RINGO Trailers

Owner's Manual

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FOR YOUR RECORDS

Thank you for choosing
Ringo Hill Farms Equipment Company Inc.
for your trailer needs. Now is a good time to complete the form below concerning your new trailer. Fill it out entirely so you have the information within reach.
So if you do have a warranty claim you have the information available.

Purchase Date: _____

Model Number: _____

Serial Number: _____

Dealer Name: _____

Address: _____

City: _____

State _____ **Zip:** _____

Phone: 1-(____) _____

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Notification Statement

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
Ringo Hill Farms Equipment Co., Inc.

If NHTSA receives a similar complaints it may open an investigation, and if it finds that a safety defects 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 Ringo Hill Farms Equipment Co., INC.

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800- 424-9153), or go to http://www.safercar.gov; or write to: Administrator, NHTSA, 1200 New Jersey Avenue, SW, Washington, DC 20590. You can also obtain other information about motor vehicle safety from ***http://www.safercar.gov.***

Manufacturer's Warranty

Warranty is to be used only to cover correction of manufacturing defects. It will not be used to cover: lack of maintenance, operators misuse, normal wear, accidents, customer dissatisfaction or transportation to and from the servicing dealer.

Ringo trailer, here in after referred to as manufacturer, warrants each new trailer to be free from defects on material and workmanship under normal use and rated load capacity for a period of 1 year from original date of purchase.
Manufacturer will repair, replace or correct any part which in the judgment of Ringo trailer is due to manufacturer's defects provided the purchaser returns the claimed defective product to the manufacturer, or authorized distributor. With transportation charges prepaid, and an examination by manufacturer disclosed the product is defective.

The warranty excludes the following:

* Normal wear and tear on brakes, tires, & paint.
* Customer breakage through abuse or accident
* Overload causing frame damage or bent axles.
* Wear due to lack of grease, oil & service
* Custom applied decals or graphics
* Custom design changes

This warranty does not cover said product which has been prepared or altered out side of the factory of manufacturer in any way so as to, in the judgment of the manufacturer affect the stability, reliability, or performance of the product. This warranty does not cover damage or product failure caused by accident, misuses, negligence, tampering, overloading, improperly attached or improperly maintained.

This warranty excludes any and all liability for consequential or incidental damages.

This warranty is in lieu of all other warranties, guarantees of agreements. Whether expressed or implied and no other person, agent, dealer, of company is authorized to change, modify, or extend its terms in any manner whatsoever.
Any & all warranty claims must be pre-approved prior to proceeding & all suspected failed parts must be returned to the factory for examination.
The warranty determination will then be made by either Ringo Trailers or it's supplier.

Warnings & Instructions

Check your Ringo Trailer for the warning and instruction labels on the following pages. Many of those listed are mandated by the U.S. government and others will help you in the safe operation of your trailer. The following information is provided in the event that any of the labels are missing.

MANUFACTURED BY/FABRIQUE PAR: RINGO HILL FARM EQUIP. CO., INC. DATE:

GVWR/PNBV:

GAWR/PNBE	TIRE/PNEU	RIM/JANTE	COLD INFL. PRESS. /PRESS. DE GONF A FROID KPA (PSI/LPC)	SGL/DUAL

THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. / CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR A LA DATE DE SA FABRICATION.

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS) IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE

V.I.N./N.I.V.

TYPE/TYPE DE VEHICULE:

TIRE AND LOADING INFORMATION

The weight of cargo should never exceed kg. or lbs.

TIRE	SIZE	COLD TIRE PRESSURE

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION

Warnings & Instructions

SAFETY BREAK AWAY SYSTEM WILL NOT OPERATE UNLESS CONNECTED TO A POWER EQUIVALENT TO OR GREATER THAN AUTO TYPE 12 VOLT 12 AMP HOUR WET CELL BATTERY.

CAUTION!!
DO NOT EXCEED MANUFACTURER'S VEHICLE WEIGHT RATINGS OR LOADING RECOMMENDATIONS. GROSS VEHICLE, GROSS AXLE, GROSS COMBINED VEHICLE AND AXLE.

WARNING

DO NOT OPERATE THIS TRAILER UNLESS YOU HAVE READ AND UNDERSTAND THE SAFETY INFORMATION IN THE OWNER'S MANUAL!

**** Failure to properly operate and maintain the towing vehicle and trailer can result in injury.**

WARNING

1. Trailer is not to be towed unless brakes are working and safety chains are securely attached to towing vehicle.
2. Safety break away system should be kept in working condition at all times
3. Trailer must be connected to tow vehicle when loading machinery
4. Tire inflation inflate tires to recommend inflation this information is found on tire sidewall.
5. Always close hitch before towing check daily for wear or distortion.

CHECK WHEEL LUGS AND TIRE PRESSURE BEFORE MOVING.

USE MANUFACTURE'S RECOMMENDATIONS ON TORQUE AND TIRE PRESSURE.

!CAUTION!
Secure All Gate Latches Before Moving Trailer!

First Trip Checklist

Your dealer has checked the following before you took delivery of your trailer, but these are things which you should recheck before towing your trailer for the first time. A description of how these parts work and how they should be properly checked is included on the following pages of this manual.

- Check your maintenance schedule and be sure you are up - to -date.
- Check hitch. Is it showing wear? Is it properly lubricated?
- Fasten safety chains and break away switch actuating chain securely. Make certain the break away battery is fully charged.
- Inspect towing hookup for secure attachment.
- Load your trailer so that approximately 10% of the trailers total weight is on the hitch. For light trailers this should be increased to 15 %
- *Do Not Overload.* Stay with in your gross vehicle rated capacity.
  (Consult your trailers Identification plate.)
-
- Inflate tires according to the manufacturer's specifications; inspect tires for cuts, excessive wear, etc.
- Check wheel mounting nuts/bolts with torque wrench. Torque, in the proper sequence, to the levels specified in this manual.
- Make certain brakes are synchronized and functioning properly.
- Check tightness of hanger bolt, shackle bolt, and U-bolts nuts per torque values specified in manual.
- Check operation of all lights
- Check that your trailer is towing in a level position and adjust hitch height if required.
- Make sure you are using the correct trailer ball on your towing vehicle. Failure on your part to check these precautionary measure may void your warranties.

