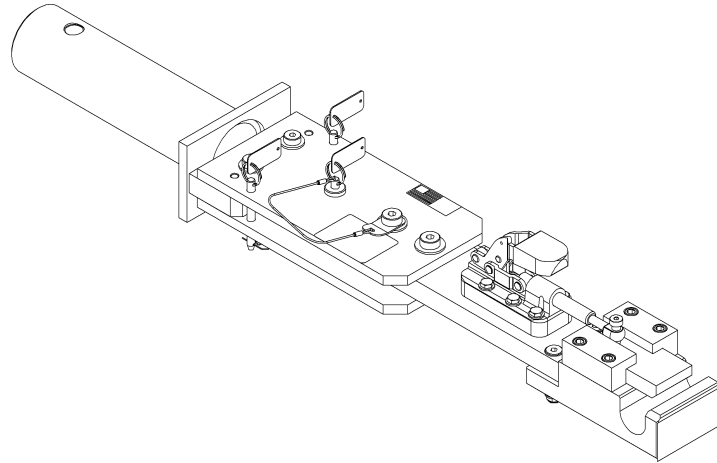




Operation & Service Manual



Model: 01-0812-0000
Bombardier CS100/300
Towbar Head



04/2016 – Rev. 01

Includes Illustrated Parts Lists

REVISION
01

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04/2016

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Original Release

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Tronair towbars/heads must only be used with matching Tronair heads/towbars, and Tronair shear pins.

This product can not be modified without the written approval of Tronair, Inc. Any modifications done without written approval voids all warranties and releases Tronair, Inc., its suppliers, distributors, employees, or financial institutions from any liability from consequences that may occur. Only Tronair OEM replacement parts shall be used.

1.0 PRODUCT INFORMATION

1.1 DESCRIPTION

The Tronair Model 01-0812-0000 is a towbar head attachment for the Bombardier CS100/300 Aircraft.

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

TRONAIR, Inc.
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
Fax: (419) 867-0634
E-mail: sales@tronair.com
Website: www.tronair.com

1.4 SPECIFICATIONS

- Aircraft Application(s): Bombardier CS100/300 Aircraft
- Aircraft Gross Weight (Maximum): 141,000 lbs (63,956 kg)
- Dimensions: Width 6 ¼ in (15.9 cm)
Length 39 ¾ in (100.6 cm) overall
Height 6 ¾ in (17.1 cm)
- Weight: 73 lbs (33 kg)
- Finish: Blue Powder Coat

2.0 SAFETY INFORMATION

2.1 GENERAL

The Tronair Model 01-0812-0000 towbar head attachment is used for towing Bombardier CS100/300 Aircraft only.

To insure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



WARNING! Warning is used to indicate the presence of a hazard that can cause severe PERSONAL INJURY, DEATH, and/or SUBSTANTIAL PROPERTY DAMAGE if the warning notice is ignored.

CAUTION! Caution is used to indicate the presence of a hazard which will or can cause MINOR PERSONAL INJURY or PROPERTY DAMAGE if the caution notice is ignored.



WARNING!

A damaged or bent towbar should not be used. Towbar should be repaired or replaced.



WARNING!

Tronair recommends the use of a towbar with a category 1 or category 2 tug and aircraft not exceeding 115,000 lbs gross weight. Using the towbar with aircraft weighing in excess of this specific limitation may result in excessive loads and stresses being applied to the towbar and/or the aircraft. These excessive loads may cause failure of the towbar which could cause damage (INCLUDING WITHOUT LIMITATION to the aircraft) and/or personal injury OR DEATH. **TRONAIR MAKES NO REPRESENTATION, WARRANTY OR GUARANTEE AS TO SUCH MISUSE AND DISCLAIMS ANY AND ALL LIABILITY FOR INJURY, LOSS OR DAMAGE ARISING FROM OR RELATING TO SUCH MISUSE.**

3.0 TRAINING

3.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the towbar.

3.2 TRAINING PROGRAM

The employer-provided operator training program should cover safety procedures concerning use of the towbar in and around the aircraft at the servicing location.

3.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of towbar.

NOTE: Maintenance and Trouble Shooting are to be performed by the skilled and trained technician.

