delivering it. Thank you again for your patronage.

Sincerely,



Jack B. McFarland
President
Mac-Lander, Inc.

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IMPORTANT INSERTS

(located in the back of this manual)

- Warranties for brakes, hubs, drums and related items
- Parts list
- Filing a claim
- Axle maintenance and service
- Tire care and warranty
- Trailer jack operations and warranty
- Installation and use of breakaway battery

The Mac-Lander Warranty

Effective July 1994

Revised April 1998

Non transferrable

- Mac-Lander, Inc. warrants each new vehicle and/or body it manufacturers to be free from defects in material and workmanship, when used within prescribed weight limitations, for a period of three years from date of purchase to original purchaser. The 90-day warranty on painted surfaces is an exception to this policy.
- Any part or parts of a Mac-Lander commercial vehicle and/or body subject to this warranty which our examination discloses to our satisfaction to have been defective in material and workmanship, when returned to use with transportation charges prepaid, will be replaced or repaired without charge.
- Any alterations to a Mac-Lander unit or the installation of any equipment, material, parts not made or supplied by Mac-Lander, Inc., without approval of Mac-Lander, Inc., shall void this warranty.
- The responsibility of Mac-Lander, Inc. is limited to conditions here expressed notwithstanding any representations or warranties made by any other persons.
- This warranty does not apply to any purchased components such as — but not limited to — tires, tubes, suspensions, axle assemblies, or any non-standard features or items specified by the purchaser. Furthermore, this warranty does not expand, enlarge upon, or alter in any way, the warranties provided by the manufacturers of such components.
- This warranty covers only repair or replacement of defects and malfunctions to Mac-Lander, Inc. equipment, material or parts outlined herein. It does not assume any responsibility, under any circumstances, for any additional expense or damage which occurs AS A RESULT of a defect or malfunction.
- This express warranty is the only warranty applicable to Mac-Lander commercial vehicles and/or bodies and is expressly in lieu of any warranties otherwise implied by law — including but not limited to implied warranties of mechanical nature or fitness for any particular purpose. The remedies available under this express warranty shall be the only remedies available to the purchaser/user with respect to defects in materials or workmanship.
- Mac-Lander, Inc. reserves the right to make changes in design and changes or improvements upon its products without incurring any obligation to make said changes or improvements upon products previously manufactured.

Mac-Lander, Incorporated
Osceola, Iowa 50213

The Benefits of Warranty Registration

The few extra minutes it takes to fill out the warranty papers you find inserted in the back of this manual will be well spent. Once you return these papers, they are kept on file at Mac-Lander. And as a valued customer, you'll receive important safety and informational bulletins on the use of your trailer.

In order to validate this warranty, the original copy of this form signed by the dealer and the purchaser, must be postmarked and mailed to Mac-Lander, Inc., 925 Furnas Drive, Osceola IA 50213, no later than 10 days following the purchase of your Mac-Lander trailer. If this signed warranty is not postmarked by the 10th day after purchase of the trailer, all express warranty contained in this warranty shall be null and void.

Most importantly, the submission of your registration information will activate your warranty. You'll rest easy knowing that, in the event something does happen to your trailer, you'll be covered!

Congratulations on your choice of a new Mac-Lander trailer designed and manufactured to meet commercial requirements. Road-ready, your new trailer will complement your business, personal or hobby needs for many years to come.

Using this Manual . . .

This operator's manual provides instructions for safe, efficient and trouble-free operation of your trailer. You, and anyone else who will be using or maintaining the trailer, are required to read and understand the Safety Operation Maintenance and Trouble Shooting information contained on the following pages.

Owners and operators must keep this manual available for frequent reference. **IMPORTANT:** Please read all instructions carefully before you begin. Contact your Mac-Lander dealer if you need assistance, information or additional copies. *Keep this manual with trailer at all times.*

Throughout this Manual . . .

Warnings, Cautions and Notes are used to emphasize important and critical instructions and are used for the following conditions:



DANGER:
Red decal on trailer

An operating procedure, practice, etc., which if not correctly followed, **WILL** result in severe personal injury or loss of life.



WARNING:
Orange decal on trailer

An operating procedure, practice, etc., which if not correctly followed, **COULD** result in personal injury or loss of life.



CAUTION:
Yellow decal on trailer

An operating procedure, practice, etc., which if not strictly observed, **COULD** result in minor personal injury or damage to or destruction of equipment.

NOTE: An operating procedure, condition, etc., which is essential to highlight.

