partron

Issuing Entity: Dartron Industries, Inc

P. O. Box 13114

Salem, Oregon 97309 Phone: 503-362-2341

Fax: 503-362-2536

www.dartronrides.com

Bulletin# 931

Release Date: June 14, 1993

Effective Date: June 14, 1993

Supercedes: None_

Completion Date:

Page 1 of 1

PRODUCT IMPROVEMENT BULLETIN

Ride Manufacture	r: Dartron Industries, Inc.	Affected Production D	Dates:
Ride Name:	StarTrooper	Affected Serial #'s	111141-5S
Model #			

Abstract of Issue: StarTrooper bushing change

eason for release: The upper hanger bushings are manufactured from a material called Nylatron. Under certain circumstances moisture can cause the Nylatron to expand and create tightness between the upper hanger block pin and the Nylatron bushing. Generally, the rotating action of the pin will create free movement between the pin and bushing. However, if tightness persists, we recommend that the following procedure be used to replace the Nyaltron bushing with a pre lubricated bronze bushing. The bronze bushing has graphite impregnated in oval grooves and does not require periodic lubrication by ride operator. No zerk fitting is present because of this.

Parts required: Two bushings, bushing driver pin (needed only if original pin is damaged).

Directions for upper hanger block bushing change from Nylatron to bronze/graphite bushing.

Step one: Remove Hanger Block

- 1. Loosen timble clamps (a) on attached drawing) on safety cables (b) and remove cable.
- 2. Unbolt hanger block pin and remove pin © by carefully tapping end of pin with an aluminum bar and mallet so as not to damage the pin.

Step two: Press Nylatron bushings (d) out of upper portion of hanger block with bushing driver. Replace with bronze bushings. Dartron is supplying bushing removal driver and bushings.

Step three: Install hanger block to bow (e).

- 1. Grease pin (c) before pinning hanger block in place.
- 2. Reattach safety cable (b)

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Bulletin# 933

Release Date: June 14, 1993

Effective Date: June 14, 1993

Supercedes: None

Completion Date:

Page 1 of 1

MANDATORY CHANGE BULLETIN

 Ride Name:
 Dartron Industries, Inc.
 Affected Production Dates:

 Ride Name:
 StarTrooper
 Affected Serial #'s 111141-5S,

 206061-5S, 210211-5S, 210301-5S, 210091-5S,
 212081-5S, 212071-5S, 301181-5S

Model#

bstract of Issue: StarTrooper sweep pin cotter bulletin

<u>Change:</u> Sweeps are attached to the upper and lower hub plates by sweep pins. The lower hub plate pin was manufactured with a cotter key located above the sweep on the lower hub pin. Remove the cotter key and replace it with a 1/4" N.C. grade 8 plated bolt x 2 1/2" LG. Secure the bolt with a Nyloc or Stover type nut.

Reason for change: During transport if excessive upward pressure is exerted on sweeps by sweep support bracket sweeps could be forced upward on the pin and damage the cotter key.

Parts required:

10 grade 8 1/4" N.C bolts x 2 1/2" LG.

10 Nyloc or Stover nuts.

Directions

- 1. Cotter keys should be removed with wheel in the open or ride operational mode.
- 2. Use 1/4" bolt to drive out cotter key.
- 3. Insert bolt in existing hole and tighten locking nut against pin.

Ourtron

Issuing Entity: Dartron Industries, Inc

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Bulletin # 934

Release Date: June 14, 1993

Effective Date: June 14, 1993

Supercedes: None

Completion Date: N/A

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Page 1 of 1

Ride Manufactu	rer: Dartron Industries, Inc.	Affected Production Dates:	
Ride Name:	StarTrooper	Affected Serial #'s	
Model #			

PRODUCT IMPROVEMENT BULLETIN

Abstract of Issue: StarTrooper Torque Cable Bushings

<u>leason for release</u>: Dartron does not recommend changing bushings to the flange type, however, if bushings are lost and need replacing the flange type should be used. Call Dartron and the bushings will be shipped to you at no charge.

Action to be taken: One torque cable is removed from the sweep and two calves are removed from the bows for transporting a StarTrooper. The pin that secures these removable cables goes through a bushing. It is possible when driving in the pin you dislodge the bushing. Replacement bushings should have a flange on top to keep the bushing from being driven down and out of its bracket.

Parts Required: 30 flange bushings

Directions:

1. Bushing fits into bracket with a press fit. With the bushing flange up drive bushing into bracket hole with a hammer.

Ortron

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www.dartronrides.com

Bulletin # 935

Release Date: 5-27-1994

Effective Date: 5-27-1994

Supercedes: None_

Completion Date:
Page 1 of 5

MANDATORY CHANGE BULLETIN

 Ride Manufacturer:
 Dartron Industries, Inc.
 Affected Production Dates:
 1991-1993

 Ride Name:
 StarTrooper
 Affected Serial #'s 111141-5S,

 210211-5S, 210301-5S, 210091-5S 212081-5S,

 212071-5S, 301181-5S

Model #

stract of Issue: All StarTrooper's with car storage racks with chain restraint systems.

