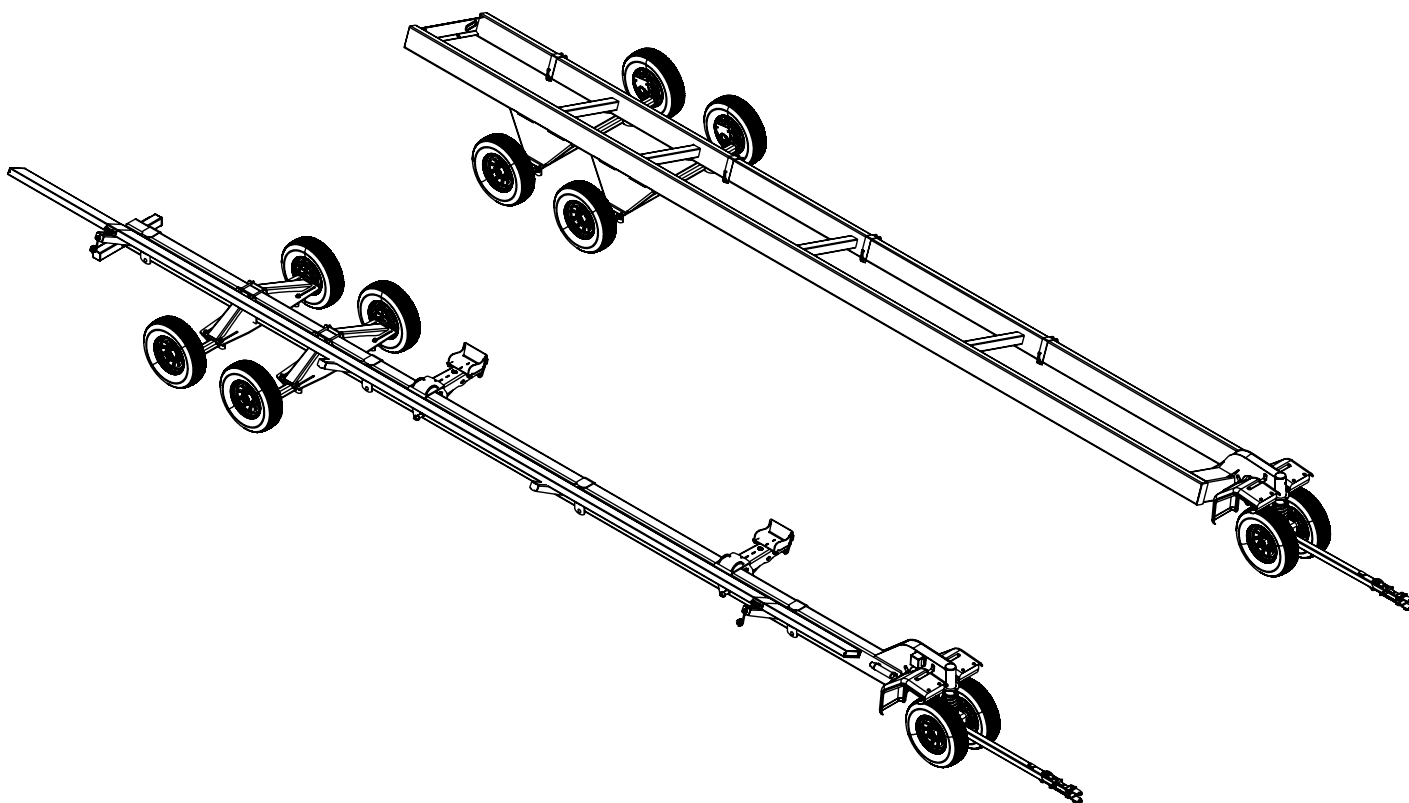




BUMPER PULL Combine Head Trailers Installation Manual

Safety • Operation • Maintenance • Troubleshooting



Notice: A copy of this manual must remain with the equipment at all times. For a printable download copy, please visit: www.stellarindustries.com

Stellar Industries, Inc.