Model Numbering System

Convenient and easy-to-use model numbers are important for the manufacturer, dealers and customers alike. With this in mind, Mac-Lander has developed a new simplified numbering system that incorporates past numbers, all model characteristics, and a uniform sequence. All model numbers will now contain seven characters, combining letters and numbers. Using model number 18TFHSB as an example, here's a breakdown of how the new system works:

18

Bed
Length

T

Style
T= Tag
G= Gooseneck

FH

Frame Series
FS= Frame Standard
FM= Frame Medium
FH= Frame Heavy
HA= Heavy Extended
Tongue
SL= Skid Loader
DO= Deck Over
TA= Triple Axle
TD= Tandem Dual

S

Floor
S= Steel
R= Rail
W= Wood

B

Rear End
S= Straight
B= Beavertail
C= Self Cleaning Beavertail
M= Movable Beavertail

Models Covered by this Manual . . .

The following Mac-Lander trailer models are covered by the instructions found in this manual:

16TFSWS	18TFHWS	25TTAWC
18TFRSB	18TFHSB	25GTAWM
18TFSWS	18TFHWB	25TTDWC
18TFSWB	18THASB	29TTDWC
18TFSSB	18GFHSB	33TTDWC
18TFMWS	14TSLWB	25GTDWC
20TFMWS	18TSLWB	29GTDWC
18TFMWB	25TDOWC	33GTDWC
18TFMSB	25GDOWM	

Usage and safety differences between Mac-Lander trailer models are covered and explained when appropriate in the pages that follow. Use the table of contents as a guide to locate required information.



On Mac-Lander's "Tag" model types, the serial number can be found on the tongue.



On Mac-Lander's "GN" model types, the serial number can be found on the gooseneck.

Finding and Using Your Trailer's Serial Number

It is important to know where to locate the serial number on your Mac-Lander trailer. You will need it to fill out the warranty papers included with this manual. Additionally, whenever communicating with Mac-Lander, Inc., you should always refer to the serial number and the trailer model number.

The photographs on this page indicate how to find serial numbers on "Tag" and "GN" model types.

For easy future reference, find the serial number now and write it in the space provided below.

Model _____

Serial Number _____

Production Year _____

Operator Safety Is Key!

Safety always comes first. Please keep the following points in mind at all times. Read and follow this instruction guide completely before using your Mac-Lander trailer.

NOTE: Keep this guide in a safe, accessible place and be sure everyone who uses the trailer has read and understood its content. Contact your dealer for replacement copy if lost or damaged.

Perform this 10-Step Inspection Before EVERY Trip!

1. Inspect your trailer before use to ensure that all nuts and bolts are fully tightened.
2. Load trailer on a flat and level surface.
3. Check tire pressure. Bring to specified level.
4. Ensure that brakes are working properly.
5. Make sure the load is properly secured and that the trailer is not overloaded.
6. Check that all electrical connections, lights and reflectors are in proper working order.
7. Secure ramps in the appropriate storage area.
8. Make sure safety chain, hitching mechanisms, and gates are secured.
9. Ensure jack is raised to highest position.
10. Check that crank handle is secured.



CAUTION: The maximum capacity of the unit is designed for uniform loading. Improper weight distribution or load security may result in poor towability. Do not overload one side or end of your trailer.



WARNING: Important Safety Precautions

- Keep children and pets away from your Mac-Lander trailer at all times.
- Never place any part of your body between or near any moving parts or between the trailer and your vehicle.
- Never operate while under the influence of drugs, alcohol, or any other substance that could impair safe judgement.
- Do not operate equipment if it is damaged.
- Use only a towing vehicle of adequate power and weight to pull the trailer.

NOTE: Do not remove warning decals. If they become damaged, contact your dealer for replacement.

Hook-up and Operational Procedures Section

A guide to safe and efficient operation
of all Mac-Lander trailers.



NOTE: Mac-Lander trailers are 102 inches wide. This width trailer is legal on all U.S. federally funded highways. Some state highway regulations are less than 102 inches.
Please check your local regulations.

Step-By-Step Hook-Up Procedures

1. Clear the area of bystanders.
2. Use the trailer jack to align coupler with ball.
3. Lower hitch over ball.
4. Clamp locking jaws in place and secure with lock-pin.
5. Attach safety chains and break-away cable. Provide sufficient slack for turning.
6. Attach electrical plug to vehicle reception.
7. Check break-away battery (charge).
8. Lift and secure jack in proper position for transport.



CAUTION: Failure to follow above procedures may result in injury.