Reason for release: The StarTrooper has three car storage racks on the gooseneck platform. In the transport position these racks are hydraulically raised to a position above the gooseneck platform. The car storage racks are held in the transport position by (1) pressure from the hydraulic system (2) the over center position of the car storage racks and (3) a safety chain that attaches between the racks and the gooseneck platform.

Action to be taken: It has come to our attention in the event of a failure of the hydraulic system holding the carracks in position, if the safety chain is attached loosely, the safety rack could fall to the lowered position and cause the chain to break. Because of this possibility Dartron has developed a turnbuckle holding device that will ensure that the storage racks cannot drop to the unload position in the event of a hydraulic failure. Until the turnbuckle kit is installed, you must wrap a cargo strap or chain or similar device around all three car storage racks as a precaution against a hydraulic failure causing the racks to lower to the unload position. Caution: Failure to place a strap around all three storage racks during the transport mode or to install the turnbuckle kit could result in damage to the cars, the transport vehicle or other traffic.

Parts Availability: A turnbuckle kit including the parts listed on page three will be supplied to you without charge. To receive your kit call Steve Jones at 503-362-2341 and inform him of the location and date you want to receive the kit.

Tools required: The tools you will need to supply to install the turnbuckle kit are listed on page three.

<u>Installation Instructions</u>: Following are instructions to install turnbuckles, which have proven to be a more positive fastening device. Drawings are included in this bulletin to provide orientation to parts being modified or added.

-Dartron

Issuing Entity:

Dartron Industries, Inc

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Bulletin # 935

Release Date: 5-27-1994

Effective Date: 5-27-1994

Supercedes: None

Completion Date:

Page 2 of 5

MANDATORY CHANGE BULLETIN

Connect electrical power, lower car storage frame, remove cars, and clear trailer gooseneck of obstruction.

Rear car storage frame turnbuckle installation:

- 1. Drill an 11/16-diameter hole in storage frame stops on trailer gooseneck (fig 1).
- 2. Trim supplied turnbuckle lugs (item 11) to fit storage frame (fig 2).
- 3. Establish centerline of frame. Weld turnbuckle lug (item 11) on center (fig 3).
- 4. Install short turnbuckle (item 12) with jam nut end (item 9) toward storage frame; install pin with R key. Install trailer side turnbuckle endpin; secure with cotter pin.

Front car storage frame turnbuckle installation:

- 1. Unbolt and remove deck plate located at front of trailer.
 - 2. Measure and locate centerline of trailer gooseneck. Mark center on cross member approximate thirty inches from front of trailer. Measure five inches toward left (street) side of trailer and mark. Weld turnbuckle (item 9) lug to cross member on mark (fig 4).
 - 3. Weld supplied brace in cross member (structural channel) directly under turnbuckle lug.
 - 4. Trim deck plate (item 9) to fit and reinstall.
 - 5. Raise front storage frame to full upright position.
 - 6. Measure storage frame and mark centerline. Measure five inches toward left (street) side and mark (fig 5).
 - 7. Measure and mark center line of turnbuckle lug. Center lug on mark and tack in place. Install long turnbuckle and check fit. Weld permanently (fig 6).
 - 8. With jam nut towards storage frame and pins installed, secure with cotter pin and R key.

Parts included in turnbuckle kit

4 turnbuckle lugs

1 cross member

2 short turnbuckles w/pins

3 R keys

3 cotter pins

Tools needed to install

Scribe

drill motor

Hammer

hand grinder

Center Punch

7/16 wrench

Adjustable square

welder

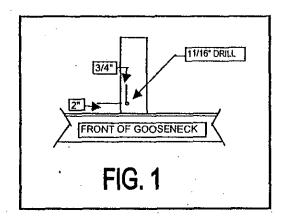
Tape measure

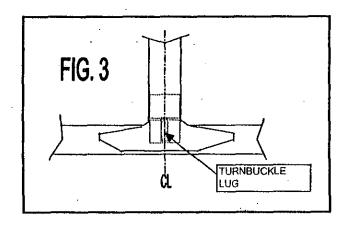
acetylene torch

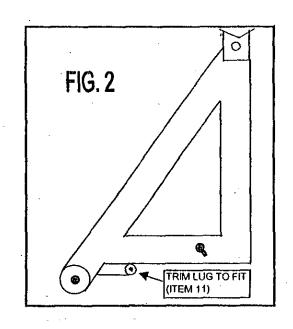
11/16-drill bit

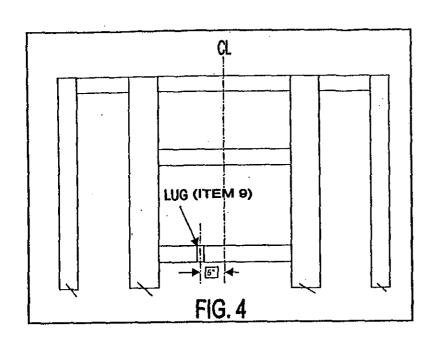
12' adjustable wrench

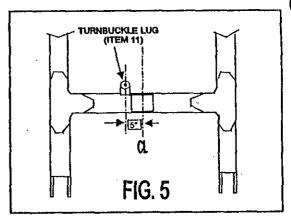
Attachments: Figure 1-6, rear car stowage frame drawing, front car stowage frame assembly drawing