190 State Street

PO Box 169

Garner, IA 50438

800-321-3741

Fax: 641-923-2811

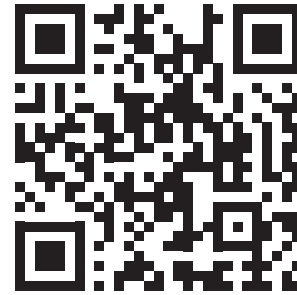
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WARNING

Operating, maintaining, and servicing a Stellar product may expose you to chemicals including, but not limited to, engine exhaust, carbon monoxide, phthalates, and lead. These chemicals are known to the State of California to cause cancer and birth defects (or other reproductive harm). To keep your exposure to a minimum, be sure to avoid breathing exhaust and service your Stellar product in a well-ventilated area while wearing gloves or washing your hands frequently. For more information, go to www.P65Warnings.ca.gov/passenger-vehicle.



www.p65warnings.ca.gov

For Technical Questions, Information, Parts, or Warranty, Call Toll-Free at
800-321-3741

Hours: Monday - Friday, 8:00 a.m. - 5:00 p.m. CST

Or email at the following addresses:

Technical Questions, and Information

service@stellarindustries.com

Order Parts

parts@stellarindustries.com

Warranty Information

warranty@stellarindustries.com



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Table of Contents

Safety Warnings.....	iv
Chapter 1 - Introduction	
Introduction	2
Equipment & Safety Guidelines	2
Before You Begin	3
Torque Data Chart.....	4
Chapter 2 - Installation	
Transport Operation	6
Saddle Adjustment	6
Top Bar Adjustment (Adjustable Bumper Pull)	7
For Axle Adjustment	7
Axle Adjustment	7
Placing The Equipment Head On The Trailer	8
Unloading Equipment Head From Trailer	8
Hooking Up and Pulling The Transport	9
Lighting & Marking	10
Chapter 3 - Electrical Schematics	
DOT Head Trailer Asm Schematic	12
Non-DOT Head Trailer Asm Schematic	13

Safety Warnings

Stellar® combine head trailers are designed to provide safe and dependable service for a variety of operations. With proper use and maintenance, these head trailers will operate for many years.

To promote this longevity, carefully study the information contained in this manual before putting the equipment into service. Though it is not intended to be a training manual for beginners, this manual should provide solid guidelines for the safe and proper usage of the equipment.

Once you feel comfortable with the material contained in this manual, strive to exercise your knowledge as you safely operate and maintain this equipment. This process is vital to the proper use of the unit.

A Few Notes On This Manual:

A copy of this manual is provided with every trailer and can be found in the hard plastic manual case that is installed on the chassis. A copy of this manual shall remain with the equipment at all times.

Throughout the manual, three signal words will be used to bring attention to important items:

NOTICE

A **NOTICE** signal word indicates a practice not related to physical injury.

⚠ WARNING

A **WARNING** signal word indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ DANGER

A **DANGER** signal word indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Information contained within this manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations. Please be aware that some sections of this manual contain information pertaining to Stellar® manufactured equipment in general, and may or may not apply to your specific model.

This manual is not binding. Stellar® Industries, Inc. reserves the right to change, at any time, any or all of the items, components, and parts deemed necessary for product improvement or commercial/production purposes. This right is kept with no requirement or obligation for immediate mandatory updating of this manual.

If more information is required or technical assistance is needed, or if you feel that any part of this manual is unclear or incorrect, please contact the Stellar® Customer Service Department by phone at 800-321-3741 or email at service@stellarindustries.com.



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Chapter 1 - Introduction

Chapter Contents

Introduction	2
Equipment & Safety Guidelines	2
Before You Begin	3

Introduction

Safety should be the number one thought on every operator's mind. Three factors should exist for safe operation: a qualified operator, well-maintained equipment, and the proper use of this equipment.

This chapter contains information regarding the safety and operation of Stellar® manufactured heavy-duty combine head trailer equipment and should be read and understood completely by everyone working with or near the equipment before putting the equipment into operation.

⚠ WARNING Failure to follow operating, maintenance, or safety instructions can result in death or serious injury.

Equipment & Safety Guidelines

It is the responsibility of the owner to train the operator in the safe operation of the equipment, and to provide the operator with properly maintained equipment.

⚠ WARNING Operators shall consult with the owner of the equipment regarding current safety regulations and required personal protective equipment.

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought, and a more careful approach to handling equipment.