Adjustable Lunnette Eye



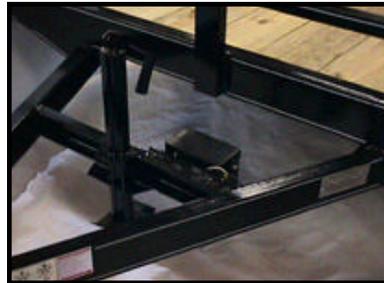
Atwood Coupler



Adjustable Ball Coupler



Gooseneck



5000# Jack



12,500# Jack in Transport Position



DANGER: Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the trailer. Keep hands clear when lowering coupler onto hitch.

COUPLERS AND BALLS

Mac-Lander tag trailers utilize 2-5/16" ball couplers, adjustable 2-5/16" ball couplers or adjustable pintle eye couplers. Be sure to secure latch over the ball and install the lock pin through the hole. Ball and bolt hitch on your tow vehicle shall be of such size and strength as to conform to the minimum breaking strength requirements for the specific gross trailer weight. Check your tow vehicle and hitch owners' manuals.

Mac-Lander gooseneck models utilize an adjustable stem 2-5/16" ball coupler. Secure latch over the ball and make sure trailer is level, then check that set screws and lock nuts are tight.

LOADING

- 1) The maximum capacity of the unit is designed for uniform loading. Improper weight distribution or load security may result in poor towability. Do not overload one side or end of your trailer.
- 2) When loading, ensure that trailer is properly hooked up to tow vehicle.
- 3) Drop-leg stabilizer should be lowered to the ground and pinned securely when loading equipment. Be sure to raise leg after loading.
- 4) All surfaces should be clean, flat and dry when loading.

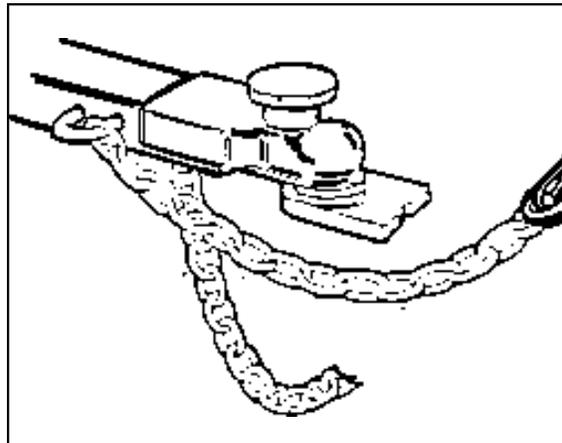
TIE DOWNS

Use the tie down system included on the trailer to secure your load from shifting. Various Mac-Lander trailers include tie down loops, D-rings, stake pockets or stake pockets and rub rail.

SAFETY CHAINS

It is required by federal law that all trailers have at least two safety chains attached. Mac-Lander trailers are equipped with certified safety chains.

- 1) Safety chain shall be connected to the trailer and the towing vehicle so that the slack for each length of chain between trailer and towing vehicle is the same when the vehicles are aligned on a common front to rear centerline.
- 2) When two lengths of safety chain are used, they shall be connected from the opposite sides of the trailer tongue to the towing vehicle and, when passing forward to the towing vehicle, shall be crossed under the trailer tongue in such a manner that they will cradle the trailer coupling and tongue in the event of separation of the coupling or ball.
- 3) The slack in each length of chain shall be no more than necessary to permit proper turning of the respective vehicles.
- 4) Nothing in this section shall preclude the use of an equivalent connecting arrangement which will effectively maintain connection between towing vehicle and trailer in the event of separation of the ball or coupling.
- 5) Safety chains shall not be attached to the towing vehicle by use of the fasteners that secure the ball to its supporting hitch member nor shall they be attached directly to any part of the ball.



MOVABLE BEAVERTAIL

The following are procedures for trailers equipped with movable beavertails:

- 1) Remove crank handle located under the gooseneck. Pull-type series crank handle will be located on the tongue.
- 2) Insert crank handle in the scissor jack receiver located in the rear of the beavertail.
- 3) Remove pins from lock-down position.
- 4) Turn jack handle clock-wise to lift beavertail in up-right position.
- 5) Pin-locking arm should be in upright position.
- 6) Reverse procedure to lower beavertail.



CAUTION: Keep hands and feet clear of moving parts, especially when raising or lowering beavertail.

NOTE: Slide-out ramps are to be used with beavertail in lowered position only.