Note: See maintenance schedule on Page 14

Towing Tips

Allow Extra Time and Space. You'll need both when passing and stopping, especially if your trailer has no brakes.

Check Rear View Mirrors. Doing this frequently will let you know that your trailer is riding properly. We recommend outside rear view mirrors on both sides on your tow vehicle.

Swing Wider. You need to make wider swings at curves and corners because your trailer's wheels are closer to the inside of a turn than the wheels of your car or truck.

Pass with Extra Care. It takes more time and distance to get around a slower vehicle and return to the right lane when you've got a trailer in tow.

Watch the Wind. To avoid swaying, be prepared for sudden changes in air pressure and wind buffeting when larger vehicles pass from either direction . Slow down a bit and keep a firm hold on your steering wheel. Aim straight down your lane.

Conserve Fuel. You'll go farther on tank of gas at moderate speeds. Higher speeds increase wind resistance against the trailer and reduce your gas mileage significantly.

Avoid Sudden Stops and Starts. This can cause skidding, sliding, or jackknifing, even if your trailer has brakes. Avoid quick stops while turning. Smooth, gradual starts and stops will improve your gas mileage.

!! Warning !!

It is the users responding to understanding the towing laws in your states. The laws are very specific regarding towing vehicle capacity, trailer capacity and what combinations are legal. Department of transportation can assist with any question on this.

Towing Tips

Signal Your Intentions. Let surrounding vehicles know what you intend to do well before you stop, turn, change lanes, or pass. Shift to a Lower Gear.
A lower gear will help ease the load on the transmission and engine when going over steep hills, sand, gravel or dirt roads. If your tow vehicle has an "overdrive" gear shifting out of overdrive to a lower gear may improve your gas mileage.

Always be Courteous. Make it as easy a possible for faster moving vehicles to pass you. Keep to the tight of the road and prepare to slow down if passing vehicles need extra time to return to their proper lane.

Don't Tailgate! Allow at least on e car and trailer length between you and the vehicle in front for each 10 m.p.h. on your speedometer.

If a Problem Occurs. Don't panic. Stay cool. Say you experience a sudden bumping or fishtailing. It may indicate a flat tire. Don't jam on the brakes or mash the accelerator in an attempt to drive straight a line as possible. If conditions permit, coast to a very slow speed and try to avoid breaking, except when your wheels are straight and your trailer and tow vehicle are in line with each other.

If your trailer begins to fishtail as you accelerate to highway speed, back off the accelerator a bit. This should stop the fishtailing. If it begins again as you increase speed, stop and check your load. It probably isn't distributed evenly from side to side, or it's too far back to put a sufficient load on the hitch ball. It is recommended that about 10% of the trailer load be on the hitch. Redistribute the load as necessary before continuing.

11	TOW VEHICLE Walk around the vehicle and check these items:		
Item - Description		**OK**	**Needs Attention**
Coolant level in radiator			
Coolant level in coolant recovery reservoir			
Radiator cap firs properly			
Water level in battery			
Battery terminals free of corrosion			
Radiator hoses (flexible and tight)			
Fan belt tight? Worn?			
Transmission fluid level			
Condition of transmission fluid (if fluid is pinkish-oil OK, if fluid is dark brown, you need your transmission serviced).			
Transmission fluid cooler hoses and connections			
Engine oil level (how many miles since last oil change?)			
Power steering fluid level			
Hose & connections to power steering			
Spark plug wires snug			
Air filter (when was it last changed?)			
Fluid in windshield washer reservoir			

TOW VEHICLE Walk around the vehicle and check these items:		
Item - Description	**OK**	**Needs Attention**
All lights operate properly		
All tires (tire pressure and tread wear)		
All wheel lugs		
Safety chains connected and crisscrossed		
Break away switch and lanyard		
Coupler locking-pin (if-used)		
Trailer electric cable connected & secure		
Trailer lights and turn signals functioning with tow vehicle		
Tongue jack fully up		
Dolly wheel removed (if appropriate)		
Lad distributed in trailer so that proper tongue weight is maintained (about 10% on trailer load)		
Trailer is level when attached		
Bearings greased		
Coupler size matches ball size		
Pin & clip installed through drawbar		

Servicing & Operating Ringo Trailers

Initial 200 mile service
Note: see maintenance schedule on page 16
1. Tighten all lug nuts. (page 17)
2. Check axle bearing grease. (use only high-speed, high-temperature axle grease) (page 18)
3. Check for proper electric brake adjustments. (page 19)
4. Improper adjustments may cause brake failure or damage (page 20)

Note: Brakes should be adjusted after the first 200 miles when shoes and drums have seated. Failure to follow this procedure will void any brake or axle warranty.
5. Grease cargo ramp door hinges regularly.
6. Oil equipment hauler and landscape trailer gate hinges regularly.

Every 3,000 miles - Follow steps stated above (& use page 16)
Wiring codes
Lights _____ Brakes
Brown - Running Lights - t.m.
Yellow - Left Turn - l.t.
Green - Right Turn – R.T..

State rules & regulations
Check with your local state laws regarding inspection requirements. Licensing, Titling, etc.
Insurance
Check with your carrier to determine if your tow vehicle insures your trailer
Weight limits
Check your trailer's gross vehicle weight class and the weight of your trailer to determine the legal weight you may carry on the truck and on the trailer combination.
Trailer loading instructions
When loading heavy machines, support the rear of the trailer with blocks to insure you don't lift the rear of the truck, bend the trailer hitch, put excessive weight on the trailer axle(s), stress the trailer frame or bend the ramps or gates. Excessive hauling or loading weight causing damage to truck, trailer hitch or trailer is not covered under warranty.
Safety checks each time you use the trailer
1. Check all wheel lug nuts
2. Check all lights
3. Check brakes
4. Make sure connect ball is used and coupler is latched securely and a pin in coupler latch
5. Check safety chains