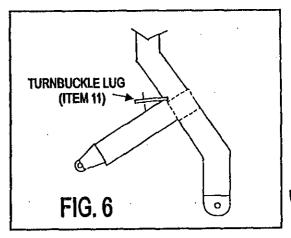


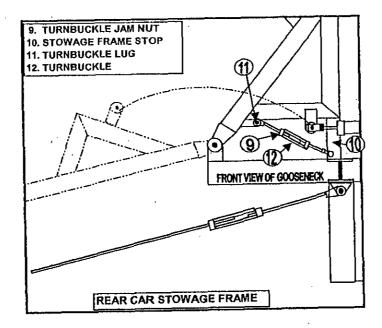


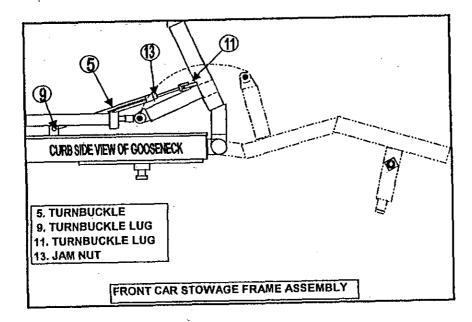














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<u>Release Date: 6-29-1994</u>
Effective Date: 6-29-1994

Supercedes: None

Completion Date:

Page 1 of 5

PRODUCT IMPROVEMENT BULLETIN

Ride Manufacturer:	Dartron Industries, Inc.	Affected Production Dates:	1993-1994
Ride Name: StarTrooper		Affected Serial #'s 402111-5S, 31	11191-5S, 311171-5S,
	•	310261-5S	

Model #

bstract of Issue: StarTrooper Electrical Change

<u>Reason for release</u>: Under certain circumstances i.e.: ambient temperatures, solar load, heat build up from electrical components, temperatures in the center ornament can cause deterioration of fuses, circuit breakers, transformers, etc. We recommend that the following procedures be sued to install a cooling system designed to reduce inside ornament temperatures.

Parts Required:

- 1 Fan Motor Assembly
- 1 4" flexible ducting 8: LG.
- 4 4" hose clamps
- 1 1/2" CGB Connector
- 1 1/2" CGB Lock-washers
- 8 1/4-20 x 1/2" hex head cap screws
- 8 1/4" Lock-washers
- 2 Louvered vent kits
- 3 8-32 Phillips head machine screws

Installation Instructions for StarTrooper Center Ornament Cooling Fan:

- 1 Disconnect power to center ornament.
- 2 Remove ornament panels.
- Remove upper ballasts located in structural channels above and to sides of the electrical control panels (fig 1).

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Bulletin# 4629

Release Date: 6-29-1994

Effective Date: 6-29-1994

Supercedes: None
Completion Date:

Completion D

Page 2 of 5

PRODUCT IMPROVEMENT BULLETIN

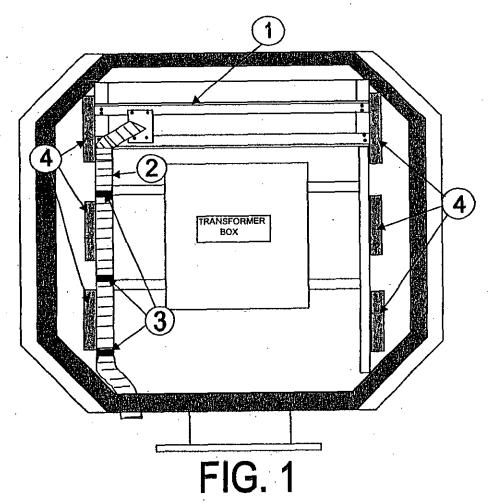
Ride Manufacturer: Dartron Industries, Inc. Affected Production Dates: 1993-1994

Ride Name: StarTrooper Affected Serial #'s 402111-5S, 311191-5S, 311171-5S, 310261-5S