4.0 OPERATION

4.1 TOWBAR HEAD CHECKLIST

- Inspect for weld cracks. If found remove the towbar head from service and contact Tronair for repair.
- Inspect weldment members for bending. If found remove the towbar head from service and contact Tronair for repair.
- Inspect the shear plates for bending. If found remove the towbar head from service and contact Tronair for repair.
- Inspect the axle adaptors for bending and excessive wear. If found remove the towbar head from service and contact Tronair for replacement.
- Check the axle adaptor mounting bolts. Ensure they are tight and not missing. Tighten or replace as required.
- Check the axle locking mechanism. Ensure that it springs back to positively hold the axle adaptors on the aircraft towing hook-up. If it does not, contact Tronair for repair or replacement.
- Check the shoulder bolt connections through the shear plates. Verify they are not clamping the shear plates together. There should not be any clamping force applied to the shear plates so the assembly functions properly. If required, back the stopnut off to remove any clamping force applied.
- Inspect the shear pin. If the shear pin is bent, broken, or missing contact Tronair for replacement. Tronair recommends purchasing spare shear pins for rapid replacement, use only Tronair specified shear pins.
- Inspect the shear pin bushings. If the shear pin bushings are cracked or chipped, contact Tronair for replacement, use only Tronair specified shear pin bushings.
- Inspect all steel components for signs of rust. Touch up with paint as required.

5.0 PROVISION OF SPARES

5.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc.

1 Air Cargo Pkwy East

Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: (419) 867-0634

E-mail: sales@tronair.com

Website: www.tronair.com

5.2 RECOMMENDED SPARE PARTS LISTS

Reference the following page(s) for Replacement Parts and Kits available.

6.0 GUARANTEES/LIMITATION OF LIABILITY

Tronair products are warranted to be free of manufacturing or material defects for a period of one year after shipment to the original customer. This is solely limited to the repair or replacement of defective components. This warranty does not cover the following items:

- a) Parts required for normal maintenance
- b) Parts covered by a component manufacturers warranty
- c) Replacement parts have a 90-day warranty from date of shipment

If you have a problem that may require service, contact Tronair immediately. Do not attempt to repair or disassemble a product without first contacting Tronair, any action may affect warranty coverage. When you contact Tronair be prepared to provide the following information:

- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

If warranty coverage is approved, either replacement parts will be sent or the product will have to be returned to Tronair for repairs. If the product is to be returned, a Return Material Authorization (RMA) number will be issued for reference purposes on any shipping documents. Failure to obtain a RMA in advance of returning an item will result in a service fee. A decision on the extent of warranty coverage on returned products is reserved pending inspection at Tronair. Any shipments to Tronair must be shipped freight prepaid. Freight costs on shipments to customers will be paid by Tronair on any warranty claims only. Any unauthorized modification of the Tronair products or use of the Tronair products in violation of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied.