Trailer Wiring

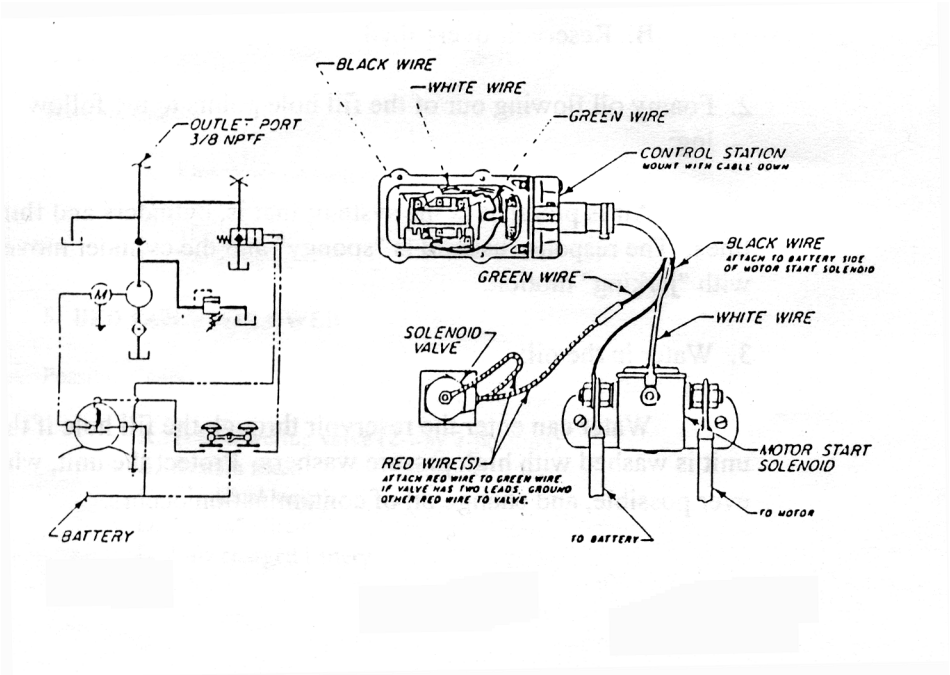
WIRE COLOR	FUNCTION
Brown	Running Lights
White	Ground
Black	Brakes
Yellow	Left Turn Signal
Green	Right Turn Signal
Red	Battery Charging (Optional)

Battery

Recommended: Group 24 Deep Cycle 135 Amp. hours minimum

Recharge as required

Pump Remote Wiring



Hydraulic Fluid & Reservoir

1. Automatic transmission fluid (ATF) is the best readily available fluid for most climate conditions.

2. Correct filling and operating procedure:

Fill reservoir to within 1/2 from the top with all the cylinders required in the fully retracted position.

NOTE: Do not use a solid plug or a fill cap without a filter/breather element or damage will be caused to pump and/or reservoir.

Problems Associated with Reservoir

1. Clear oil flowing out of fill hole usually points to the following:

    A. Cylinders were not fully collapsed when reservoir was filled.

    B. Reservoir overfilled

2. Foamy oil flowing our of the fill hole points to the following:

Air is present in the system' that is , cylinders and fluid lines. The response usually is "spongy" and the cylinder movers with "jerking" motion.

3. Water in the oil

Water can enter the reservoir through the fill hole in the unit is washed with high pressure washers. Protect the unit, whenever possible, and change oil of contamination occurs.

Trouble Shooting
Hydraulic System Model M310

1. MOTOR FAILS TO START

Possible Cause

- A. Motor start solenoid switch
- B. Electric Switch
- C. “Open” circuit
- D. Motor
- E. Dead battery or corroded terminals

2. BED FAILS TO HOLD

Possible Cause

- A. Check valve-main (Poppet type)
- B. D.R. lowering valve (2-way 2 position)
- C. Manual override

3. BED DROPS SLOWLY

Possible Cause

- A. D.R. lowering valve (2-way 2 position)
- B. System filter

4. MOTOR RUNS SLOW AND SLUGGISH

Possible Cause

- A. Low charged battery
- B. Low voltage
- C. Motor
- D. Relief valve

5. BED FAILS TO LOWER

Possible Cause

- A. D.R. lowering valve (2-way 2-position)
- B. System filter
- C. Electrical switch
- D. “Open” Circuit
- E. Low charged battery

6. MOTOR RUNS BUT BED FAIL TO RAISE

Possible Cause

- A. D.R. lowering valve (2-way 2-position)
- B. Low hydraulic fluid
- C. Relief valve
- D. Suction filter
- E. Pump losing prime
- F. Cylinder--piston type
- G. Worn Pump

Axles

Refer to the Axle Manual that was included with this manual for complete instructions for service and maintenance on manuals.

!!DANGER!!

Do not exceed the GVWR of the towing vehicle and the GVWR of the trailer as noted on the VIN plate.

Prior to servicing unit make sure safety prop is secured. Never place hands and or body parts under unity when operating.

Make sure lug nuts are torques to 90-120 lbs. Check periodically.

FAILURE TO COMPLY WITH ANY OF THE ABOVE COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH!

How To Check Your Trailer

Stabilizer Jacks: Always remember to block tires before using stabilizer jacks! Not blocking tires may result in the failure of your stabilizer jacks, property damage and personal injury.

Safety Chains: Be sure to always cross your safety chains when hooking to your trailer. Crossing your safety chains will make stopping your trailer easier if the trailer hitch is dragging on the ground. (Crossing your safety chains is required by law.) Chains which are too long should be shortened and chains which have been stressed should be replaced.

Frame: Normal road use will eventually chip away at the factory-protected underside of your trailer frame. Check the underside of your frame at least once a year and repair any chips with an automotive undercoating or matching paint. This protection can help prevent rust and deterioration of the trailer.

Battery: Before each trip, be sure to check the battery for proper charge.
Maximum charge for the battery should not exceed 1.2 AMPS.

