



## Larson Cable Trailers, Inc.

Models: 7500/5620

Manufactured by:

**LARSON CABLE TRAILERS, INC.**

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# INTRODUCTION

Congratulations on purchasing the best mobile cable dispensing system on the market. This manual has been prepared to acquaint you with the **LARSON MOBILE CABLE DISPENSING SYSTEM (LMCDS)** and its maintenance, setup, operation, and transport. Please note, this manual contains important safety information that both you and others operating this trailer must know. Please give your full attention to safety.


Here at LARSON, we have been burying cable for over 50+ years. Several years ago we started burying fiber optic cable. This was a whole new challenge since fiber can't be cut and spliced when obstacles are met. We initially designed a figure-8 machine and reel winder for our cable plow. However, when we came to an obstacle (oil road, shallow cables, etc.) our plow and the entire crew were left figure-8ing. Efficiency was very poor.

We looked everywhere for a trailer capable of figure-8ing and rewinding. There wasn't a cable trailer that had a bed or reel turner rugged enough for our needs. And most, if not all, cable trailers we found had no suspension, slowing transport.


We designed and built the **LMCDS** to meet our needs. This trailer will also save you time and manpower as you bury cable in a new and more efficient way.

We soon realized that the trailer we had developed was invaluable in other capacities as well. So the **LMCDS** was created for those who desire a high-quality, self-loading, multi-purpose unit for use on the utility job site.

When it comes to service, your LARSON Authorized Sales Representative knows your trailer the best and is interested in your complete satisfaction. We invite you to return to your representative for all of your service needs both during and after the warranty period.

This **SAFETY ALERT SYMBOL**  indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of **PERSONAL INJURY** or **EQUIPMENT DAMAGE**.

Always store this manual in the paperwork holder of your trailer for future reference.

 **WARNING!** Failure to read the manual and understand how to safely operate this equipment could lead to serious damage to property, equipment, or cable. It could also lead to personal injury or death. If you do not understand the instructions in this manual, contact your LARSON Authorized Sales Representative.

# GENERAL INFORMATION AND DESCRIPTION

The **LMCDS 7500** has an overall length of 179" (14.9 ft.) x 75"H x 102"W with a 5 ft. by 6 ft. treated-wood flatbed for hauling tools and small equipment to the job site. It will lift 7500 lb. reels of various sizes or haul a mini-excavator, basements, pads, boxes, anodes, and other materials to the job site. Even with a full payload, the trailer can be towed behind your vehicle at the regular posted speed limit. Curb weight is approximately 3,890 lbs. The 25 gal. hydraulic system has a flow rate of 12 gallons per minute at 2000 psi, powered by a 20-hp engine. This allows the trailer to figure-8 and rewind cable at a rate up to 750 feet per minute. The reel turning rack is powered by a 2-speed orbital motor operated from the control panel. The control panel swings 180° allowing the user to efficiently operate the hydraulic system while monitoring the activity at the rear of the trailer. The hydraulic lifting rack makes loading and unloading a one-man operation.

Standard accessories include: auxiliary hydraulic ports for powering other tools and accessories, two bushings, two collars, one arbor, and extra hooks located on the back of the lifting arms.

Additional accessories available include: a second arbor, additional bushings and collars, loading ramps, dumpster, cold-weather start kit, tension brake, dielectric fluid, light kit, PVC rack, A frame, side roller, level winding device, figure-8 device, hydraulically-powered generator, and a remote control.



# STARTING AND OPERATION

This manual covers most, but not all, of the features of your trailer. Separate owner's manuals for the engine and Dexter axles are also provided. Be certain you have full working knowledge of all features before operating your trailer. Contact your LARSON Authorized Sales Representative if you have questions or incomplete knowledge of your equipment's operation.

## BEFORE STARTING

### 1. Check all fluid levels.

- Oil in the engine. Note that the engine has a low-oil shut off sensor. • Gasoline in the engine. Turn the gasoline on.
- Hydraulic fluid in tank. The hydraulic fluid should be visible in the window on the side of the tank. If not, add more hydraulic fluid. (Use Mobil 424 or equivalent UTF - Universal Tractor Fluid.)
- **If the trailer is labeled for Dielectric Fluid, USE DIELECTRIC FLUID.**



**Warning!** Always check the hydraulic fluid before starting the engine.



**Warning!** Always make sure the hydraulic valve is open before starting the engine. The valve is in the open position when the handle is in line with the hose. Starting the engine with the valve closed will damage hydraulic pump. This valve should remain open unless you are performing maintenance on the pump.

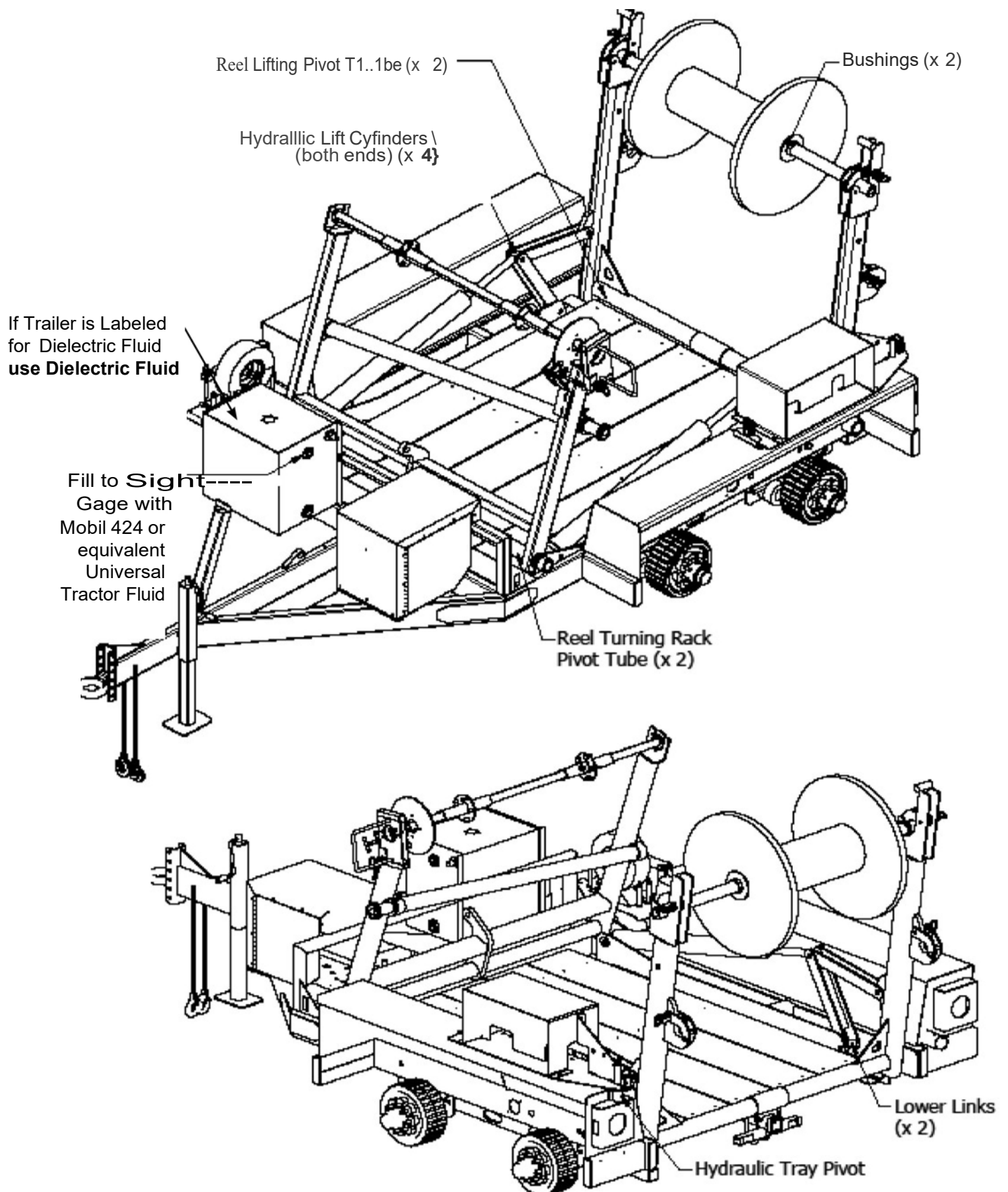
### 2. Check recommended air pressure in all tires

- 8" reel-turning tire: 20-25 psi
- 4" figure-8 tire: 6-8 psi
- 235/85R16E tires: 80 psi

### 3. Check the lights and brake system.

4. Ensure that the trailer is properly lubricated with all-purpose grease. Grease zerks are located on the lower links, bushings, reel turning rack, reel lifting rack, hydraulic valve tray pivot, and each end of the hydraulic lift cylinders. See the Lube Chart on the following page to help locate these items.