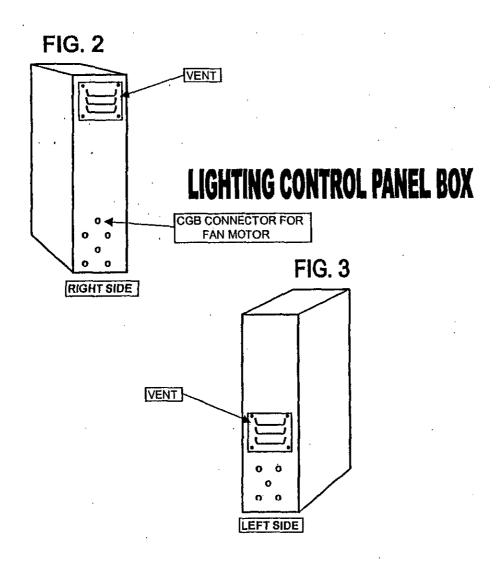
Model #

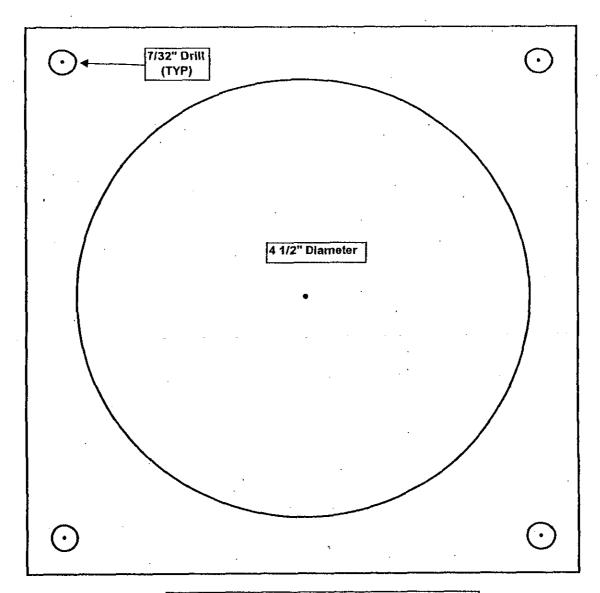
Installation Instructions for StarTrooper Center Ornament Cooling Fan:

- 4. Fit fan motor housing assembly to structural channels with fan housing above lighting panel. Position as in (fig 1) and clamp in place.
- 5. Drill and tap holes to mount fan motor assembly drill size 13/64 tap 1/4-20.
- 6. Mount fan motor assembly with supplied bolts.
- 7. Drill and tap holes in structural channels for ducting mounting clamps (1/8 drill 8/32 tap) secure ducting to exhaust vent, attach to clamps on structural channel and run end of duct out bottom or ornament.
- 8. Drill 7/8" hole in right side of lighting control panel as shown in (fig 2) for CGB connector.
- 9. Wire in fan motor to lighting panel downstream of fuse or circuit breaker.
- 10. Locate position for vents on lighting control panel both right and left sides making sure there are no obstructions inside panel. Using supplied templates mark and drill holes in panel (fig 2 & 3)
- 11. Replace upper ballasts.
- 12. Restore power to center ornament.
- 13. Check fan operation.
- 14. Replace ornament panels.



- 1 FAN MOTOR ASSEMBLY
- 2. DUCTING
- 3. CLAMPS
- 4. BALLASTS





LOUVERED VENT TEMPLATE

Outron

Issuing Entity: Dartron Industries, Inc

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Bulletin # 4630

Release Date: July 7, 1994

Effective Date: July 7, 1994

Supercedes: None

Completion Date: N/A

Page 1 of 2

MANDATORY CHANGE BULLETIN

Ride Manufacturer:	Dartron Industries, Inc.	Affected Production Dates: 1991-1993
Ride Name:	StarTrooper	Affected Serial #'s 111141-5S, 206161-5S
		210091-5S, 210211-5S, 210301-5S, 212071-5S
		212081-5S, 301181-5S, 302031-5S, 302051-5S
4 4 11		

Model#

bstract of Issue: StarTrooper Lightning bolt sweep light cans

Reason for release: Because of a combination of factors, among them rough road conditions, one area of the StarTrooper lightning bolt sweep light cans is receiving a higher degree of stress than was expected. This can result in the partial failure of the welded joints, which could cause a lightning bolt to come off the ride during transportation or operation.

Action to be taken: Dartron Industries, Inc. requires that all StarTrooper's with serial #'s sown above inspect lightning bolt sweep light cans for structural cracks as sown in (fig 1). It is further recommended that all affected lightning bolt sweep light cans be reworked with the following reinforcement kit for added rigidity.

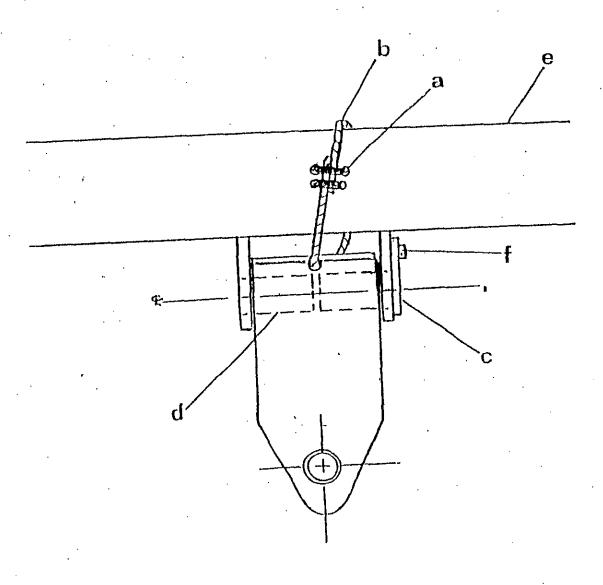
Parts required:

<u>I ar to req</u>	un cu.		
12	Gussets	5 3/8 x 13	#4630 A
12	Gussets	4 5/8 x 13	#4630 B
12	Gussets	3 3/4 x 6	# 4630 C
240	3/8 x 1 1/4	Hex Head Cap screws	
264	3/8	Lock washers	
240	3/8	Nuts	
24	3/8 x 3/4	Hex Head Cap screws	
540		Flat washers	

Note: Kit contains enough parts to completely repair six sweep light cans.

stallation Instructions:

WARNING: DO NOT DRILL INTO THE SWEEP OR SWEEP LIGHT UNTIL ALL POWER TO THE RIDE IS OFF AND ALL WIRING IS CLEAR OF AREA AROUND HOLE. SERIOUS ELECTRICAL SHOCK HAZARD CAN RESULT.



A. TIMBLE CLAMP

B. SAFETY CABLE

C. HANGER BLOCK PIN

D. HANGER BLOCK

E. BOW

F. HANGER BLOCK PIN BOLT

-artron

Issuing Entity: Dartron Industries, Inc

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Bulletin # 4719

Release Date: July 26, 1994

Effective Date: July 26, 1994

Supercedes: None

Completion Date: N/A

Page 1 of 5

PRODUCT IMPROVEMENT BULLETIN

 Ride Manufacturer:
 Dartron Industries, Inc.
 Affected Production Dates:
 1991-1993

 Ride Name:
 StarTrooper
 Affected Serial #'s 111141-5S, 210091-5S,

 210211-5S, 210301-5S, 212081-5S, 301181-5S,
 302131-5S, 302051-5S

Model #

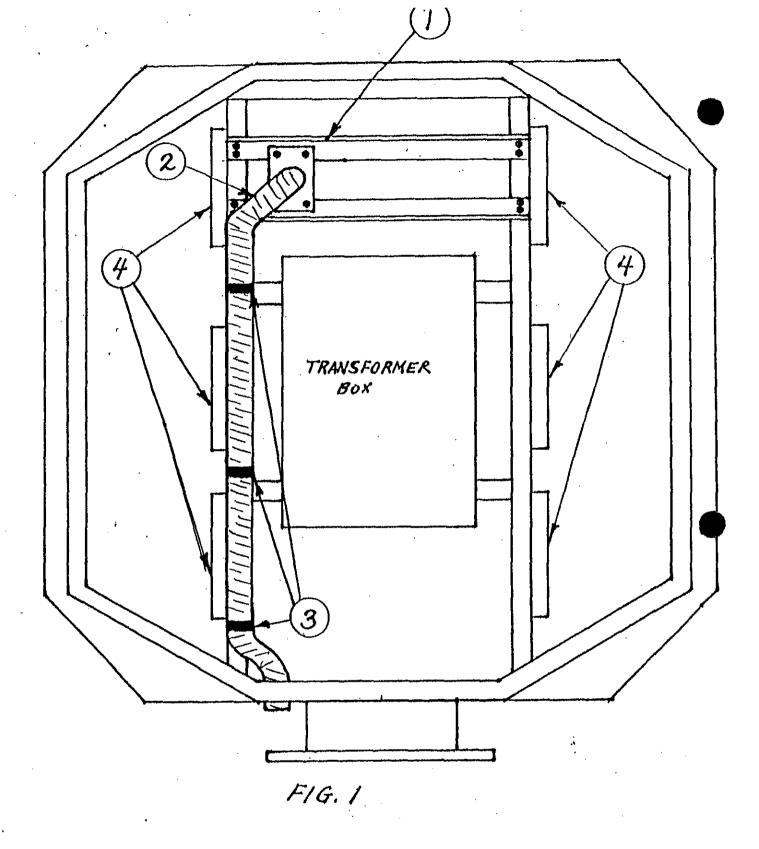
Abstract of Issue: StarTrooper Hanger Block Pin Change

Reason for release: Dartron Industries, Inc. has recently been made aware of a problem with the hanger block pin and bushing design on StarTrooper's listed above. The graphite impregnated bronze bushings generally thought not to require periodic lubrication have in some instances become dry which causes the bushing and pin surfaces to squeal while operating. To correct this condition we recommend that you install a hanger block pin equipped with two zerk fittings. This pin will require periodic lubrication.