You, the owner and/or operator, can avoid many accidents by observing the precautions found in this section. To avoid personal injury, follow all manufacturer's guidelines, and read this manual thoroughly before loading or towing any equipment heads.

⚠ WARNING This equipment is dangerous to children and persons unfamiliar with its function. The operator should be trained and familiar with farm machinery. Do not allow anyone to operate or assemble this equipment until they have read this manual and have developed understanding of the safety precautions and how it works. Do not for any reason allow any person to ride on the head trailer, or stand on the draw bar of tow vehicle.

NOTICE

Please take note that Stellar® Industries, Inc. is not liable for accidents incurred by the equipment because of non-fulfillment from the operator's side of current rules, laws, and regulations.

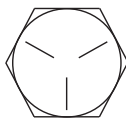
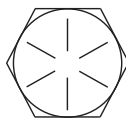
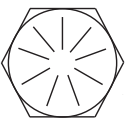
Before You Begin

- Carefully study and understand this manual.
- Don't hurry the learning process. Take your time to become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself with the equipment.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the equipment until you are sure that the area is clear, especially of children and animals.
- Make sure that the brakes are evenly adjusted if applicable.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chains.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and appropriate shoes.
- Keep wheel lug nuts or bolts tightened to specified torque. See *"Bolt Torque Chart"* on the following page.
- Assure that tires are inflated evenly.
- Prior to moving load insure the tongue is level to the ground. You may have to use a different receiver or tow vehicle. Damage to trailer is possible.
- Do not allow anyone to stand between the tongue, hitch, or the towing vehicle when backing up to the equipment.

Torque Data Chart

When using the torque data in the chart, the following rules should be observed:

- Bolt manufacturer's particular specifications should be consulted when provided.
- Flat washers of equal strength must be used.
- All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
- Torque values specified are for bolts with residual oils or no special lubricants applied.
- Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

		GRADE 5		GRADE 8		GRADE 9
						
Size (DIA-TPI)	Bolt DIA (Inches)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plated (Ft-Lb)
5/16-18	0.3125	17	13	25	18	22
3/8-16	0.3750	31	23	44	33	39
7/16-14	0.4375	49	37	70	52	63
1/2-13	0.5000	75	57	105	80	96
9/16-12	0.5625	110	82	155	115	139
5/8-11	0.6250	150	115	220	160	192
3/4-10	0.7500	265	200	375	280	340
7/8-9	0.8750	395	295	605	455	549
1-8	1.000	590	445	910	680	823
1 1/8-7	1.1250	795	595	1290	965	1167
1 1/4-7	1.2500	1120	840	1815	1360	1646
1 3/8-6	1.3750	1470	1100	2380	1780	2158
1 1/2-6	1.500	1950	1460	3160	2370	2865

- **NOTICE** Do not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.
- Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.
- Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.
- Tighten plastic insert or crimped steel-type lock nuts to approximately 110 percent of the dry torque values shown in the chart below, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value. Note: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without lubrication. Tighten lubricated bolts to approximately 80% of dry bolts.

Chapter 2 - Installation

Chapter Contents

Transport Operation	6
Saddle Adjustment	6
Top Bar Adjustment (Adjustable Bumper Pull)	7
For Axle Adjustment	7
Axle Adjustment	7
Placing The Equipment Head On The Trailer	8
Unloading Equipment Head From Trailer	8
Hooking Up and Pulling The Transport	9
Lighting & Marking	10

Transport Operation

WARNING

Never allow anyone within close proximity during loading as injury may occur during process of moving the farm equipment head onto the transport.

Saddle Adjustment

Your Stellar® combine head trailer comes standard with four (4) wrench free adjustable saddles which can be moved along the frame by simply loosening the lever nut on the inside of the saddle assembly below the frame.

The saddle also has two (2) height positions to allow the best fit for your farm equipment head. To adjust, flip the lock arm up and lift the saddle allowing the support arm to fall into either the upper or lower catch and replace the lock arm.

The saddle pocket is also able to be moved in order to change the placement of the equipment head on the trailer. To do this, remove the saddle safety pin, lift the saddle out by pulling up while rolling it towards the main beam of the trailer, and place in the desired slot. Some applications may also require both, one, or none of the saddle side plates which can be removed by pulling out the side plate pin and rotating it forward.