The Hitch: It is your responsibility to correctly match your tow vehicle to your trailer. To do this here are some steps to follow:

1. Match the GVWR of your trailer to the maximum trailer weight allowed for your tow vehicle.
2. Match the hitch weight carrying capacity of your tow vehicle with the loaded tongue weight of your trailer.
3. Match the size of the brake controller to the number of braking wheels on your trailer.
4. Match the electrical wiring of your tow vehicle to the wiring on your trailer. Be sure to check that your tow vehicle has ground wire running from the receptacle to the frame.
5. Match the ball size to the coupler size. ****If you have any questions regarding your hitch, call a specialist!**

Recommended Care for Hitches:

1. Always keep hitch ball greased.
2. Replaced worn hitch balls or locking lugs promptly.
3. Replace worn hitch pins and 5th wheel jaws promptly.
4. When in doubt, consult either tow vehicle manufacturer, vehicle owner's manual, dealer ship or hitch specialist.

Loading Your Ringo Trailer

Proper loading of your Ringo trailer is imperative! Uneven loading and insufficient hitch weight of your trailer can cause your to be unstable and result in serious bodily injury. Be sure to follow these instructions when loading your trailer.

WEIGHT LIMITS

Check your trailer's gross vehicle weight class and the weight of your trailer to determine the legal weight you may carry on the truck and on the trailer combination.

TRAILER LOADING INSTRUCTIONS

When loading heavy machines, support the rear of the trailer with blocks to insure you don't lift the rear of the truck, bend the trailer hitch, put excessive weight on the trailer axle(s), stress the trailer frame or bend the ramps or gates. Excessive hauling or loading weight causing damage to truck, trailer hitch or trailer is not covered under warranty.

Steps for Determining Correct Load Limit – Trailer

Determining the load limit of a trailer includes more than understanding the load limits of the tires alone. On all trailers there is a Federal Certification/VIN Label that is located on the forward half left (road) side of the unit. This certification/VIN label will indicate the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weight. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weight. If there are multiple axles, the GAWR of each axle will be provided.

If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard located in the same location as the certification label described above. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity. Cargo can be added to the trailer, up to the maximum weight specified on the placard. The combined weight of the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded trailer can not exceed the stated GVWR.

Although the trailer empty weight is stated it can indeed vary from trailer to trailer due to variations in manufacturing materials. It is in the user's best interest to determine the empty weight by weighing the empty trailer at a public scale and then record that weight. It is also in the user's best interest to know exactly what the weight of the cargo being transported is and adhere to the maximum allowable load limits.

Steps for Determining Correct Load Limit – Trailer
(For Trailers 10,000 lbs. GVWR or Less):
1.) Locate the statement, "The weight of cargo should never exceed XXX kg or XXX lbs.," on your vehicle's placard.
2.) This figure equals the available amount of cargo and luggage load capacity.
3.) Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity. The trailer's placard refers to the Tire Information Placard attached adjacent to or near the trailer's VIN (Certification) label at the left front of the trailer.

Steps For Determining Correct Load Limit – Trailer
(For Trailers Over 10,000 lbs. GVWR):
1.) Determine the empty weight of your trailer by weighing the trailer using a public scale or other means. This step does not have to be repeated.
2.) Locate the GVWR (Gross Vehicle Weight Rating) of the trailer on your trailer's VIN (Certification) label.
3.) Subtract the empty weight of your trailer from the GVWR stated on the VIN label. That weight is the maximum available cargo capacity of the trailer, and may not be safely exceeded.

Trailer Wire Color Code

Left Turn ——————————Yellow
Right Turn ——————————Green
Tail Light ——————————Brown
Brake Ground ——————————White
Brake Hot ——————————Black

Electrical Tips & Diagrams

WIRE INSTALLATION TIPS

By law, trailer lighting must be connected into the tow vehicle's wiring system to provide trailer running lights, turn signals and brake lights. This is accomplished by tapping into the tow vehicle's electrical harness to transfer power to the trailer wiring system. Connectors are used between the two to allow disengagement when not towing.

CONNECTORS

Various styles of connectors are available with four to seven pins to allow transfer of power for the lighting as well as auxiliary functions such as electric trailer brake control, backup lights etc. Choose a connector that has the required number of pins for the functions required. The male end is mounted on the vehicle side and the female on the trailer side.

4 WAY CONNECTORS

Flat molded connectors are available allowing the basic hookup of the three lighting function and ground. Round 1 1/4" knockout style can be permanently mounted directly onto all Hitch products or onto a separate plug mounting bracket. This provides a clean installation and avoids the potential problems associated with leaving a plug dangling from the rear of the towing vehicle.

6 WAY CONNECTORS

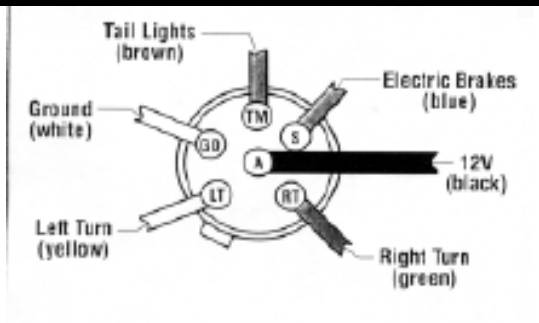
Round 1 1/4" diameter metal connectors are available that allow 1 or 2 additional functions such as back up lights and electric brakes. These can be mounted on all hitch products.

7 WAY CONNECTORS

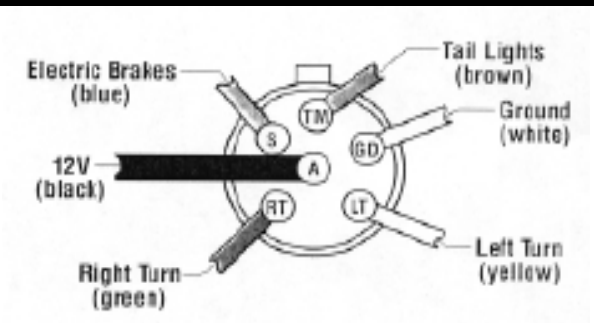
Additional pins for auxiliary power, trailer battery charging etc. are available using larger 2" diameter, round