RAMPS (Slide-Out, Flip-Up and Fold-Over)

Slide-Out Ramps:

Mac-Lander's 5' Slide-Out ramps are stored underneath your trailer. Remove pin and slide out ramps. Hook your ramps to the bumper rail. Make sure pins are in place when ramps are being stored on your trailer. Slide-Out ramps used on beavertail should only be used when beavertail is in the lowered position.



CAUTION: Keep feet and hands clear when sliding out all ramps.

Flip-Up Ramps:

Hold 5' ramp in place. Remove or insert locking pin from support arm. Lower or raise ramp.

Fold-Over Ramps

Lower ramps by lifting ramp off beavertail. Lower gently to ground.



WARNING: Hair pin locking pins must be installed for safe transport of ramps in the stored position.

JACK MAINTENANCE AND OPERATION

The internal gearing and bearings of the jack must be kept lubricated. Using a grease gun, apply a small amount of automotive grease to the gears. Rotate the jack handle to distribute the grease evenly. Lightly grease the inner tube of the jack using the same type of grease. *Refer to manufacturer's guide in the back of this manual for additional information.*



OPERATING INSTRUCTIONS

5,000# Jack

Rotate the jack handle clockwise to raise, or counter-clockwise to lower jack.

7,000# Jack

Rotate the jack handle clockwise to raise or counter-clockwise to lower jack. Drop foot operation, pull the hitch pin making sure it's fully inserted through both the inner tube, and the drop foot tube before using the jack.

12,500# Spring Assist Jack

Refer to instructions and warnings furnished on jack.

50,000# Landing Gear

Rotate the extended jack handle clockwise to raise, or counter-clockwise to lower jack.

Drop foot operation:

Pull the hitch pin, lower or raise drop foot to desired position, return the hitch pin making sure it is fully inserted through both the inner tube, and the drop leg foot tube before using the jack. To operate two-speed landing, pull handle out for lower gear and push handle in for high gear.



CAUTION: Keep hands and feet clear when retracting leg.

NOTE: The jack should be raised to the highest position for travel and the crank handle secured. See the back of this manual for more detailed information on jack maintenance and operation.

TIRES AND TIRE SAFETY

Your Mac-Lander trailer comes with new radial tires from leading manufacturers.

NOTE: Refer to your tire pamphlet in the back of this operators manual for complete information on tire safety. Follow the tips below to ensure tire safety:

- 1) Check the tires at least once a month for proper inflation and wear. Proper inflation is required for safe economical use of tires.
- 2) Check the torque levels of your wheel's lug nuts. They must be maintained at the appropriate level to prevent loose wheels and potentially broken studs and to prevent the wheel from separating from the axle.
- 3) When changing a tire on the trailer be sure to block and secure trailer to prevent accidental falling from the jack. Make sure jack capacity matches trailer weight. Always change tires off traveled portion of roadway.
- 4) Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.

LUG NUT TIGHTENING PROCEDURE

1. To start, put lug nuts on by hand.
2. Tighten initially to 15-20 lbs. using cross tightening sequence (apply 20 lbs. of pressure to a 12" wrench). Proceed to finish, tightening to 80-90 ft. lbs. (for 1/2 studs). Applying 90 lbs. of pressure to a 12" wrench yields 90 ft. lbs. of torque.
3. Retorque after first 50 miles of use. Retorque monthly.

BEARING LUBRICATION

Along with bearing adjustments, proper lubrication is essential to the current function and reliability of your trailer axle. Bearings should be lubricated every 12 months or 12,000 miles, more often under extreme conditions. See axle maintenance and service details in the back of this manual.

BATTERY OPERATION AND MAINTENANCE

Mac-Lander trailers are equipped with an electric brake and break-away system with the 12-volt battery.

Check your break-away system periodically to ensure that wiring and connections are secure. A short or open circuit can result in a no-brake condition.

Periodic charging of the battery will be required. See the details on charging your battery in the back of this manual.



WARNING: Batteries have acid that can burn skin on contact and gas that can explode. Lack of caution may cause bodily injury. Refer to the back of this manual for more detailed information on the care and maintenance of your battery.