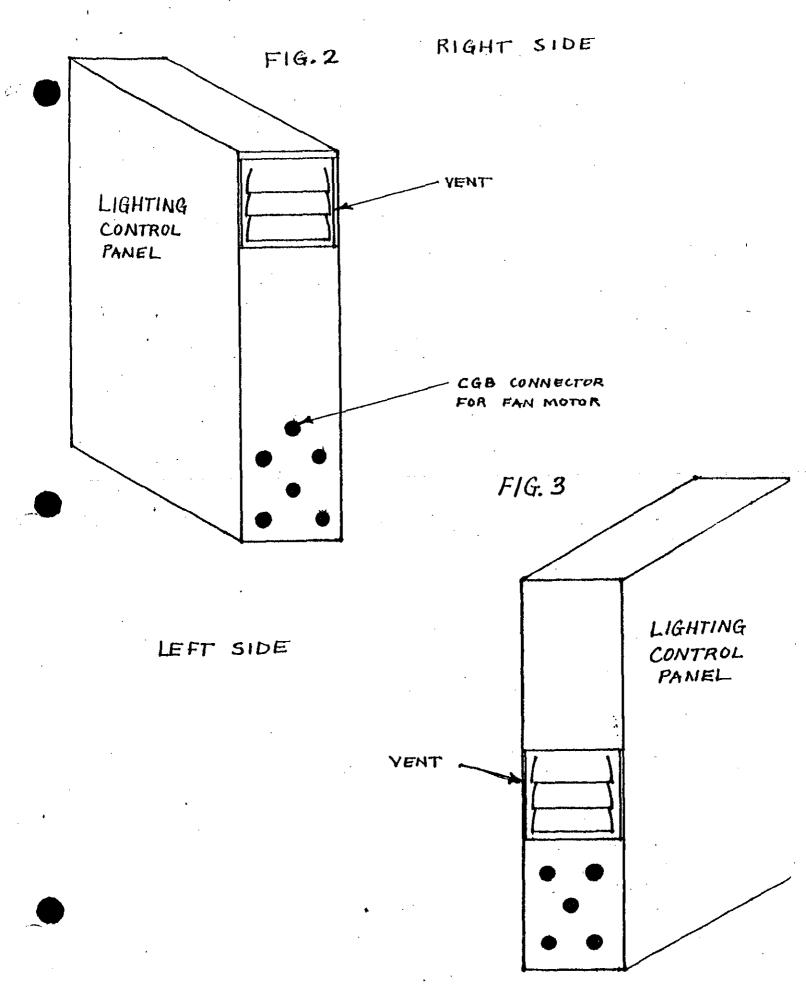
Parts required: Hanger block pins. Contact Dartron Industries, Inc for necessary pins.

Installation Instructions:

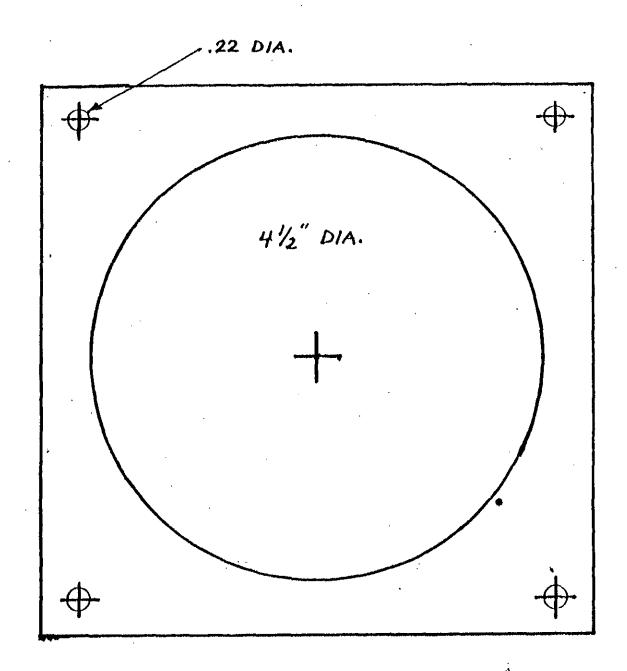
- 1. Remove car, stem, and bonnet.
- 2. Remove bolt (f) on attached drawing and remove pin (c) by carefully tapping end of pin with an aluminum bar and mallet so as not to damage the pin.
- 3. Install new pin into hanger block. Install bolt and zerk fittings into pin.
- 4. Using grease gun (equipped with Chevron Ultra Duty EP-2 or equivalent, (see attached chart) grease both zerks



- I. FAN MOTOR ASSEMBLY
- 2. DUCTING
 - 3. CLAMPS
 - 4. BALLASTS



4719 page 3 of 5



LOUVERED VENT TEMPLATE

RECOMMENDED LUBRICANTS

BRAND	GREASE	PINION GREASE	HYDRAULIC OIL	GEAR OIL
Chevron	Ultra Duty EP 2	Open Gear Lubricant	150 46	RPM Universal 80W90
Texaco	Starplex 2	Texclad 2	Rando Oil HD 46	Multigear 80W90
Mobil	SCH 460	N/A	DTE 15M	Mobil Lube HD 80W90
Pennzoil	Pennlith Ultra	N/A	Pennzbell AW 46	#4092 80W90
В.Р.	N/A	N/A	HLP HD 46	Transgear 80W90
Valvoline	N/A	N/A	043	#838 80W90
Amsoil (Synthetic)	Multi- Purpose GLC	N/A	AHO 15046	AGR 80W90