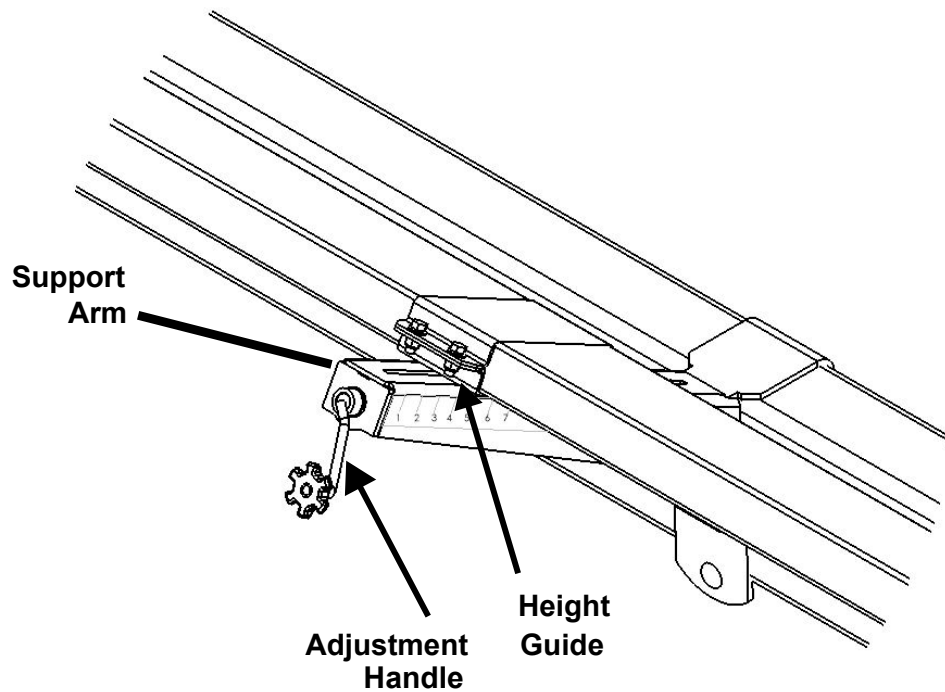
WARNING

To avoid serious injury, replace all safety pins & locks when adjusting is complete.

NOTE: This section only applies to adjustable models.

Top Bar Adjustment (Adjustable Bumper Pull)

The top bar on the Stellar® combine head trailers can easily be adjusted for height by turning the handles on the support arms at the front and rear of the trailer until the desired height is reached. Always assure that the top bar is level by aligning the upper edge of the bar with the corresponding number on the height guide.



Axle Adjustment

Your Stellar® combine head trailer comes standard with fully adjustable axle(s) in case they need to be repositioned in order to gain clearance for gauge wheels, stalk stompers, etc.

When moving the axles out of the standard location, always make sure that weight is distributed evenly between the axles, and front end as well as side-to-side. Torque all hardware to specifications on *page 6*.

There are two main adjustments that can be done:

1. Forward / Back: To move the axle(s) forward and back along the main frame of the trailer loosen the top mounting bolts on the axle plate along with the axle plate stop on the side of the plate. The axles are now free to move along the frame to the desired position
2. Side-to-Side: To move the axle(s) left or right along the axle plate. Loosen the two (2) axle nuts at each end of the axle. Hook onto the trailer and pull the transport at a 90 degree angle in relation to the main beam opposite the direction the axle is to be moved (see below diagram). When the axles are in the desired position tighten the hardware

For Axle Adjustment

1. Loosen axle mounting nuts.
2. Turn front tongue 90 degrees to rest of trailer, and PUSH or PULL with pickup until axle reaches desired position. Verify tires are equal distance to main beam.
3. Tighten mounting nuts to 130 ft-lb.

NOTE: This section only applies to adjustable models.

Placing The Equipment Head On The Trailer

- Insure the equipment head is equally spaced from front to rear. The equipment head should rest against the back stops on the saddles.
- Insure the weight rests against a strong structure on the equipment head. Your ratchet strap should be used on center nearest the throat.
- Each saddle is adjustable and can be easily moved from front to back by loosening the yellow handle. When in stable position, re-tighten yellow handles.
- In this final process, insure the equipment head is well balanced side to side. Make every attempt to not place all the weight on one side. Modern equipment heads may exceed 10,000 pounds, making weight and balance a definite priority.
- Always assure that the saddles are adjusted correctly and evenly.