ELECTRICAL CONNECTOR WIRING INFORMATION

6 WAY CAR

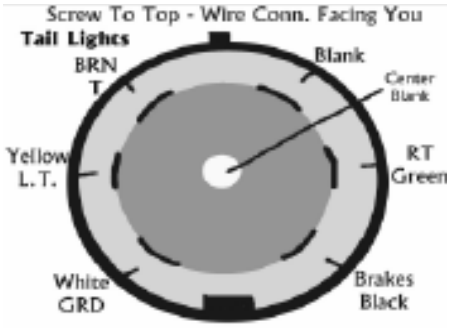


6 WAY TRAILER



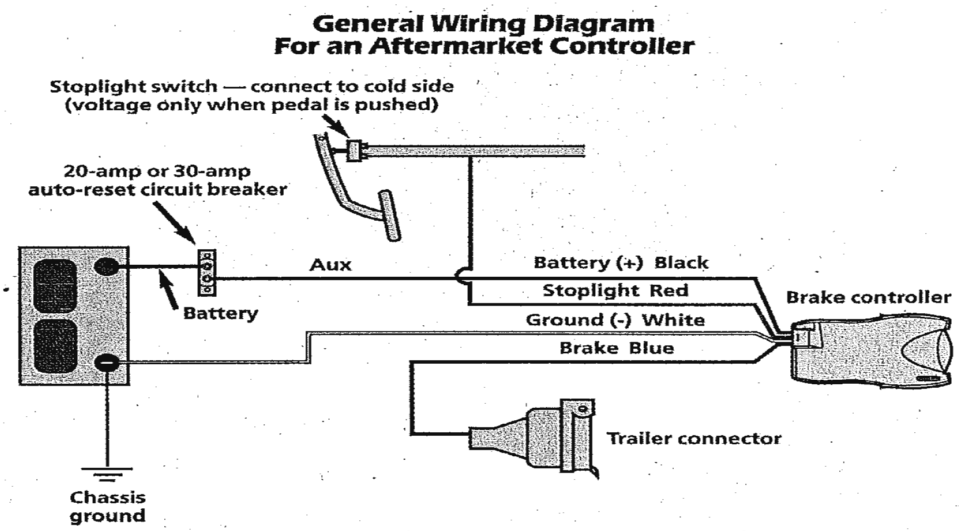
7 WAY CAR

7 WAY TRAILER



It is very important that you have a ground wire running from the plug to the frame of your tow vehicle. Hitches, safety chains and couplers are not adequate grounds for your trailer. If an auxiliary battery is added to your trailer, there must be a fuse installed between the battery and the trailer. If you have any questions regarding the wiring of either your tow vehicle or your trailer, contact either your dealer or Ringo Hill Farms

Electrical Tips & Diagrams



Critical to every successful brake controller installation is the proper tow-vehicle wiring.

While you should carefully follow the manufacturer's recommendations, there are certain common elements to almost every controller. Among priorities is a reliable power source, which may include a vehicle manufacturer's built-in circuitry for an aftermarket brake controller. The main power line should be at least a 10 AWG wire from a circuit breaker at the fuse box or battery, to the brake controller's power-input connection (follow specific instructions for your controller).
The circuit should continue from the controller, without any splices, and terminate at the seven-pin connector found at the rear of your tow vehicle. Most manufacturers advise against grounding the controller to the vehicles firewall, but recommend routing a 10 AWG (or larger) separate ground wire directly to the battery. The controller may not function properly if the ground connection is not made directly to the battery terminal. The other wiring connection is made to the brake light circuit, downstream of the brake light switch mounted to the brake-pedal assembly, so the controller senses when you've activated the brakes. Later-model vehicles with tow packages have brake-control wiring bundled under the ash with a plug-in connector attached. A pigtail with the mating part of the connector is supplied with the vehicle, and is ready for connection to the brake control wiring.

TEKONSHA, more recently, is using accelerometers to measure braking force, as they do in their *Prodigy* brake controller. These are available through our sister company, Shelton Hitch Co., Inc., Part # 39519.

Features of the Prodigy Electric Brake Controller:

- For 2, 4 , 6 & 8 brake trailers
- Digital display shows voltage delivery to trailer
- New motion sensor technology
- Sensor detects tow vehicle deceleration and feature an exclusive "Boost" feature which gives user ability to apply more initial trailer braking power
- No manual level adjustment, levels itself to terrain

Routine Maintenance Check

Routine Maintenance must be performs on your trailer to ensure its safe and economical use. On the following pages you will find some simple steps that you may find useful. If you have any questions regarding trailer maintenance call your dealer or Ringo Hill Farms Equipment Co., Inc.

Check	How?	Every Trip	Every 3,0000 mi or 3 mo	Every 6,000 mi or 6 mo
Tire Pressure	Inflate to Pressure Indicated on Tire	X		
Wheel Lugs, Nuts & Bolts	Tighten to Proper Torque Specifications	X		
Coupler Ball or 5th Wheel & Pin	Check for Unusual Wear on Chain Links and Lock Mechanism	X		
Safety Chains & Hitch Ball	Check for Unusual Wear on Chain Links and Hitch Ball	X		
Coupler	Check Pin for Proper Fastening	X		
Brakes	Check General Operation and Proper Adjustment	X		
Break Away Battery	Check Charge	X		
Welds	Check Welds for Cracking or Separations		X	
Hinges	Check for Proper Operations Lubricate with Light Oil		X	
D-rings Tie Downs, E-track	Check for Fractures, Loose Anchor System			X
Lights & Signals	Check for Proper Operation and Replace Burned Bulbs	X		
Load Distribution	Check and Secure Load Distribution	X		
Springs & U-bolts	Check Each Spring's Physical Appearance Check Tightness of U bolt Nuts Re-Torque as necessary		X	

**** Check first trip and after 10, 25, and 50 miles. ****

**** Then Check after every 3,000 miles or 3 months. ****

***** Please refer to corresponding manufacturer's owners manual. *****

Bearing Lubrication

Along with bearing adjustment, 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. The method to repack bearing cones is as follows.

1. Place a small quantity of grease into the palm of your hand
2. Press a section of the widest end of the bearing into the outer edge of the grease pile closed to the thumb forcing grease into the interior of the bearing.
3. Repeat this while rotating the bearing from roller to roller.
4. Continue this process until you have the entire bearing completely filled with grease.
5. Before reinstalling, apply a light coat of grease on the bearing cup.