N/A = Not Available



Issuing Entity: Dartron Industries, Inc

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www.dartronrides.com

Bulletin # 4039

Release Date: 9-12-1995

Effective Date: 9-12-1995

Supercedes: None
Completion Date: 3-1-1996

Page 1 of 2

MANDATORY CHANGE BULLETIN

Ride Manufacturer: Dartron	ndustries, Inc. Affected Production Dates: Prior to 8-13-1995
Ride Name: StarTrooper	Affected Serial #'s 111141-5S,
	206161-5s, 210091-5S, 210211-5S, 210301-5S, 212071-5S, 212081-5S, 301181-5S, 302031-5S, 30251-5S, 310261-5S, 311121-5S, 311171-5S, 311191-5S, 402111-5S, 403311-5S, 410011-5S,
	<u>411091-58</u>

Model #

Abstract of Issue: StarTrooper Front Car Storage Rack

Reason for release: As a result of moving the StarTrooper long distances over rough roads, crack could develop in certain welded joints in the front car storage rack. If the cracks are not addressed, the joint could separate and cause the cars carried by this rack to drop during transit.

Action to be taken:

- > Immediately inspect area shown on the attached drawings for cracking.
- > If cracks are detected, immediately install gussets as shown in attached drawing.
- > If cracks are not detected, gussets still must be added no later than March 1, 1996.

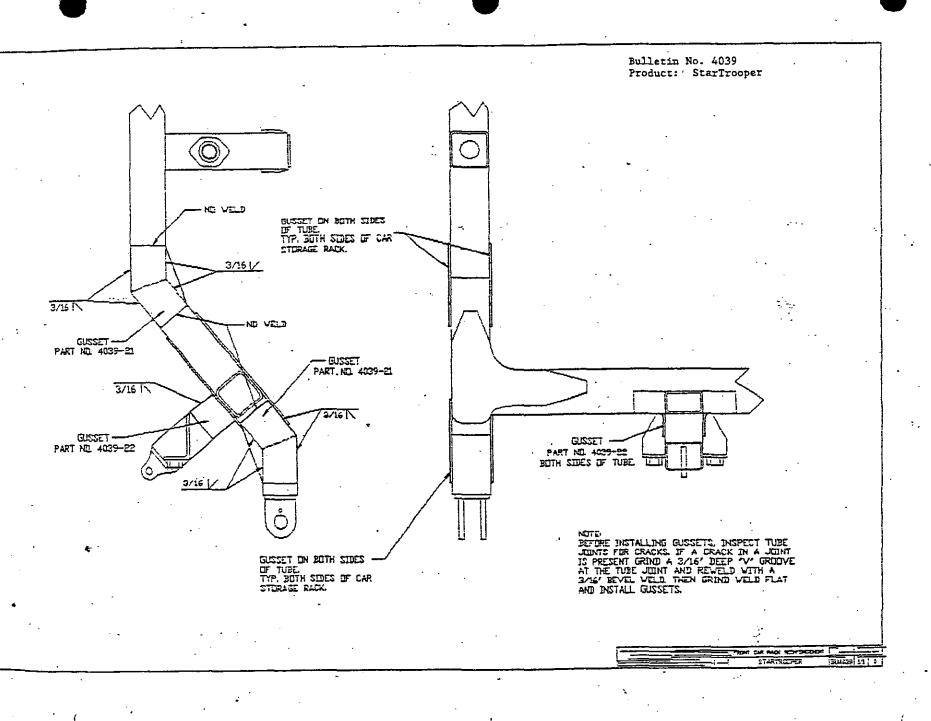
Parts Required:

Description	Part #	Quantity
Gusset	4039-21	8
Formed Gusset	4039-22	2

elding Specifications: Weld with 70,000-psi filler.

Administration: Gussets will be supplied without charge by Dartron

If required, copies of this bulletin will be sent to ride inspection organizations.



artron

Issuing Entity: Dartron Industries, Inc

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www.dartronrides.com

Bulletin # ST-080101

Release Date: January 30, 1998

Effective Date: January 1, 1998

Supercedes: None

Completion Date:

Page 1 of 1

SERVICE BULLETIN

Ride Manufacturer: Dartron Industries, Inc.

Ride Name: StarTrooper Affected Serial #'s All

Model # All

Abstract of Issue: An undetected failure of a spherical bushing located at the lower mount for the boom lift cylinder can result in a very expensive repair.

keason for release: Reports have been received concerning failures due to lack of lubrication of the lower boom lift cylinder mount bushing. Some of the failures have been very expensive and difficult to repair because the StarTrooper operated for an extended period after the bushing failed. Continued operation of the ride with a failed bushing can result in progressive damage to the cylinder mounting pin, the bushing housing and possibly the cylinder base.

Action to be taken:

Daily-Add lubrication to both bushings

Weekly- Supervision to inspect bushing to insure proper functioning.

Detail of issue:

Daily lubrication

> Raise boom to full up position.

> Pump grease into bushing until grease is observed exiting bushing.