# LUBE CHART



# HYDRAULIC LIFTING RACK SETUP



1. Using the reel rack lever on the control panel, lower the reel rack.
2. Pull the keeper pin out of the lifting arm. Please refer to the Parts Diagram for the location of the keeper pin.
3. Extend the lifting arm to the desired length.
4. Replace the keeper pin in the lifting arm.

# REEL LOADING



1. Lubricate the hole in the reel hubs.

**! WARNING!** If the reel hubs are not properly lubricated, the high RPMs attained during figure-eight and rewinding the cable can generate enough heat to deform the arbor hole in the reel. The deformed reel could stop turning which could damage the cable.



2. Remove the arbor from the lifting rack or storage tube.

3. Remove any locking collars and bushings from the arbor. Lubricate the inside of the bushing. Place the bushing in the hole in the reel hub.



4. Slide a locking collar onto the arbor with the flange facing the reel.



5. Insert the arbor in the bushing and push through the reel. If the reel is not level, insert the arbor from the lower side. The washers on the arbor need to be on the lower side to prevent the arbor from sliding off the lifting arm while loading the reel.



6. Lubricate the inside of the opposite bushing and reel hole, place the bushing onto the arbor, and slide the bushing into the reel hub.

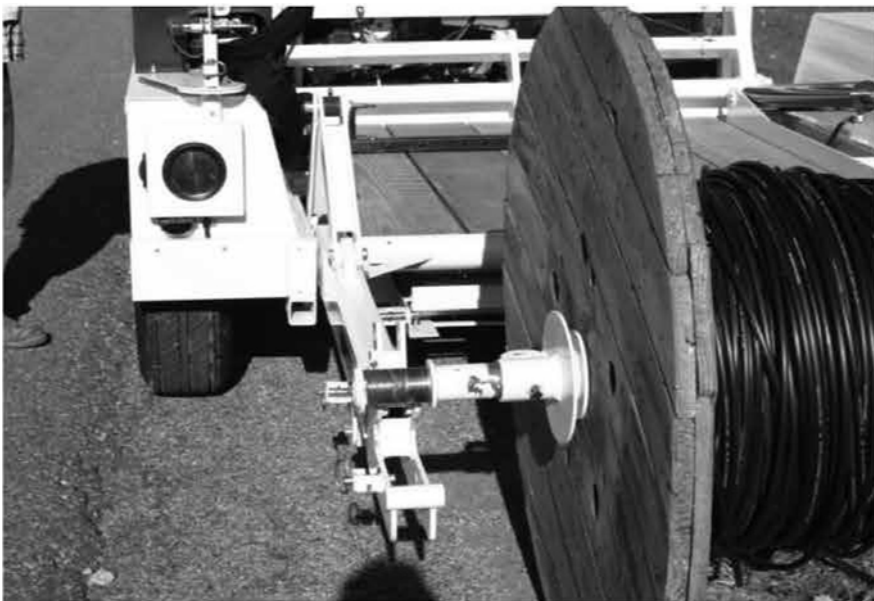


7. Slide the opposite locking collar onto the arbor with the set screw facing away from the reel.





8. Using the reel lifting rack lever on the control panel, lower the lifting arms below the height of the arbor in the reel.



9. Roll the reel forward to align the arbor with the lifting rack and raise the reel rack lifting arms, making contact with the arbor.



10. Center the reel and lock the arbor collars with the set screws. Lock the arbor in place by engaging the spring latch on each side of the lifting rack.



11. The trailer must always be securely attached to a heavy vehicle while lifting.

12. Load the reel using the reel rack lever on the control panel.

**WARNING!** To properly position the reel on the trailer, bring the reel all the way forward until the cylinder stops.

# HYDRAULIC REEL TURNER



1. The reel turner is powered by an orbital motor which also powers the figure-8 device.



2. The reel turner is operated from the control panel.



3. When finished, return the reel turner rack to its full forward position.



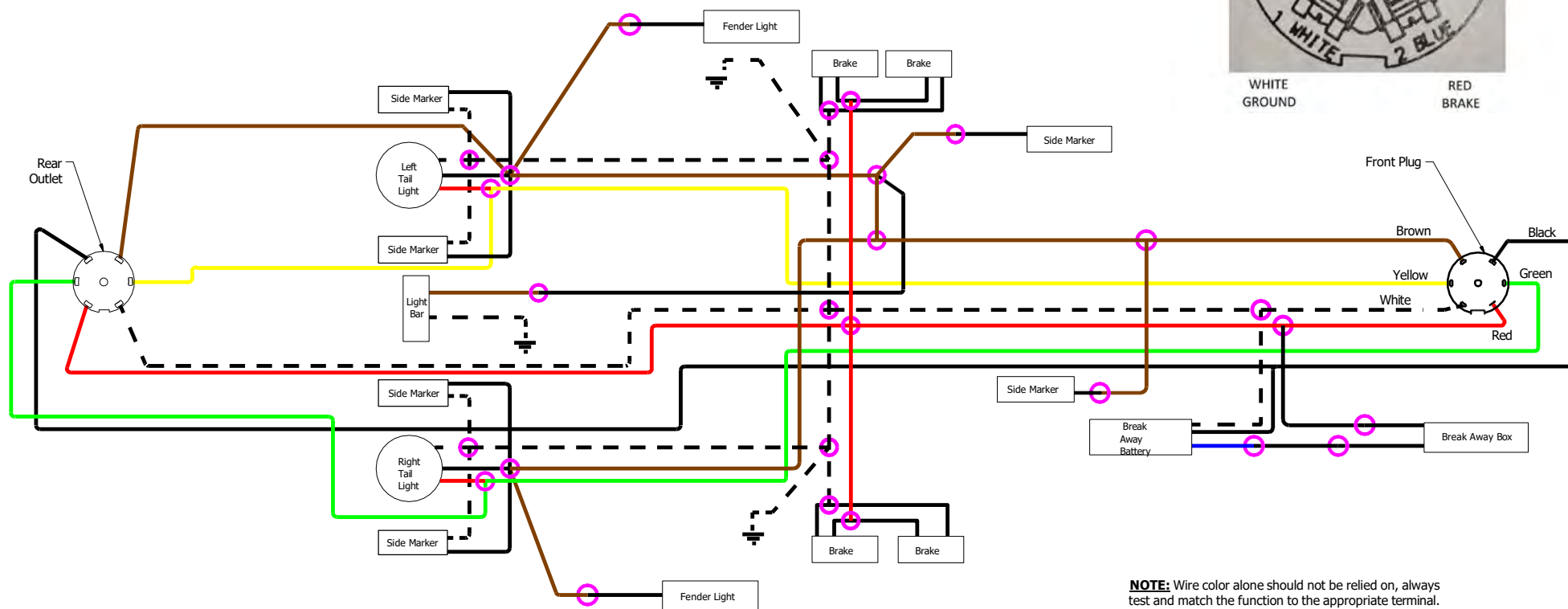
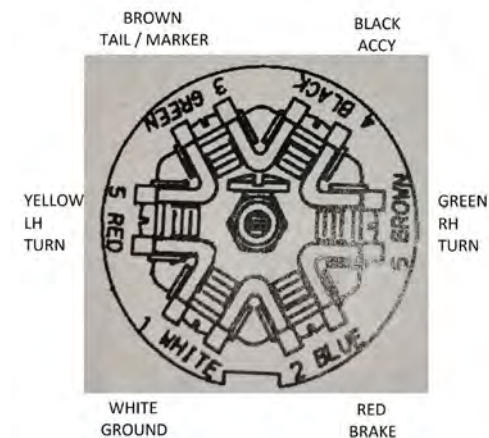
# TRANSPORTING

Before transporting:

1. Gas must be turned off on the engine.
2. The reel turning rack must be in the full forward position.
3. All set screws must be tightened on the collars and the reel turner axle hubs to prevent them from vibrating out.
4. The control panel must be locked down.
5. Loads must be secured to the trailer.