Electric Brakes—Features

Electrically actuated brakes have several advantages over other brake actuation systems.

1. They can be manually adjusted to provide the correct braking capability for varying road and load conditions.
2. They can be modulated to provide more or less braking force, thus easing the brake load on the towing vehicle.
3. They have very little lag time from the moment the tow vehicle's brakes are actuated until the trailer brakes are actuated.
4. In a emergency situation, they can provide some braking independent of the tow vehicle.

Operation

The electric brakes on your trailer are similar to the drum brakes on your automobile. The basic difference is that your automotive brakes are actuated by hydraulic pressure while your electric trailer brakes are actuated by an electromagnet. With all of the brake components connected into the system, the brake will operate as follows: (see electric brake assembly illustration on page 14)

When the electrical current is fed into the system by the controller, it follows through the electromagnets in the brakes. The high capacity electromagnets are energized and are attracted to the rotating armature surface of the drums which moves the actuating levers in the direction that the drums are turning.

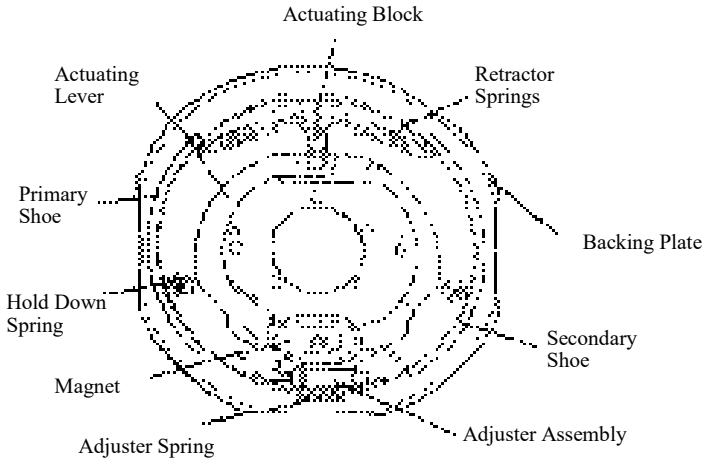
The resulting force causes the actuating cam block at the shoe end of the lever to push the primary shoe out against the inside surface of the brake drum. The force generated by the primary shoe acting through the adjuster link then moves the secondary shoe out into contact with the brake drum.

Increasing the current flow to the electromagnet causes the magnet to grip the armature surface of the brake drum more firmly. This results in increasing the pressure against the shoes and brake drums until the desired stop is accomplished.

How To Use Your Electric Brakes Properly

Your trailer brakes are designed to work in synchronization with your tow vehicle brakes. Never use your tow vehicle or trailer brakes alone to stop the combined load. Your trailer and tow vehicle will seldom have the correct amperage flow to the brake magnets to give you comfortable, safe braking unless you make proper brake system adjustments. Changing trailer load and driving conditions as well as uneven alternator and battery output can mean unstable current flow to your brake magnets. It is therefore imperative that you maintain and adjust your brakes as set forth in this manual, use a properly modulated brake controller, and perform the synchronization procedure noted below. In addition to the synchronization adjustment detailed below, electric brake controllers provide a modulation function that varies the current to the electric brakes with the pressure on the brake pedal or amount of deceleration of the tow vehicle. It is important that your brake controller provide approximately 2 volts to the braking system when the brake pedal is first depressed and gradually increases the voltage to volts as brake pedal pressure is increased. If the controller "jumps" immediately to a high voltage output, even during a gradual stop, then the electric brakes will always be fully energized and will result in harsh brakes and potential wheel lockup. Proper synchronization of tow vehicle to trailer braking can only be accomplished by road testing. Brake lockup, grabbiness, or harshness is quite often due to the lack of synchronization between the tow vehicle and the trailer being towed, too high of a threshold voltage (over 2 volts), or under adjusted brakes.

Before any synchronization adjustments are made, your trailer brakes should be burnished-in by making 10-12 full stops from approximately 20 m.p.h. This allows the brake shoes and magnets to slightly "wear-in" to the drum surfaces.



To insure safe brake performance and synchronization, read the brake controller manufacturer's instructions completely before attempting any synchronization procedure.

!CAUTION!

Before making road tests, make sure the area is clear of vehicular and pedestrian traffic.
Make several hard stops from 20 m.p.h. on a dry paved road free of sand and gravel. If he trailer brakes lock and slide, decrease the gain setting on the controller. If they do not slide, slightly increase the gain setting. Adjust the controller just to the point of impending brake lockup and wheel skid.

Brake Adjustment

Brakes should be adjusted (1) after the first 200 miles of operation when the brake shoes and drums have "seated," (2) at 3000 mile intervals, (3) or as use and performance requires. The brakes should be adjusted in the following manner:

1. Jack up trailer and secure on adequate capacity jack stands. Follow trailer manufacturer recommendations for lifting and supporting the unit. Check that the wheel and drum rotate freely.

2. Remove the adjusting hole cover from the adjusting slot on the bottom of the brake backing plate.

3. With a screwdriver or standard adjusting tool, rotate the star wheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn. Back off approx. 1/4 turn or until wheel only slightly drags.

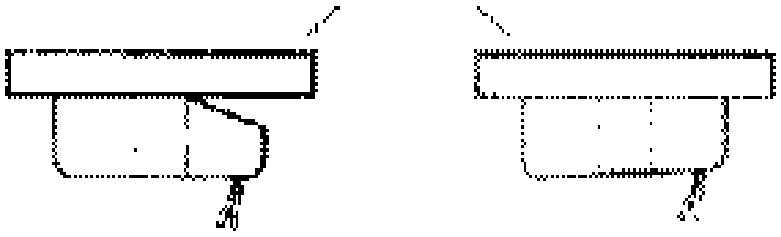
!CAUTION!

Do not get grease or oil on the brake linings, drums or magnets.

Magnets

Your electric brakes are equipped with high quality electromagnets that are designed to provide the proper input force and friction characteristics. Your magnets should be inspected and replaced if worn unevenly or abnormally. As indicated below a straight edge should be used to check wear.