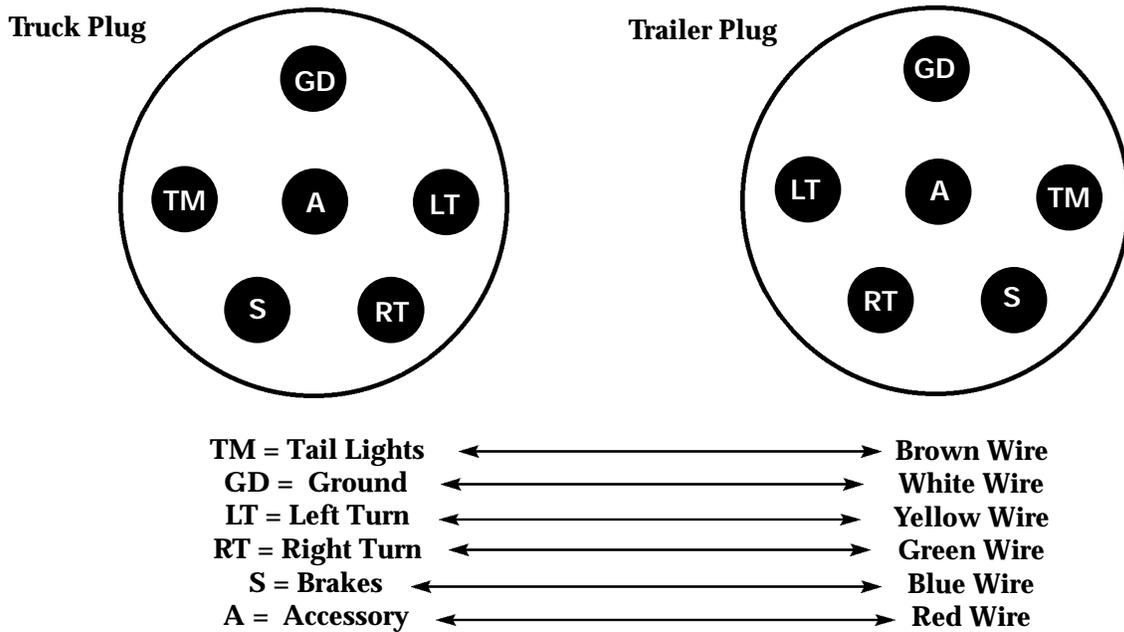
LIGHTS

Check operation and condition of all trailer lights after connection to tow unit. This includes running, tail, stop and turn lights. Trailer lights should be lit when tow unit lights are on, the ignition switch may need to be on to activate turn signals. Reflector lenses need to be clean and unbroken. Replace bulbs, lenses and reflective tape (conspicuity tape) when damaged or inoperative.

If bulb replacement does not cause light to work and light assembly appears to be intact, there may be a loose or broken wire. This may require return to your Mac-Lander dealer to correct problem

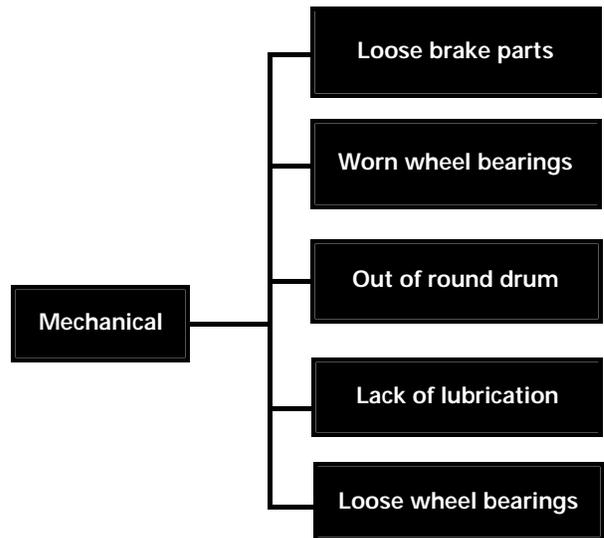
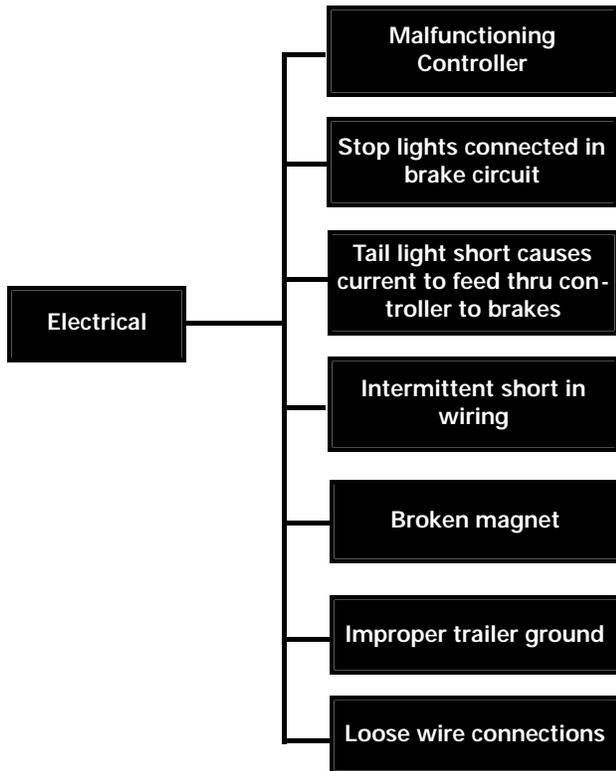
WIRING