Weekly Supervisor inspection

- > Observe bushing being lubricated.
- > Be sure bushing takes the grease.
- > Raise and lower boom. Listen and watch for indications of a bearing failure.
- > Listen for audible squeal caused by the metal of a failed bushing rubbing against its housing.
- > Observe lower cylinder base to be sure it is rotating freely around bushing housing as the boom is raised and lowered.

Dartron Industries, Inc.

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Bulletin #	ST-01-01
Release Date	01-May-01
Effective Date	04-Jul-01
Supercedes	Owner's Manual
Completion Date	04-Jul-01

1 of 1

Page

SAFETY ALERT

Ride Manufacturer:	Dartron Industries, Inc.	Affected Production Da	tes: All StarTroopers
Ride Name:	StarTrooper	Affected Serial #'s:	All StarTroopers
Model Number:	N/A		· · · · · · · · · · · · · · · · · · ·
Reason For Release:	eason For Release: Dartron has changed the height requirements for riders and the		ders and the signage
	requirements for operato	rs for all StarTroopers mar	rufactured by Dartron.
Detail of Issue	HEIGHT REQUIREMEN	TS	

of Issue HEIGHT REQUIREMENTS

- 1) Height must be 46" or above to ride unaccompanied.
- 2) Height of 42" and above but under 46" can ride only if accompanied by a mature and responsible person who rides in the same seat.
- Height below 42" cannot ride the StarTrooper under any circumstances.

SIGNAGE REQUIRED

At all times when the StarTrooper is operating, signage including the information below and height requirements must be 'posted in a manner that it is clearly visible and easy to read by guests before they enter the ride. 'This signage can include additional restrictions or warnings but must include the following:

Restrictions on Riders

Guests Are Advised This Activity May Include:

Strong Centrifical Forces

Rapidly Changing Heights

To Participate You Must Be in Good Health And Free From:

I leart Ailments ☐ Back Disorders ☐ Neck Disorders ☐ Pregnancy ☐ Seizures Dizziness ☐ Motion sickness ☐ Other Physical Ailments Which May Be Aggravated By The Motion Of This Ride.

It Is Necessary That You:

Remain in the seated position while in the passenger car.

Do not extend your hands and arms over the sides of the car.

Enter and exit this activity slowly and carefully.

Be aware that the walking surfaces may be slippery.

Watch where you are walking to avoid tripping on any uneven surface.

You Should Not Participate if You Are Under The Influence Of:

Drugs, Alcohol, and/or Prescription Medication

Physically Or Mentally Challenged Guests May Not Find This Activity Suitable

Dartrow Salem, Oregon 97309 Issuing Entity:
Dartron Industries, Inc

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www.dartronrides.com

Bulletin # RB-5S-01

Release Date: August 16, 2004

Effective Date: August 16, 2004

Supercedes: N/A

Completion Date: September 16, 2004

Page 1 of 1

SAFETY BULLETIN

Ride Manufacturer: Dartron Industries, Inc.	Affected Production Dates: All
Ride Name: StarTrooper	Affected Serial #'s 111141-5S, 206161-5S, 210091-5S,
	210211-5S, 210301-5S, 212071-5S, 212081-5S
	301181-5S, 302131-5S, 302051-5S, 310261-5S
	311121-5S, 311171-5S, 311191-5S, 402111-5S
	403311-58, 410011-58, 411091-58, 412011-58

Abstract of Issue: Dartron has discovered a potential <u>Safety Related</u> issue involving the erection and racking of the StarTrooper ride. Dartron is herein alerting StarTrooper owners, operators and inspectors about this safety related issue and requiring changes to the StarTrooper that, when followed, will eliminate the potential problem.

Reason for release: It has come to Dartron's attention that the potential exists for the Sweep Lift Bracket mounted on the front car rack to impact the hydraulic fitting on the rod end of the front rack lift cylinder. This potential condition exists when the sweep lifting brace is not properly folded into its racked position and the front car storage rack is being raised to its transport position. Impacting the Front Rack Cylinder lift fitting can damage the fitting or the cylinder causing the front rack to fall. If ride personnel are under the suspended load of the car rack when this event occurs it could result in injury to the employee.

Action to be taken: Dartron is requiring that the Sweep Lift Bracket on the front car rack be removed from the ride and discarded. An alternate method of lifting the sweep must be employed. Dartron is also requiring that all personnel working on and around the StarTrooper ride be prohibited from standing under the suspended load of the StarTrooper car rack while it is being raised or lowered.

<u>Detail of issue</u>: 1.) Remove the Sweep Lift Bracket. The purpose of the Sweep Lifting Bracket is to use the hydraulic cylinder of the front car rack to raise a sweep enough to un-weight the split wing hub allowing the upper pin to be installed or removed. After removal of the Bracket, un-weighting can be accomplished by using a small hydraulic jack and a short post placed near the front edge of the gooseneck deck. An alternative method is to use the sweep support jack at the rear of the trailer. Rotate the wheel 180 degrees and fabricate a device to extend the jackleg. 2.) Affix a warning on the trailer gooseneck stating DANGER! Do not stand under the carrack while its load is suspended".

Contact Dartron for assistance in implementing or enforcing the requirements of this Bulletin.