STRAIGHT EDGE

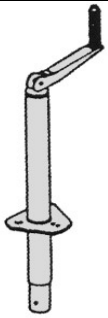
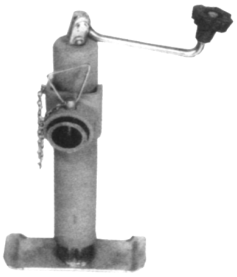
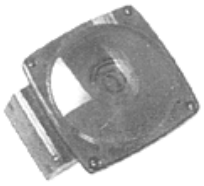
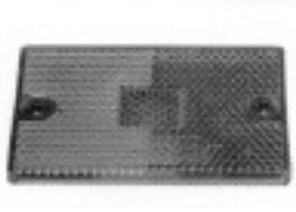


ABNORMAL WEAR
(REPLACE MAGNET)

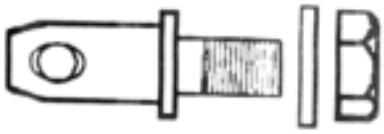
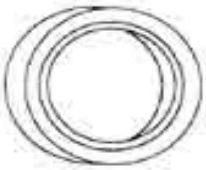
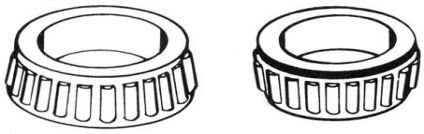
NORMAL WEAR

Even in wear is normal as indicated by your straightedge, the magnets should be replaced if any part of the magnet coil has become visible through the friction material facing of the magnet. It is also recommended that the drum armature surface be refaced when replacing magnets. Magnets should also be replaced in pairs - both sides of an axle. Use only genuine Dexter replacement parts when replacing your magnets. Noted on the next page are the magnet replacement kits which will include the necessary specific instruction for replacement.

Trailer Parts & Accessories

Item	Part #	Description
	**Specify Your Tire Size & Rating**	We have a wide variety of tires to fit your trailer!
	**520**	A-Frame Jack
	**521**	Side Wind Jack
	**440**	Right Side Tail Light
	440L	Left Side Tail Light
	**114-A**	Amber Marker Lights

Trailer Parts & Accessories

Item	Part #	Description
	Varies on Size	Lynch Pins
	Varies On Size	Gate Pull Pin
	**11997**	Stabilizer Pin
	Varies On Size	Wheel Seal Specify Model # & G.V.W. of Trailer
	Varies On Size	Wheel Bearings Specify Model # & G.V.W. of Trailer

TIRE & WHEEL INFORMATION

Your trailer has been equipped with premium quality tires and wheels.

SAFETY WARNING

Any tire & wheel, no matter how well constructed has the possibility of failure due to improper maintenance or service factors. To help in preventing risk of property damage or risk of serious injury, please note the following:

- Tire failure may occur due to a variety of factors, including under inflation, over inflation, punctures, overloading, or misapplication.
- Follow owner's manual or tire placard on vehicle fro instructions
- Explosion of tire/rim assembly due to the improper mounting may occur.
- Check inflation pressure regularly with accurate pressure gauge.
- Verify fitment before mounting to ensure safety.
- For best performance and longer possible life, routine care and maintenance is required.

TIRE & WHEEL CARE

OVERLOADING/ABUSE

If your trailer is over loaded, tire failure can occur very quickly. Care must taken to see that the weight of your unit does not exceed the load capacity of the tires, or trailer manufacturer's Gross Vehicle Weight rating (GVW).

INFLATION

The tire load rating branded on the tire sidewall is valid only when the tire is inflated to the specified pressure. Tire inflation pressure will vary due to changes in temperature, altitude, and normal air loss over time. To ensure adequate load carrying capacity and durability the inflation pressure of each tire (including spare) should be checked frequently when the tires are cool and adjusted to match the rating shown on the tire side wall.

WHEEL WARRANTIES

Wheels are subject to manufacturer's warranties which vary. If you are having issues with your wheels, please contact the Warranty Dept. of your wheel's manufacturer.

When calling, you must have the following information available:

- Style or description
- Date manufactured
- Wheel size
- Date of Purchase
- Paint or finish type
- Vehicle manufacturer
- Wheel Stamp (located on back side of rim)
- Model
- Number of lug nuts
- Credit Card Information
- VIN Number
-

TIRE WARRANTY

Tires are warranted by their manufacturer.

If you should have any problems with or require additional information regarding the tires installed on your unit, please contact the manufacturer of the specific tire brand.

Following is information you will need when calling:

- Tire brand
- Tire size
- Tire load range
- DOT number
- Manufacturing date

TIRE MANUFACTURER PHONE LIST

Duro Tire - (866) 788-2060	American Kenda - (800) 225-4714
Hercules - (800) 677-9535	Taskmaster - (866) 481-9554
Goodyear - (800) 321-2136	TBC - (800) 739-7698
Uniroyal - (800) 847-8475	Tireco - (800) 937-9433
Winland - (866) 420-6315	Ringo Hill - (610) 346-7340

Trailer Wheel Safety Guide

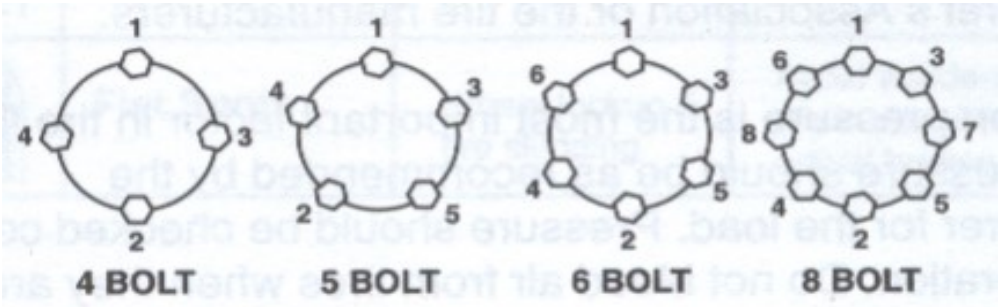
Please Read All Warnings & Instructions Carefully Before Use

Component Guidelines

Guidelines

1. Surfaces of contact on an *aluminum or steel* wheel (the nut seat and the mounting surface) must be free of paint, contamination and damage. Smooth, clean surfaces provide the lost uniform clamping pressure and best retain torque.
2. Surfaces of contact on the axle (the flat hub surface and the threaded studs) must be free of excessive paint, oils, and grease, contamination and physical damage.
3. Lug nut geometry must match that of the wheel nut seat. The threads and nut seat must be free of paint, oils, grease, and other contamination.
4. Stud length must be sufficient that after mounting the wheel to the hub, the lug nut is engaged to a depth at least equivalent to the diameter of the stud. For example, a lug nut threaded on a 1/2 inch diameter stud should thread on for a depth of at least a 1/2 inch.