Unloading Equipment Head From Trailer

Move the equipment head trailer to a level location. Carefully remove the strap as the load may have shifted during transportation. As you move the combine up to the equipment head, insure that no one is in between the combine and the trailer.



Never allow anyone within close proximity while unloading, as injury is always a possibility when lifting these heavy components from the trailer.

Hooking Up and Pulling The Transport

Your Stellar® combine head trailer is equipped with an extendable tongue feature to ease the process of hooking the trailer to its tow vehicle.

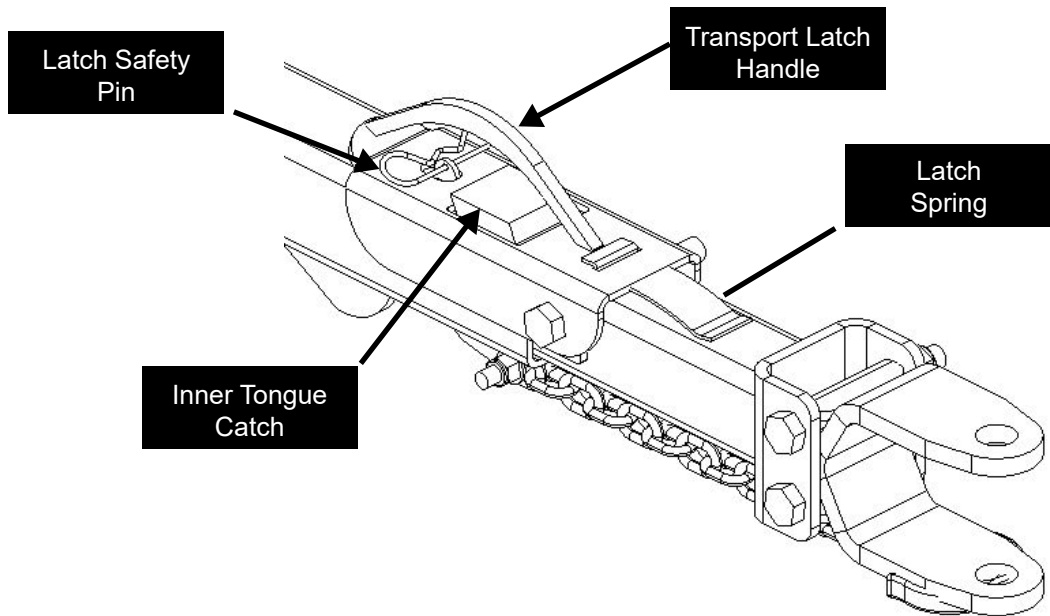
To operate this system:

1. Remove the safety pin from the tongue latch.
2. Lift up on the latch handle while pulling forward. This will enable you to slide the hitch up to 24" while hooking on to the trailer.

Once the transport is hooked properly, simply back-up the tow vehicle to relatch the system.

Replace the safety pin.

⚠ WARNING It is essential the system is relatched and the pin replaced for safe operation. The tongue does contain a secondary safety internally, but should never be used to pull the transport.



3. Ensure the two (2) safety chains are properly hooked to a secure point on the tow vehicle. The chains should be hooked and run under the tongue in a criss-cross manner and not dragging on the ground.
4. Plug electrical connector into the proper 7 pole outlet on the tow vehicle.
5. Attach Break-Away safety switch lanyard (if equipped) to secure point on tow vehicle. Replace with picture B

Lighting & Marking

NOTICE

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities, and to install and maintain the equipment to remain compliant with the regulations.