**Warning!** Failure to heed the above information could result in property damage, serious injury, or death.

# BACKSIDE OF PLUG



**NOTE:** Wire color alone should not be relied on, always test and match the function to the appropriate terminal.

Assembly #
7500 Wire Harness
Date
6/17/2020




## Component List (00)

No.	Part Number	Description	Qty
1	1063286	Larson 4-spool Valve 4th Spool Hi/low Section	1.00
2	1124190	0.88 CID A-2 Bolt 5/8 Keyed CW Dual #12x#10 Side/Rear Ports	1.00
3	1082618	3-1/2 X 36" Cylinder	2.00
4	1098737	2 X 12 Welded Cylinder -8 Orb	1.00
5	1090473	3/4 NPT Spin On Filter 25 PSI By Pass And Gauge Ports	1.00
6	1090165	10 Micron Spin-on Element For Zaf Series	1.00
7	1087964	Filter Indicator Gauge 0-60 PSI	1.00
8	1093152	Brand Valve #12 Orb P&t #10 Orb Work Ports	1.00
9	1085825	3/8" Nipple 1/2" NPT Flat Face Isa 16028 M.a9 1/2 NPT	1.00
10	1085826	3/8" Coupler 1/2" NPT Flat Face Isa 16028 F.a9 1/2 NPT	1.00
11	1085880	Cap F. Firg38/a9/firg12	1.00
12	1085881	Cap M.firg38/a9	1.00
13	1039373	1-1/4 NPT Sight Lens	1.00
14	1044759	1-1/2 X 1 Externally Mounted Suction Strainer W/no By-pass	1.00
15	1030842	Street Elbow (1103-16-16) 65165	1.00
16	1030844	Close Nipple 57100	1.00
17	1084354	Full Port 1" NPT Brass Ball Valve 600 PSI	1.00
18	1013315	6 M JIC X 1/2 M NPT 90 Elbow 90 Deg Flare Male Elbow	2.00
19	1014312	3/4-16m JIC X 7/8-14m Oring 90 Deg Threaded Elbow	2.00
20	1014313	3/4-16m JIC X 1 1/16-12m Oring JIC X O-ring 90 Deg Elbow	1.00
21	1013374	# 10 MJIC X # 12 Male Pipe 45 Degree	1.00
22	1013401	9/16-18m X 9/16-18m X 3/8"m JIC X JIC X JIC Male Union Tee	2.00
23	1013475	1/2 Male Pipe x 1/2 Bulkhead Male JIC - Male Bulkhead Connec	2.00
24	1013511	3/4-16 Female JIC 37 Deg Bulkhead Lock Nut	2.00
25	1013922	7/16-20 X 9/16-18 JIC X O-ring Straight Thread Connector	1.00
26	1013989	3/8 Male JIC x 1/2 Male ORB - 0.062 RESTRICTOR	1.00
27	1014028	3/4-16m X 7/8-14 m O-ring X O-ring Connector	2.00
28	1013945	Fitting - Adapter -10 M Jic / -10 M SAE	1.00
29	1013952	Fitting - Sae-12 Male To Jic -12 Male	1.00
30	1014199	9/16-18m X 9/16-18f JIC X JIC 45 Deg Swivel Elbow	3.00
31	1102603	9/16-18m X 3/4-16m 45 Deg JIC X O-ring Threaded Elbow	3.00
32	1102237	3/4-16M X 3/4-16M JIC X O-RING 45 DEG STRAIGHT THREADED ELBOW	2.00
33	1014374	3/4-16m X 7/8-14m 45 Deg JIC X O-ring Elbow	3.00
34	1014305	9/16-18m X 3/4-16m 90 Deg Flare X O-ring Elbow	3.00
35	1080359	Dust Cap For Pd Series	1.00
36	1080353	#4 SAE Male Quick Disc. Test Port Coupling	1.00
37	1014836	Male JIC X Female JIC Swivel X Orb Port	1.00
38	1013368	6 M JIC X 1/2 M NPT 45 deg Elbow 90 Deg Flare Male Elbow	2.00
39	1128020	Two Speed Hydraulic Motor	1.00
40	5979-2SP	Oil Reservoir	1.00

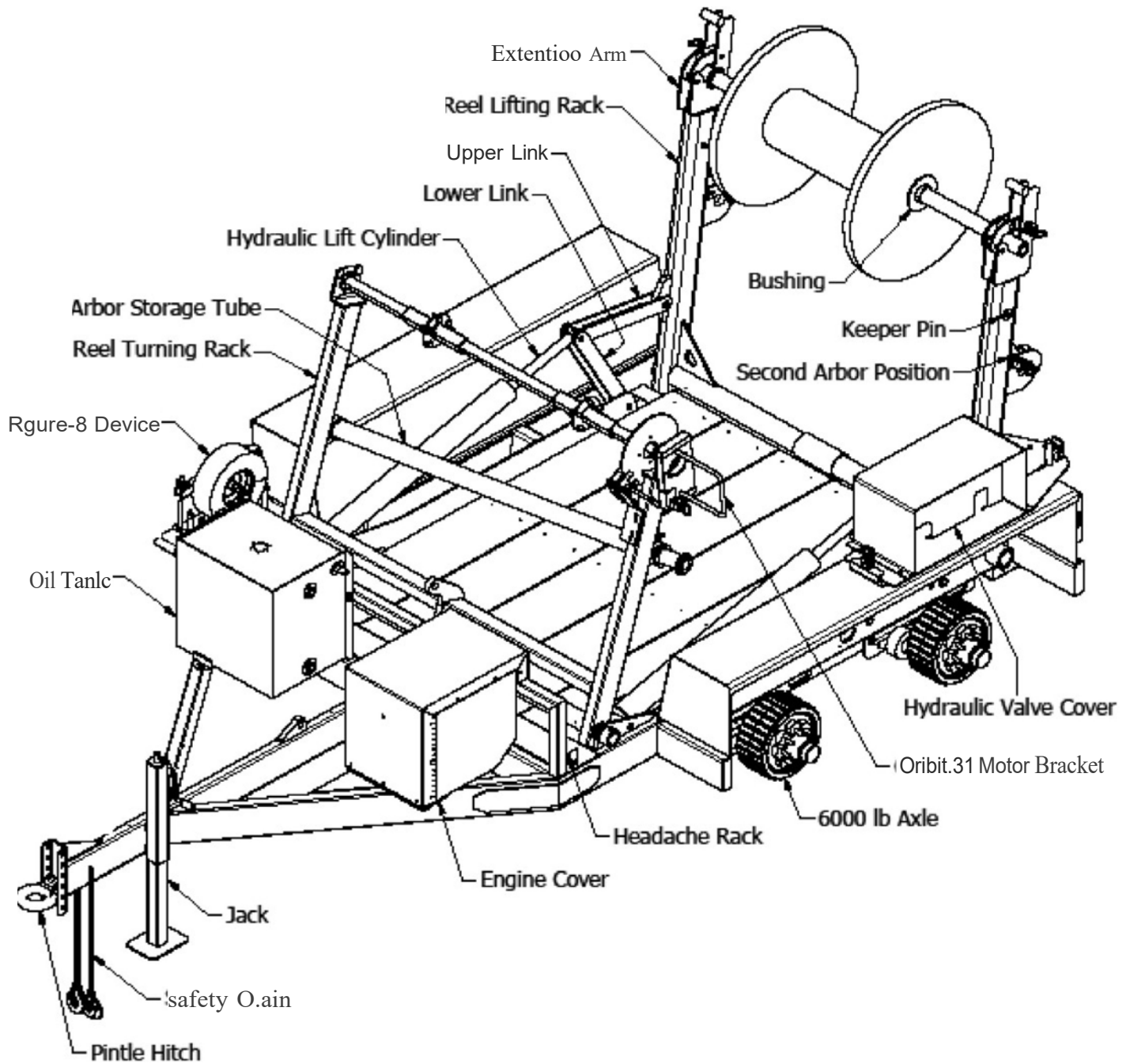
No.	Part Number	Description	Qty
41	1142743	800804003 M.FIRG 38 1/2 SAE	2.00
42	1128294	800804001 M.FIRG 14 3/8" SAE	1.00
43	1128295	800804000 F-FIRG 14 3/8" SAE	1.00
44	1158281	800804002 F-FIRG 38 1/2" SAE	2.00
45	1041122	904 Oring # 4 SAE	1.00