Wheel Size	1st Stage	Torque Sequence 2nd Stage	3rd Stage
12”	20-25	35-40	50-75
13”	20-25	35-40	50-75
14”	20-25	50-60	90-120
15”	20-25	50-60	90-120
16”	20-25	50-60	90-120
16.5” x 6.75”	20-25	50-60	175-225
16.5” x 9.75”	55-60	120-125	85-95
14.5”	20-25	50-60	90-120
17.5” Hub Pilot Clamp Ring & Cone Nuts	50-60	100-120	190-210
17.5” Hub Pilot 5/8” Flange Nuts	50-601	90-200	275-325



Assembly Instructions

Instructions:

Assembly of the wheel onto the hub is a critical, safety related process. The proper method of assembly, the consistency of the torque applied to the wheel fastening system and the retention of the wheel to the trailer is very important. The trailer manufacturer/distributor/dealer and end user must consistently follow proper torquing technique in order to ensure the hub and wheel are properly seated and use caution to prevent anything from interfering with the flat, full designed mating contact of wheel mounting surface and hub. Excess paint, oil and grease must be removed from the fastener contact surfaces (the mounting surfaces, studs, and lugs). Adherence to the recommended “do’s and “don’ts” set out below will minimize the likelihood of fastener torque-loss and wheel separation.

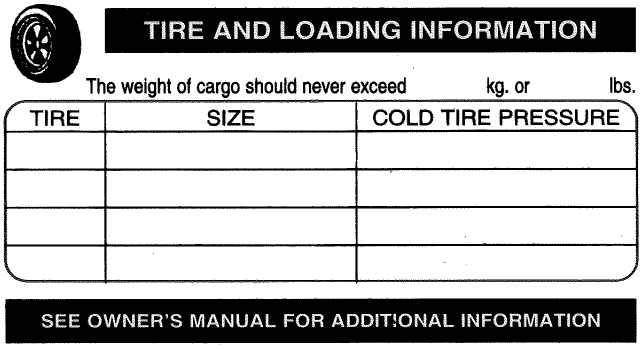
“Do’s”:

- *Do* remove all oil and grease from threaded fasteners (studs & lugs). Mask or cover all
- fastener contact surfaces (mounting surfaces and studs) before painting axles, whether for improved cosmetics or corrosion protection.
- *Do* use a calibrated torque wrench to complete the torque fastening process applying the same criss cross or star pattern.
- Do re-torque periodically during the trailer’s initial towing and thereafter in accordance with the component supplier’s recommendations.
- *Do* maintain records of the maintenance and torque checks performed by transporters,
  noting any loss of torque or any corrective measures taken.

“Don’t’s”

- *Don’t* deviate from the component manufacturers recommendations regarding compatible components without a complete engineering review.
- *Don’t* deviate from any component the supplier has specified without a competent engineering review.
- *Don’t* use adhesive products to maintain fastener retention.
- *Don’t* use lubricants or oils on thread fastener (studs or lugs) to make applying the torque easier unless assembly specifications require it.
- *Don’t* apply any additional paint on fastener contact surfaces (mounting surfaces/ hub faces or studs).

Tire Information



1. Locate the statement, "The weight of cargo should never exceed XXX kg or XXX lbs.," on your vehicle's placard. See figure 1-1.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

The trailer's placard refers to the Tire Information Placard attached adjacent to or near the trailer's VIN (Certification) label at the left front of the trailer.

Tire Safety - Everything Rides On It

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following web site:

http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires

This booklet presents a comprehensive overview of tire safety, including information on the following topics:

- Basic tire maintenance
- Uniform Tire Quality Grading System
- Fundamental characteristics of tires
- Tire safety tips

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

Safety First–Basic Tire Maintenance

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Underinflated tires and overloaded vehicles are a major cause of tire failure. Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

Finding Your Vehicle's Recommended Tire Pressure and Load Limits

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW–the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR– the maximum weight the axle systems are designed to carry)

Both placards and certification labels are permanently attached to the trailer near the left front.

Understanding Tire Pressure and Load Limits

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure– measured in pounds per square inch (psi)–a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (KPA), which is the metric measure used internationally.)

Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

Tire Size

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

Tire Tread

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in tread wear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

Tire Balance and Wheel Alignment

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

Tire Repair

The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

Tire Fundamentals

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification in case of recall.

Checking Tire Pressure

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- Most tires may naturally lose air over time.
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- With radial tires, it is usually not possible to determine under-inflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.

The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

Steps for Maintaining Proper Tire Pressure

Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
Step 2: Record the tire pressure of all tires.
Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.
Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).
If you have been driving your vehicle and think that a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

Reporting Safety Defects:

If you believe that your vehicle has a defect that 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 the manufacturer.

Ringo Hill Farms Equipment Co., Inc.
1624 Route 212 Quakertown, Pa 18951
(610)-346-7340 Sales@Ringohill.com
www.RingoHill.com

If NHTSA received 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 can not become involved with individual problems between you and your dealer or the manufacturer.

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To Contact NHTSA, you may either call the Vehicle Safety Hotline toll free at 1-888-327-4236 (TTY: 1800-424-9153), go to www.safercar.gov; or write to

Administrator
NHTSA
1200 New Jersey Ave. S.E.
Washington, DC 20590

You can also obtain other information about motor vehicle safety from www.safercar.gov.

Thank you for purchasing a trailer from Ringo Hill Farms.

For Our Full Line of Trailer Parts & Accessories, Check Out Our Websites Below

www.RingoHill.com

&

www.SheltonHitch.com

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