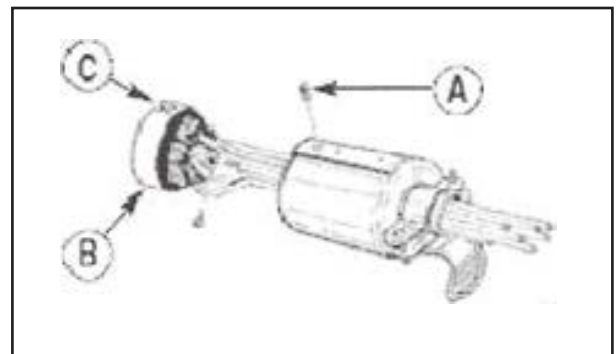
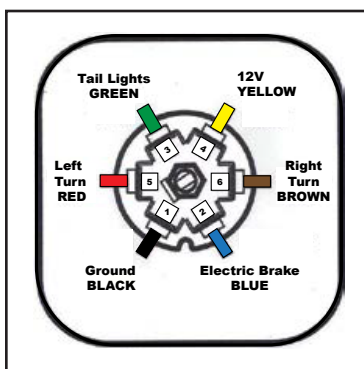
Depending on the electrical package you purchased on your trailer, it may or may not include brakes. This is an option. Whenever possible the light package should be used. We install the standard 7-pole plug, also known as the RV plug. Your safety and the safety of normal traffic using the same roads is important as you may not be traveling at the same speed and traffic can close in on a slow moving vehicle rapidly. Tractors or combines pulling the head trailer may not have an accessible receptacle in which a slow moving vehicle placard must be installed. Consider adding on a battery operated set of flashers.

If your equipment does include brakes, please follow the suggested operating procedures:

- Do not connect the brake safety cable to the safety chains, or the same location that the chains are attached to the tow vehicle. In the event of failure your trailer brakes may not engage when you need them the most. Periodically test your brakes with a tow vehicle set up for trailer brakes. If not accessible you can and should pull the safety cable from the switch and the back-up battery will engage the brakes. After the test reinstall the pin into the safety switch. This switch may be located on the tongue or the front axle depending on the model.
- Head trailers may set idle for extended periods of time. Connections can become corroded over time due to sand, mud, water, and road salt. This normal corrosion will prevent the contacts from making the connection. Inspect and clean any contacts well before using to insure proper contact.
- Understanding the plug on the wiring harness is important and take extra precautions to not pull off the ends. When performing service, always look at the plug from the rear pointing forward using the side where the connecting screws are located. Use the illustration provided to reconnect the wiring in the correct pattern, failing to do so will cause electrical components to be inoperable.

⚠ WARNING

If not connected to the compatible terminal, unexpected results can happen, For example, if the brake connection is in line with the turn signal connection the brakes will engage when the turn signal is operated. Be sure the receptacle on the towing vehicle is wired correctly to the trailer receptacle.