## Hose List (@)

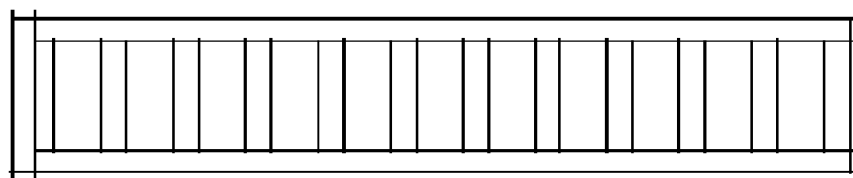
No.	Hose Label
A	#1, 1" X12FJICX16MPX30" OAL
B	#2, 1/2"X8FJICX8FJICX172" OAL
C	#3, 1/2"X12MORBX8MORBSX7.875" OAL
D	#4, 5/8"X-10FJICX-10FJICX171" OAL
E	#5, 3/8"X6FJICX6FJICX184" OAL
F	#6, 3/8"X6FJICX6FJICX176" OAL
G	#7, 3/8"X6FJICX6FJICX146" OAL
H	#8, 3/8"X6FJICX6FJICX146" OAL
	#9, 3/8"X6FJICX6FJIC-46" OAL
J	#10, 3/8"X6FJICX6FJIC-18" OAL
K	#11, 3/8"X6FJICX6FJIC-60" OAL
L	#12, 3/8"X6FJICX6FJIC-84" OAL
M	#13, 1/2"X8FJICX8MORBX150" OAL
N	#14, 1/2"X8FJICX8MORBX150" OAL
O	#15, 1/2"X8FJICX8FJIC90SX27" OAL
P	#16, 1/2"X8FJICX8FJIC90LX30" OAL
Q	#17, 1/2"X8FJICX8FJIC45XI7" OAL
R	#27, 1/4"X6MORB-6FJIC-162" OAL

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MATERIAL		DRAWNBY PHO	
		DATE 8/2/2017	
TOLERANCE, INCHES uNLess oRHeR'Mse spec1FleC. DEC. XX 1.000 DEC. XXX 1.000 ANGULAR: MACH 13'	DESCRIPTION <b>Larson Cable Trailer LCT-7520 Plumbing</b>	APPROBY	
THIRD ANGLE PROJECTION	SIZE	ITEM NUMBER	REV
<b>-\$--E3-</b>	<b>A</b>	<b>TB23901</b>	
SCALE 1:10		DO NOT SCALE DRAWING	SHEET 2 OF 2

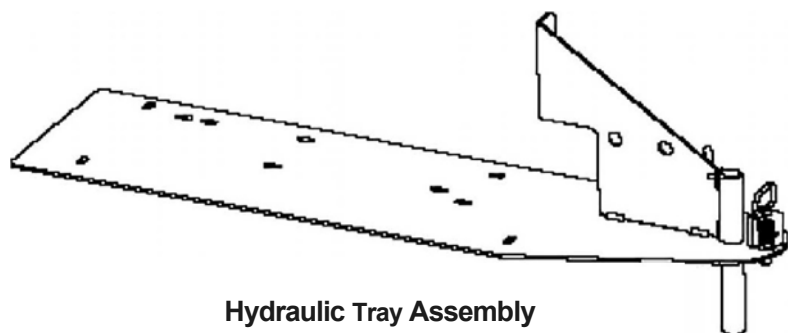
# PARTS DIAGRAM



Depending on the optional accessories purchased with your trailer, you may or may not have the parts shown.



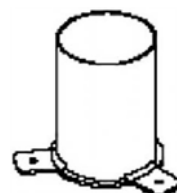
Loading Ramp (5804)



Hydraulic Tray Assembly  
(6054-1.0 Assembly)



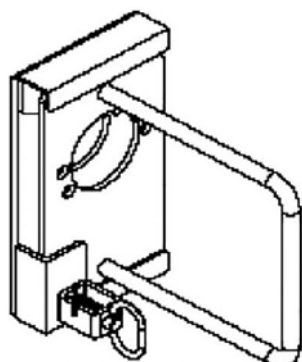
Paperwork Tube



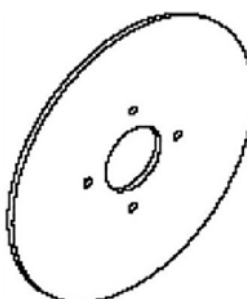
Papawork Tube Holder (4004)



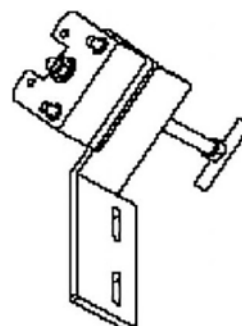
Spline C.oupler



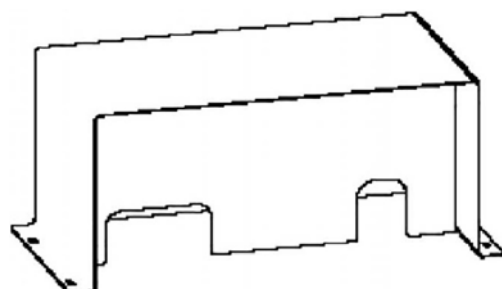
Hydraulic Motor Bracket {6044}



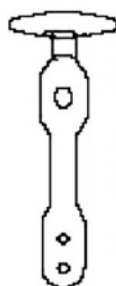
Brake Disc {7008A}



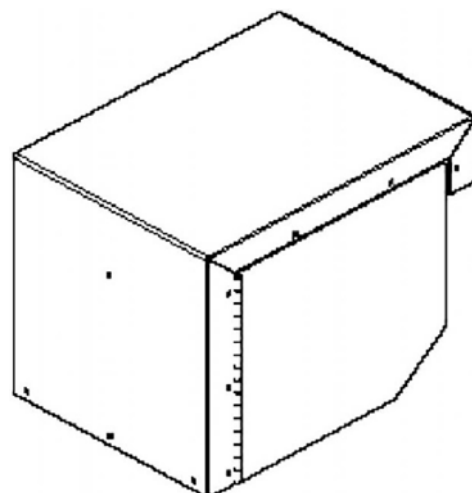
Brake Brackets {1007-1.0}



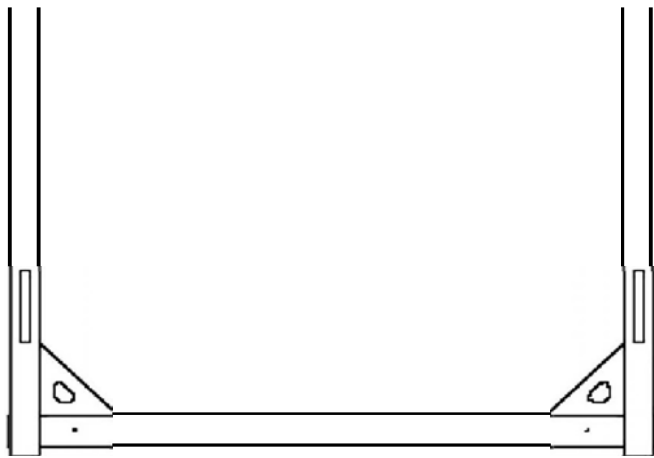
Control Valves Hood  
(6051-2SP-GfS)