When making wiring adjustments or repairs, follow the diagram below to identify the appropriate and necessary connections.



Intermittent, surging or locking brakes?

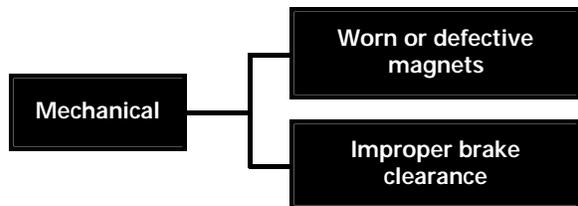
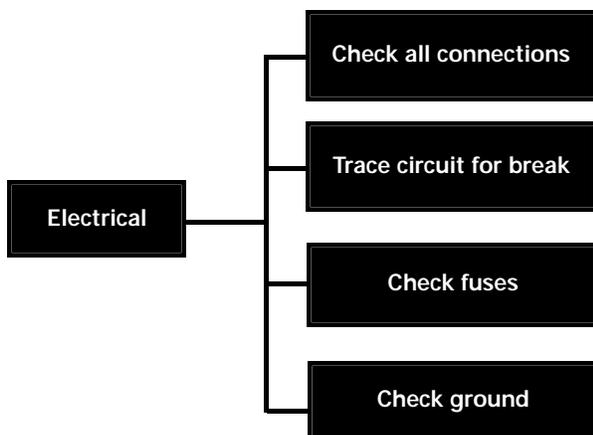
Follow these steps



Descriptions and illustrations are typical for products manufactured by Hayes Axle. Variations may exist due to changes in models. Contact Hayes for additional information.

Weak brakes or no brakes?

Follow these steps



Brakes on new trailers may require repeated brake applications during the first 25 miles of travel to "burnish" the lining material. The burnish process assures a proper match between lining material and drum surface. It also allows the magnet to seal itself to the armature plate. These brake burnish applications should be made at 1/2 to 1 mile intervals while traveling at 20 to 30 m.p.h. without overheating the brake system. Overheating occurs when brakes begin to fade.

DO NOT "BURN-IN" YOUR BRAKES BY DRAGGING THEM!

1

MAC-LANDER, INCORPORATED

WARRANTY REGISTRATION FORM & INSPECTION REPORT WARRANTY REGISTRATION

This form must be filled out by the dealer, signed by both the dealer and the customer at the time of delivery, and returned postmarked within 10 days of delivery.

Customer' Name _____
Address _____
City, State, Code _____
Phone Number _____

Dealer Name _____
Address _____
City, State, Code _____

Trailer Model _____
Serial Number _____
Delivery Date _____

Check One:
Farm Use
Construction
Rental
Other

DEALER INSPECTION REPORT

- ___ Whell Bolts Tightened
- ___ Check Tire Pressure
- ___ Paint Quality
- ___ All Decals Installed
- ___ Ramps in Place W/Pins
- ___ Tire Clearance Sufficient
- ___ VIN Number Matches Paperwork

SAFETY CHECK

- ___ Reflectors
- ___ Review Operating and Safety Instructions
- ___ Conspicuity Tape as Required
- ___ All Lights Functional
- ___ Break Away System Connected
- ___ Safety Chains Hooked

I have thoroughly instructed the buyer on the above described equipment. The review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. Signature _____

The above equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to the care, adjustments, safe operation and applicable warranty policy.

Date _____ Owner's Signature _____

White	Yellow	Pink
Mac-Lander	Distributor	Customer



Mac-Lander has designed and built trailers since 1977. Our modern 50,000-square-foot facility supports our North American dealer network from conveniently located in Osceola, Iowa.



For additional information, please contact our office.

Phone 641-342-6036

Fax 641-342-3508

925 Furnas Drive • Osceola, Iowa 50213

www.mac-lander.com