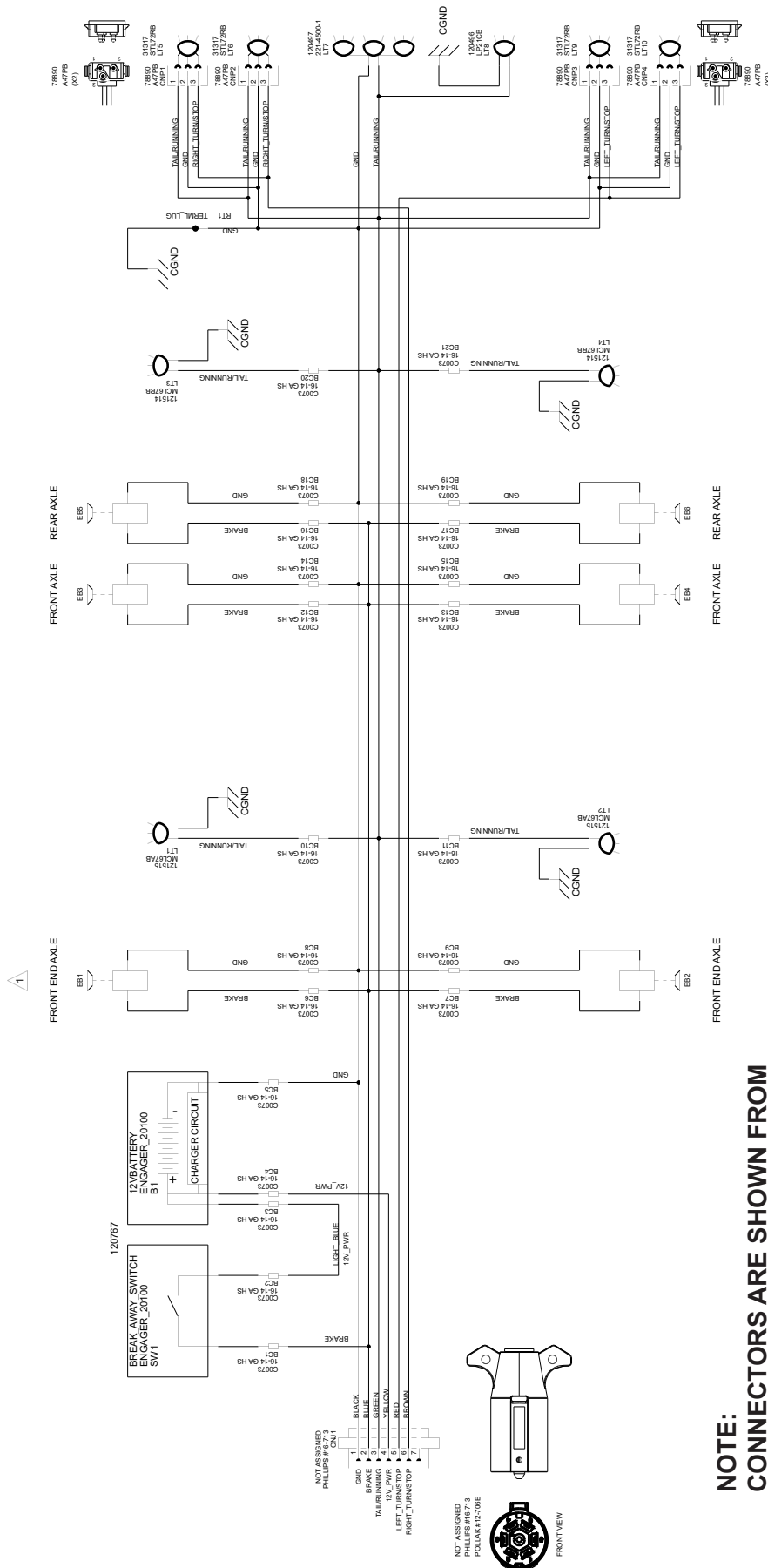
Loosen the set screw (A) and remove the terminal assembly (B) from the housing. Strip wires 1/4" and tightly secure them to the terminal assembly. Leave at least 18" of slack between tow vehicle and trailer to allow the trailer to turn. Align terminal keyway (C) with housing key and insert assembly into housing. Tighten set screw.