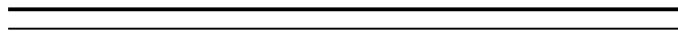
Engine Cover  
Fast:ener (3076)



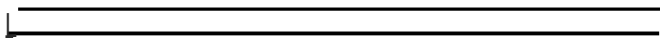
Engine Hood  
(SK-5967-FA Assembly)



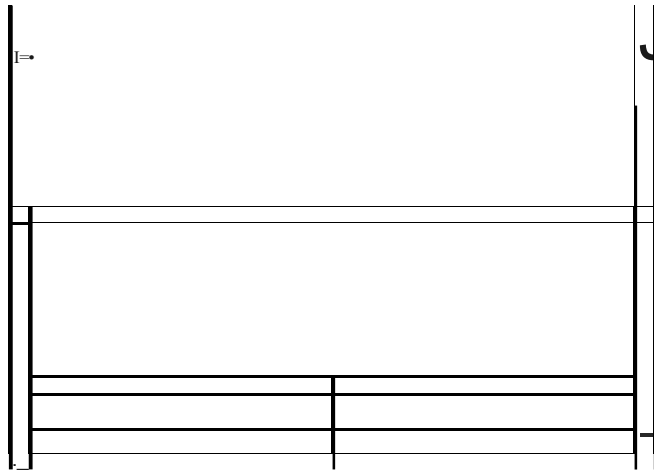
Reel Lifting Rack Assembly (5845)



Arbor (5816)



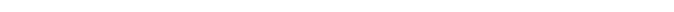
Reel Lifting Rack Hinge Pipe (2" SCH 80 - 5844-FA)



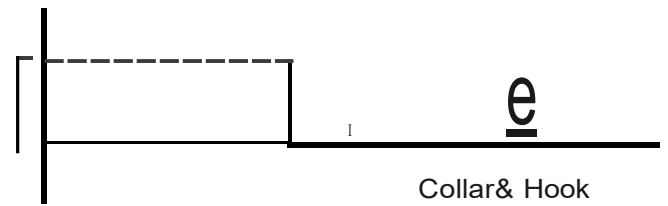
Reel Turner Rack Assembly (6015)



Reel Turner Rack Hinge Pipe (2.5" 5m 40 - 6031-FA)

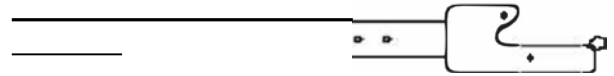


Reel Turner Rack Axle (3167-FA Assembly)

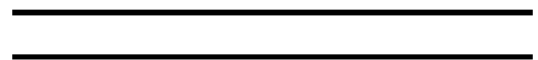


Bushing Assembly (7004A)

Collar & Hook Assembly (5820)



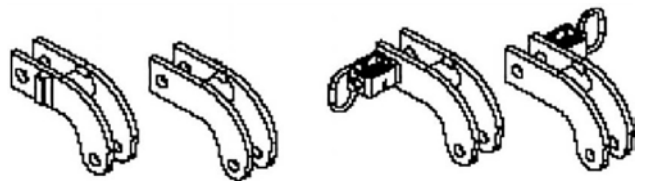
Reel Lifting Extension Arm (5833)



Upper Link (5810)

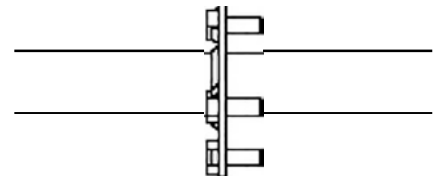


Lower Link (5807)

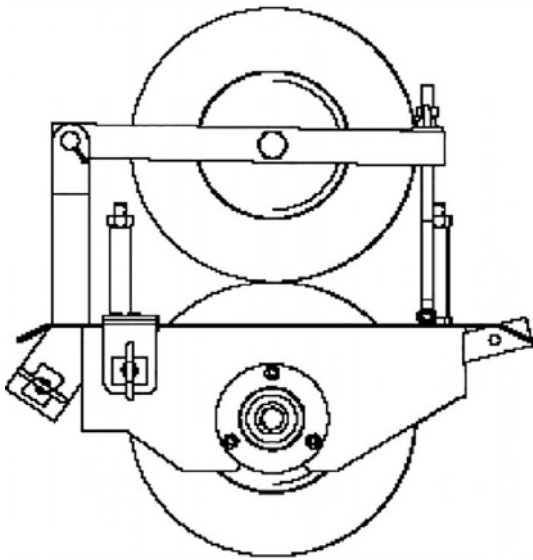


Upper Arbor Latches (5827A)

Lower Arbor Latches (5845A)



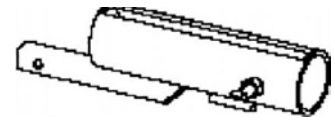
Reel Turner Hub Assembly (7005A)



Rgure-8 Device



Rgure-8 Bolt



Fagure-8 Split Tube Bracket  
(5995)



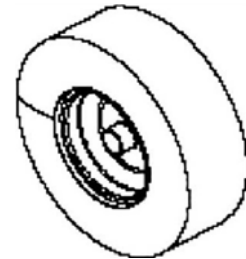
Rgure-8 Pole Assembly  
(5988)



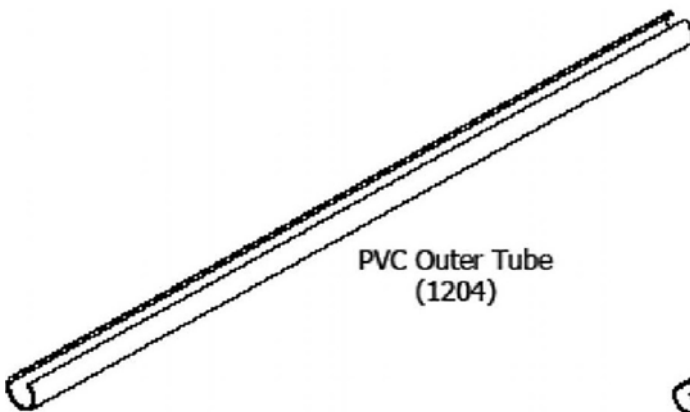
Orbital Motor  
Stabi6zer  
(70130-7.0)



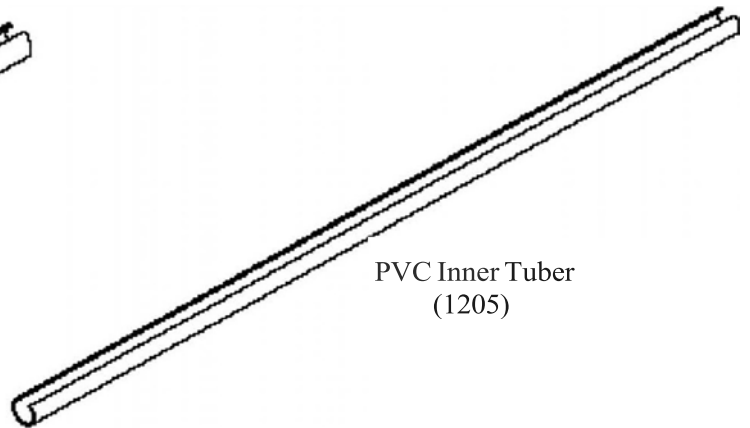
Rgure-8 Drive Shaft



Rgure-8 Tire and Rim



PVC Outer Tube  
(1204)



PVC Inner Tuber  
(1205)





# DEXTER AXLE AND RELATED COMPONENTS

Item	Function Required	Weekly	3 months or 3000 miles	6 months or 6000 miles	12 months or 12000 miles
Brakes	Test that they are operational.	At Every Use			
Brake Adjustment	Adjust to proper operating clearance.		x		
Brake Magnets	Inspect for wear and current draw.			x	
Brake Linings	Inspect for wear or contamination.				x
Brake Controller	Check for correct amperage & modulation.			x	
Brake Cylinders	Check for leaks, sticking.				x
Brake Lines	Inspect for cracks, leaks, kinks.				x
Hubs	Check& refill with high quality hypoid gear oil.		x		
Hub/Drum	Inspect for abnormal wear or scoring.				x
Wheel Bearings & Cups	Inspect for corrosion or wear. Clean & repack.				x
Seals	Inspect for leakage. Replace if removed.				x
Springs	Inspect for wear, loss of arch.				x
Suspension Parts	Inspect for bending, loose fasteners, wear.			x	
Hangers	Inspect welds.				x

# TRAILER

Item	Function Required	Weekly	3 months or 3000 miles	6 months or 6000 miles	12 months or 12000 miles
Trailer Wiring	Inspect wiring for bare spots, fray, etc.				x
Brakeaway System	Check battery charge and switch operation.	At Every Use			
Wheel Nuts and Bolts	Tighten to specified torque values.		x		
Wheels	Inspect for cracks, dents or distortion.			x	
Tire Inflation Pressure	Inflate tires to mfg's specifications.	x			
Tires	Rotate			x	
Tire Condition	Inspect for cuts, wear, bulging, etc.		x		
Hose Fittings	Inspect for cuts, wear marks.			x	
Hydraulic Fluid	Check level.	x (1)			
Hydraulic Fluid	Change.				x
Hydraulic Fluid Filter	Change filter.				x (2)
Lights	Verify operation.	x			
Trailer Structure	Inspect for worn, damaged, or broken parts.		x		
Battery	Check electrolyte level.		x		

(1) Use Mobil 424 or equivalent UTF -Universal Tractor Fluid. ***If the trailer is labeled for Dielectric Fluid, USE DIELECTRIC FLUID.***

(2) Zinga AE-10

## **OPTIONAL ACCESSORIES**

## FIGURE-8 DEVICE

Before figure-8ing, inspect the reel for nails, sharp edges, missing boards or anything that could obstruct movement of the cable. Remove or repair accordingly before using the trailer.



1. Remove the figure-8 pole from the tool storage tray at the front of the trailer.



2. Place the pole into the tube on the receiver hitch.



3. Remove the figure-8 device from the mount on the right side of the trailer.



4. Place the device on the figure-8 pole. Engage the spring latch to lock the device in place.



5. Place the figure-8 tube bracket on the figure-8 device. Insert the split tube into the bracket. Tighten the T-handle set screw to secure the split tube to the bracket.



6. Thread the cable through the figure-8 device.



7. Close and lock the figure-8 device.



8. Remove the orbital motor from the reel-turner axle.



9. Place the orbital motor on the figure-8 device and engage the spring latch to lock into place.





10. Align the drive tires to the outside rims of the reel. Tighten the set screws.



11. Set the brake on the reel turner axle. Adjust the brake tension tighter for heavier reels, and looser for smaller reels. This will lessen the chance of "burning" the jacket if you stop the reel suddenly.



14. Engage the drive tires to the reel by operating the reel turner rack lever on the control panel. Move the reel turner axle tires no closer than 6" to the sides of the reel. If the need to stop the reel during the figure-8 operation arises, the tires are ready to be engaged.



**Warning!** Many situations may arise that require you to stop the reel. Please be prepared! If this situation should arise, engage the reel turner with the braking system at the same time as you disengage the figure 8-ing device.





15. Unlock the spring latch on the front of the control panel.



16. Unlock the spring latch on the back of the control panel.



17. Swing the control panel to the working position at the back of the trailer. Lock the spring latch at the back of the control panel to secure the panel in the working position.

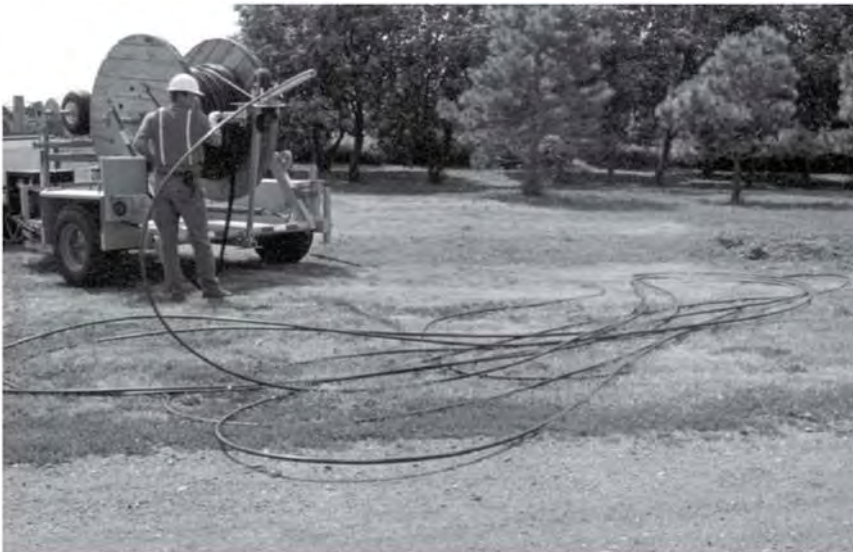


18. Take hold of the figure-8 device. Begin figure-Sing by operating the rotation lever and swinging the figure-8 device back and forth.

! **Warning!** Be sure to take a firm hold on the figure-8 device before operating rotation lever to prevent the figure-S device from accidentally striking the operator.

I **Warning!** Do not swing the figure-S device too far to the left or right. Rubbing the cable on the sides of the reel could cause serious damage to the cable.

! **Warning!** Always be aware of your location and that of the spinning reel while figure-Sing cable.



19. Pictured is a successful figure-8 result.

## FIGURE-8 FORK ASSEMBLY

The figure-8 fork assembly consists of 3 pieces (2 poles and 1 fork) that snap together. As the photos illustrate, the figure-8 fork holds the cable off the pile to prevent twisting and tangling of the cable while rewinding the cable onto the reel.



# LEVEL WINDING DEVICE

The level winding device holds the wire or cable in place while being rewound onto the reel. This eliminates the risk of operator injury associated with level winding manually.



1. The level winding device is stored on the passenger side fender of the trailer. Unpin the cylinder and remove the level winding device from the fender.



2. Fold out the right arm and place it in the center receiver hitch tube. Fold out the left arm and place it in the driver's side receiver hitch tube. Pin both arms in place.



3. Lift the roller arm. Using the same pins that held the cylinder in the fender rack, pin the cylinder. The back of the cylinder should rest at the bottom of the configuration.





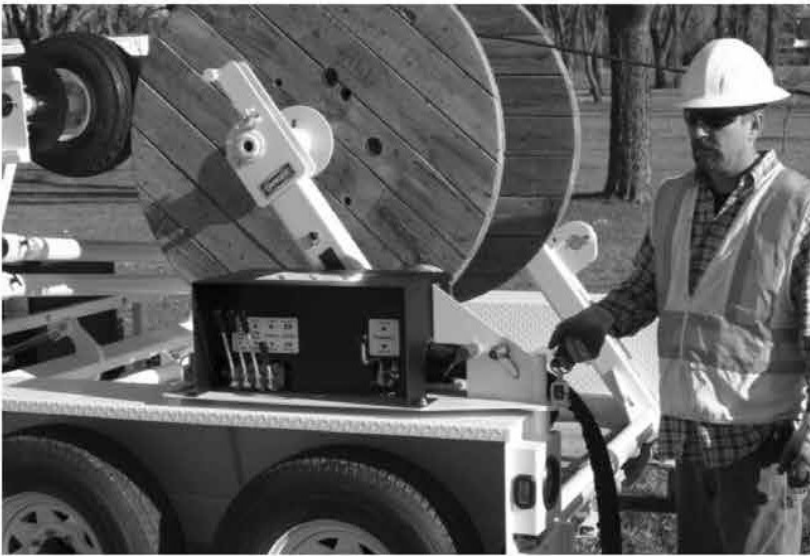
4. Adjust the roller arm to the desired height for the application.