Chapter 3 - Electrical Schematics

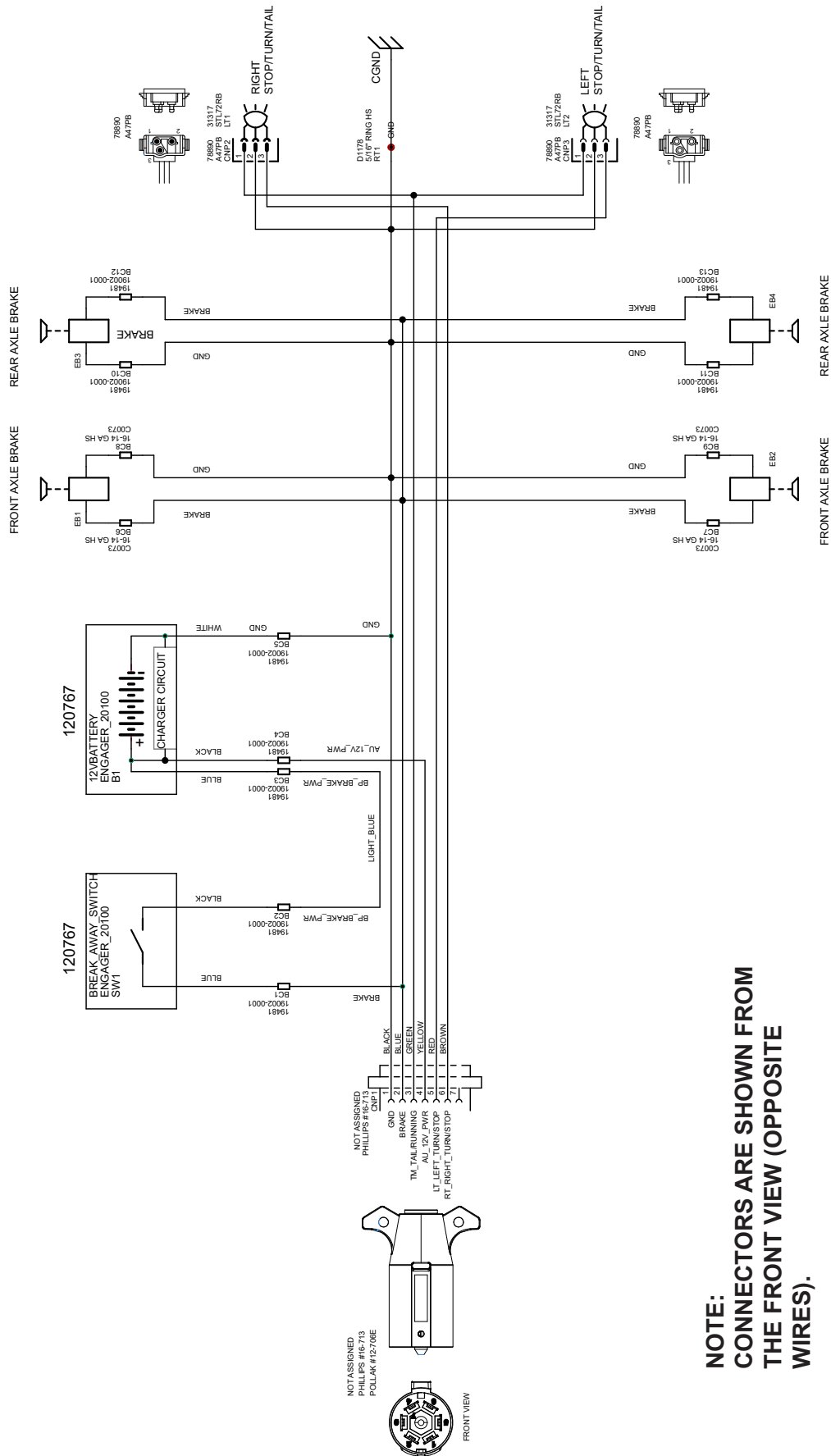
Chapter Contents

DOT Head Trailer Asm Schematic	12
Non-DOT Head Trailer Asm Schematic	13

DOT Head Trailer Asm Schematic



Non-DOT Head Trailer Asm Schematic



NOTE:
CONNECTORS ARE SHOWN FROM
THE FRONT VIEW (OPPOSITE
WIRES).

**NOT ALL TRAILERS HAVE FRONT
END AXLE BRAKES.**

Troubleshooting Trailer Wiring

POSSIBLE CAUSE	DIAGNOSIS	POSSIBLE CORRECTION CHECK FOR:
NO LIGHTS	• DOES TOW VEHICLE CONNECTION MATCH TRAILER PIN DESCRIPTIONS	SEE PIN DESCRIPTION IN CHAPTER 11.
	• TOW VEHICLE HAS POWER TO PINS, AND MATCHES TRAILER PIN DESCRIPTION.	
	• LOOSE PLUG AT TOW VEHICLE OR TRAILER	1. CHECK TOW VEHICLE GROUND TO 12VDC FOR CURRENT. CHECK TOW VEHICLE CONNECTION TO TAIL LIGHT, BRAKE, TURN FOR 12VDC. 2. IF STILL NO POWER, CHECK VEHICLE FUSES.
	• POOR GROUND AT TOW VEHICLE OR TRAILER	
	• DO DRIVE AND SIGNAL LIGHTS WORK	
	• DO BRAKE LIGHTS WORK	
NO BRAKES	• DOES BREAKAWAY WORK? CHECK POWER LIGHT AT BREAKAWAY BOX. • IS VEHICLE CONTROLLER GAIN ADJUSTED PROPERLY FOR BREAKING	1. CHECK FOR 12VDC AT TOW VEHICLE SOCKET BRAKE PIN. 2. 12VDC AT BRAKES? (8+ WILL WORK). 3. LISTEN FOR THE SOLENOID AND BRAKE LOCKS TO ENGAGE. 4. CHECK FOR CONTINUITY THROUGH WIRE HARNESS.

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