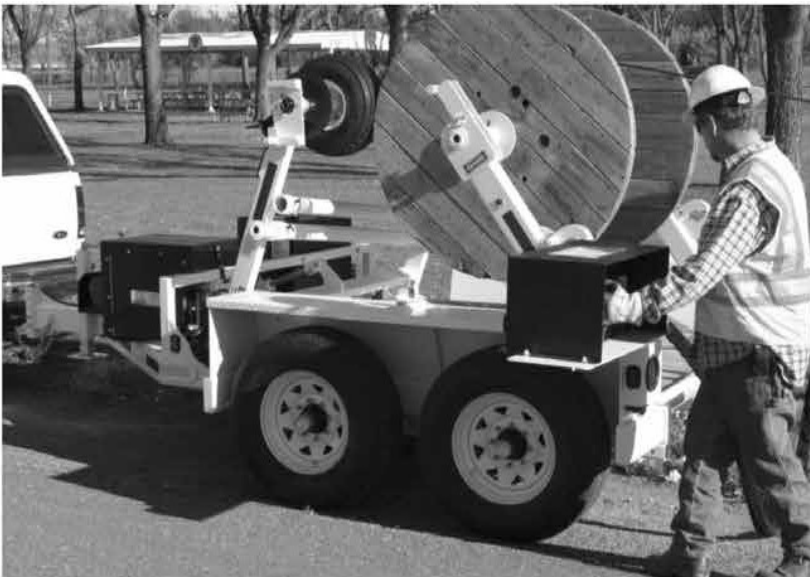
5. Pin in place.



6. Unlock the spring latch on the front of the valve table.



7. Unlock the spring latch on the back of the valve table.



8. Swing the control panel to the working position at the back of the trailer. Lock the spring latch.



9. Connect the hydraulic hoses to the auxiliary hydraulic connections next to the control panel. Either hose may be hooked up first.



10. Control the level winding device by operating the auxiliary lever on the control panel.

# DUMPSTER



To attach the dumpster to the trailer:

1. Back the trailer into the lifting position. The lifting arms should extend along either side of the dumpster.
2. Attach the chains of the dumpster to the hooked collars on the lifting rack arbor. Do not tighten the set screws.



3. Load the dumpster using the reel rack lever.



4. Adjust the reel rack until the weight of the dumpster is resting on the bed of the trailer. This photo shows the dumpster properly loaded.





5. To use the dumpster as a dump box, attach chain (provided with dumpster) through the D-rings on the lower dumpster and through the chain hole in the gusset on the lower lifting arm of the trailer.



6. To empty the dumpster, push the reel rack lever to the lower position.



7. Once dumping is complete, return the dumpster to the upright position by pulling the reel rack lever.

# LOADING RAMPS



An optional ramp storage unit with two loading ramps bolts easily under the trailer.

1. To remove the ramps, unhook the spring latch and slide the ramps out.



2. Hook the ramps on the bottom of the reel lifting rack at the rear of the trailer.

3. Ensure the trailer is securely attached to the transport vehicle before using the ramps for loading.

# COLD WEATHER START KIT

The cold-weather start kit allows the engine to pump the hydraulic fluid through the re-circulating loop until the engine has warmed up.



To operate the cold-weather start kit:

1. Turn the bypass valve to the open position. (This photo shows the closed position.)
2. Start the Honda engine. Allow the engine to warm up for 5 minutes.
3. **SLOWLY** close the bypass valve before operating your trailer. Closing the valve too quickly can stall the engine.
4. Allow the hydraulic system to warm up for 3 to 5 minutes.

# PVC RACK

The PVC Rack allows the trailer to transport ten-foot pieces of PVC pipe.



1. Insert the mount into the receiver hitch.
2. Insert the PVC rack into the mount and insert the pin.

## SIDE ROLLER

The side roller allows the conduit or cable to be pulled off the reel at a right angle without damaging the conduit.



1. Insert the mount into the receiver hitch.
2. Insert the side roller into the mount and insert the pin.

## **Reporting Safety Defects**

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 Larson Cable Trailers, Inc.

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 and Larson Cable Trailers, Inc.

To contact NHTSA, you may either call the Auto Safety Hotline toll free at 1-888-327-4236 (TTY: 1-800-424-9153): go to <http://www.safercar.gov>; or Write to: NHTSA, US Department of Transportation, 1200 New Jersey SE, Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

# Tire Safety Information

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## 1. TIRE SAFETY INFORMATION

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This portion of the User's Manual contains tire safety information as required by 49 CFR 575.6.

Section 2.1 contains "Steps for Determining Correct Load Limit - Trailer".

Section 2.2 contains "Steps for Determining Correct Load Limit- Tow Vehicle".

Section 2.3 contains a Glossary of Tire Terminology, including "cold inflation pressure", "maximum inflation pressure", "recommended inflation pressure", and other non-technical terms.

Section 2.4 contains information from the NHTSA brochure entitled "Tire Safety - Everything Rides On It". This brochure, as well as the preceding subsections, describes the following items;

- Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (**TIN**).
- Recommended tire inflation pressure, including a description and explanation of:
  - A. Cold inflation pressure.
  - B. Vehicle Placard and location on the vehicle.
  - C. Adverse safety consequences of under inflation (including tire failure).
  - D. Measuring and adjusting air pressure for proper inflation.
- Tire Care, including maintenance and safety practices.
- Vehicle load limits, including a description and explanation of the following items:
  - A. Locating and understanding the load limit information, total load capacity, and cargo capacity.
  - B. Calculating total and cargo capacities with varying seating configurations including quantitative examples showing/ illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases. This item is also discussed in Section 3.
  - C. Determining compatibility of tire and vehicle load capabilities.
  - D. Adverse safety consequences of overloading on handling and stopping on tires.

### 1.1. STEPS FOR DETERMINING CORRECT LOAD LIMIT-TRAILER

Determining the load limits 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 of the 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 weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weigh. 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.

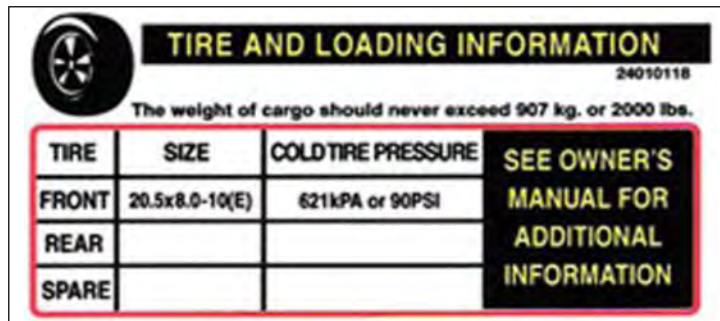
For trailers with living quarters installed, the weight of water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the trailer before it is loaded with cargo, and is not considered part of the disposable cargo load. Water however, is a disposable cargo weight and is treated as such. If there is a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo is being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel needs.

When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your dealer to discuss the weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.



Excessive loads and/or underinflation cause tire overloading and, as a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure. It is the air pressure that enables a tire to support the load, so proper inflation is critical. The proper air pressure may be found on the certification/VIN label and/or on the Tire Placard. This value should never exceed the maximum cold inflation pressure stamped on the tire.

#### **1.1.1. TRAILERS 10,000 POUNDS GVWR OR LESS**



*Tire and Loading Information Placard - Figure 1-1*

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.

#### **1.1.2. TRAILERS OVER 10,000 POUNDS GVWR (NOTE: THESE TRAILERS ARE NOT REQUIRED TO HAVE A TIRE INFORMATION PLACARD ON THE VEHICLE)**

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.

### **1.2. STEPS FOR DETERMINING CORRECT LOAD LIMIT- Tow VEHICLE**

1. Locate the statement, "The combined weight of occupants and cargo should never exceed XXX lbs.," on your vehicle's placard.
2. Determine the combined weight of the driver and passengers who will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
4. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step# 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the tow vehicle's manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle.

### **1.3. GLOSSARY OF TIRE TERMINOLOGY**

#### **Accessory weight**

The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

**Bead**

The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

**Bead separation**

This is the breakdown of the bond between components in the bead.

**Bias ply tire**

A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

**Carcass**

The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

**Chunking**

The breaking away of pieces of the tread or sidewall.

**Cold inflation pressure**

The pressure in the tire before you drive.

**Cord**

The strands forming the plies in the tire.

**Cord separation**

The parting of cords from adjacent rubber compounds.

**Cracking**

Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

**CT**

A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

**Curb weight**

The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight optional engine.

**Extra load tire**

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

**Groove**

The space between two adjacent tread ribs.

**Gross Axle Weight Rating**

The maximum weight that any axle can support, as published on the Certification / VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.

**Gross Vehicle Weight Rating**

The maximum weight of the fully loaded trailer, as published on the Certification/ VIN label. Actual weight determined by weighing trailer on a public scale, without being attached to the towing vehicle.

**Hitch Weight**

The downward force exerted on the hitch ball by the trailer coupler.

**Innerliner**

The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

**Innerliner separation**

The parting of the innerliner from cord material in the carcass.

**Intended outboard sidewall**

The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

**Light truck (LT) tire**

A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

**Load rating**

The maximum load that a tire is rated to carry for a given inflation pressure.

**Maximum load rating**

The load rating for a tire at the maximum permissible inflation pressure for that tire.

**Maximum permissible inflation pressure**

The maximum cold inflation pressure to which a tire may be inflated.

**Maximum loaded vehicle weight**

The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

**Measuring rim**

The rim on which a tire is fitted for physical dimension requirements.

**Pin Weight**

The downward force applied to the 5<sup>th</sup> wheel or gooseneck ball, by the trailer kingpin or gooseneck coupler.

**Non-pneumatic rim**

A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separably, to the wheel center member and upon which the tire is attached.

**Non-pneumatic spare tire assembly**

A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

**Non-pneumatic tire**

A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

**Non-pneumatic tire assembly**

A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

**Normal occupant weight**

This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.

**Occupant distribution**

The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

**Open splice**

Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.

**Outer diameter**

The overall diameter of an inflated new tire.

**Overall width**

The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

**Ply**

A layer of rubber-coated parallel cords.

**Ply separation**

A parting of rubber compound between adjacent plies.

**Pneumatic tire**

A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.

**Production options weight**

The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

**Radial ply tire**

A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

**Recommended inflation pressure**

This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification/ VIN tag.

**Reinforced tire**

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

**Rim**

A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

**Rim diameter**

This means the nominal diameter of the bead seat.

**Rim size designation**

This means the rim diameter and width.

**Rim type designation**

This means the industry of manufacturer's designation for a rim by style or code.

**Rim width**

This means the nominal distance between rim flanges.

**Section width**

The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

**Sidewall**

That portion of a tire between the tread and bead.

**Sidewall separation**

The parting of the rubber compound from the cord material in the sidewall.

**Special Trailer (ST) tire**

The "ST" is an indication the tire is for trailer use only.

**Test rim**

The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.

**Tread**

That portion of a tire that comes into contact with the road.

**Tread rib**

A tread section running circumferentially around a tire.

**Tread separation**

Pulling away of the tread from the tire carcass.

**Treadwear indicators (TWI)**

The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

**Vehicle capacity weight**

The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

**Vehicle maximum load on the tire**

The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

**Vehicle normal load on the tire**

The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

**Weather side**

The surface area of the rim not covered by the inflated tire.

**Wheel center member**

In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

**Wheel-holding fixture**

The fixture used to hold the wheel and tire assembly securely during testing.

**1.4. 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](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.

## **1.5. 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.

### **1.5.1. 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.

### **1.5.2. 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.

### **1.5.3. 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 underinflation 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.

#### **1.5.4. 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.

#### **1.5.5. 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.

#### **1.5.6. 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 treadwear 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.

#### **1.5.7. 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.

#### **1.5.8. 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.

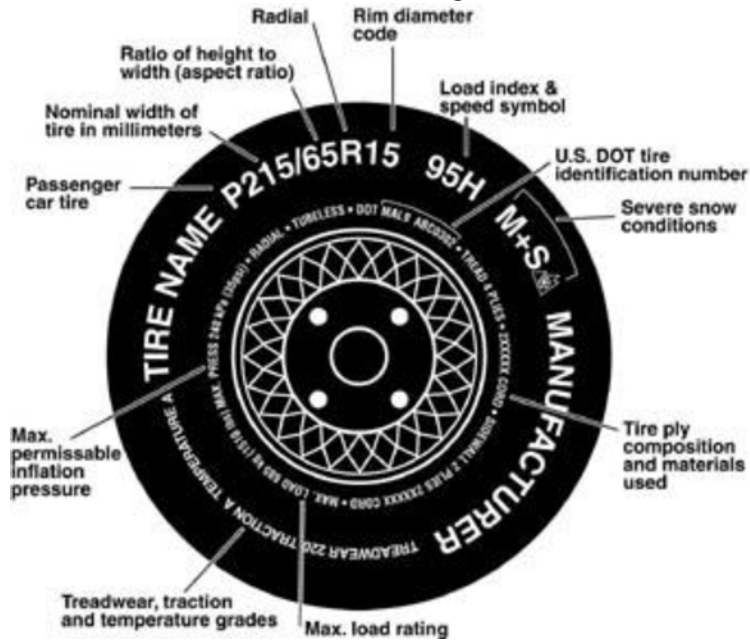
#### **1.5.9. TIRE FUNDAMENTALS**

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 and in case of a recall.



### 1.5.9.1. Information on Passenger Vehicle Tires

Please refer to the diagram below.



#### **p**

The "P" indicates the tire is for passenger vehicles.

#### **Next number**

This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

#### **Next number**

This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

#### **R**

The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

#### **Next number**

This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

#### **Next number**

This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

#### **M+S**

The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability.

#### **Speed Rating**

The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 miles per hour (mph) to 186 mph. These ratings are listed below. Note: You may not find this information on all tires because it is not required by law.

## Tire Safety Information

Letter Rating	Speed Rating
Q	99 mph
R	106 mph
S	112 mph
T	118 mph
U	124 mph
H	130 mph
V	149 mph
W	168* mph
Y	186* mph

\* For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.

### U.S. DOT Tire Identification Number

This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.

### Tire Ply Composition and Materials Used

The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

### Maximum Load Rating

This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

### Maximum Permissible Inflation Pressure

This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

### 1.5.9.2. UTQGS Information

#### Treadwear Number

This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.

#### Traction Letter

This letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA", "A", "B", and "C".

#### Temperature Letter

This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, underinflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

### 1.5.9.3. Additional Information on Light Truck Tires

Please refer to the following diagram.



Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

#### **LT**

The "LT" indicates the tire is for light trucks or trailers.

#### **ST**

An "ST" is an indication the tire is for trailer use only.

#### **Max. Load Dual kg (lbs) at kPa (psi) Cold**

This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

#### **Max. Load Single kg (lbs) at kPa (psi) Cold**

This information indicates the maximum load and tire pressure when the tire is used as a single.

#### **Load Range**

This information identifies the tire's load-carrying capabilities and its inflation limits.

### 1.6. TIRE SAFETY TIPS

#### **Preventing Tire Damage**

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

#### **Tire Safety Checklist**

- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.
- Do not overload your vehicle. Check the Tire Information and Loading Placard or User's Manual for the maximum recommended load for the vehicle.