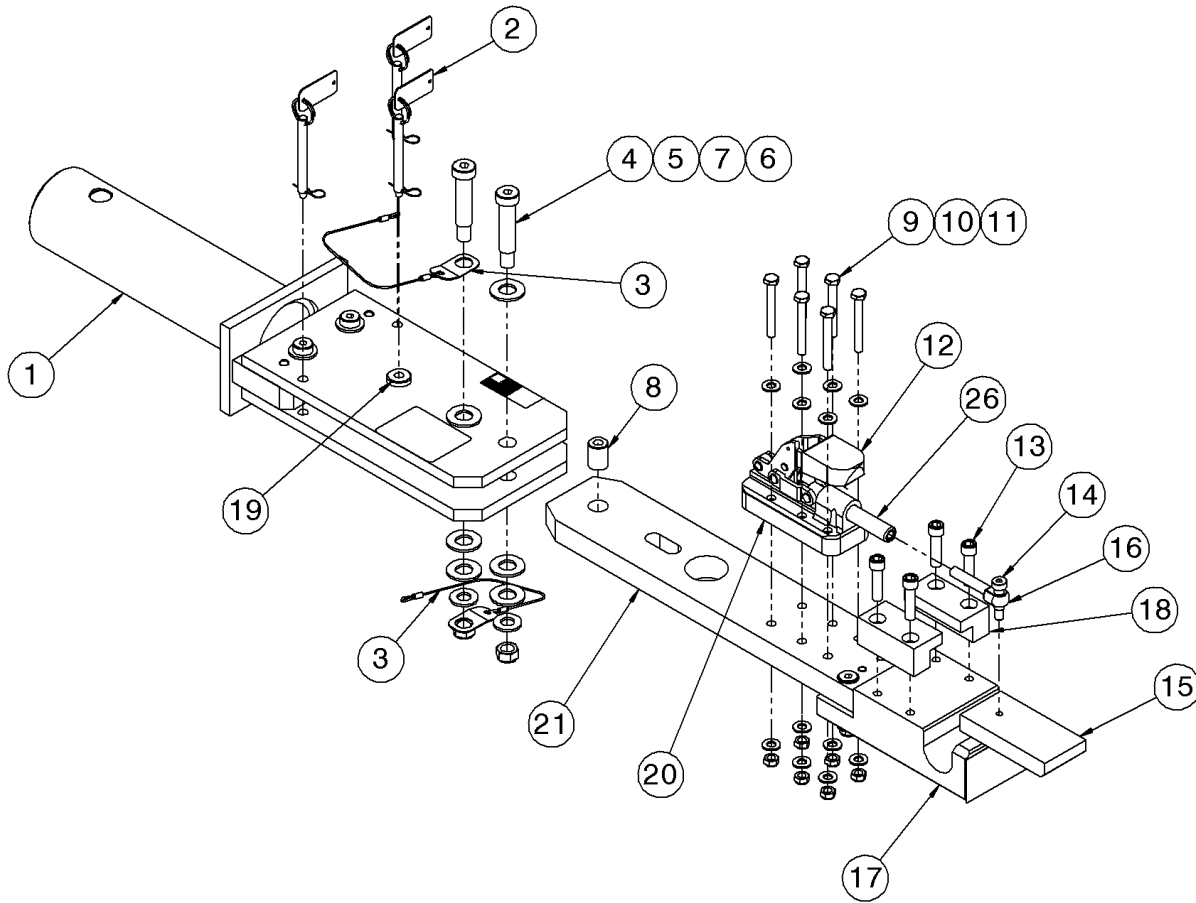
The obligations of Tronair expressly stated herein are in lieu of all other warranties or conditions expressed or implied. **Any unauthorized modification of the Tronair products or use of the Tronair products in violations of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied and Tronair disclaims any and all liability for injury (WITHOUT LIMITATION and including DEATH), loss or damage arising from or relating to such misuse.**

7.0 APPENDICES

APPENDIX I Declaration of Conformity

Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
1	Z-9043	Machining, Shear Plate	1
2	Z-8584	Assembly, Shear Pin	3
3	H-3221-07.0	Assembly, Lanyard	2
4	G-1155-109222	Screw, 5/8 X 2 1/4" Long Socket Head Shoulder	2
5	G-1250-1100N	Flatwasher, 5/8 Narrow	6
6	G-1202-1090	Stopnut, 1/2-13 Elastic	2
7	G-1250-1090N	Flatwasher, 1/2 Narrow	8
8	H-1725-33	Bushing	1
9	G-1100-106524	Bolt, Hex Head Grade 5, 5/16-24 X 2 1/2" long	6
10	G-1250-1060N	Flatwasher, 5/16 Narrow	12
11	G-1202-1065	Stopnut, 5/16-24 Elastic	6
12	H-2923	Clamp, Toggle	1
13	G-1151-107214	Screw, Cap 3/8-16 X 1 1/2" long	4
14	G-1155-106210	Screw, Shoulder, 3/8" diameter	1
15	J-6202	Plate, Slider	1
16	H-2943	Rod End	1
17	J-6189	Machine, Head (Not Sold Separately)	1
18	J-4485	Guide	2
19	H-1724-25	Bushing	2
20	J-4487	Spacer	1
21	J-6230	Plate, Machine Head (Not Sold Separately)	1



APPENDIX - I

**Declaration
of
Conformity**



DECLARATION of CONFORMITY

The design, development and manufacture is in accordance with European Community guidelines

Towbar Head
01-0812-0000

Relevant provisions complied with by the machinery:
2006/42/EC

Relevant standards complied with by the machinery:
EN ISO 12100-1

Identification of person empowered to sign on behalf of the Manufacturer:

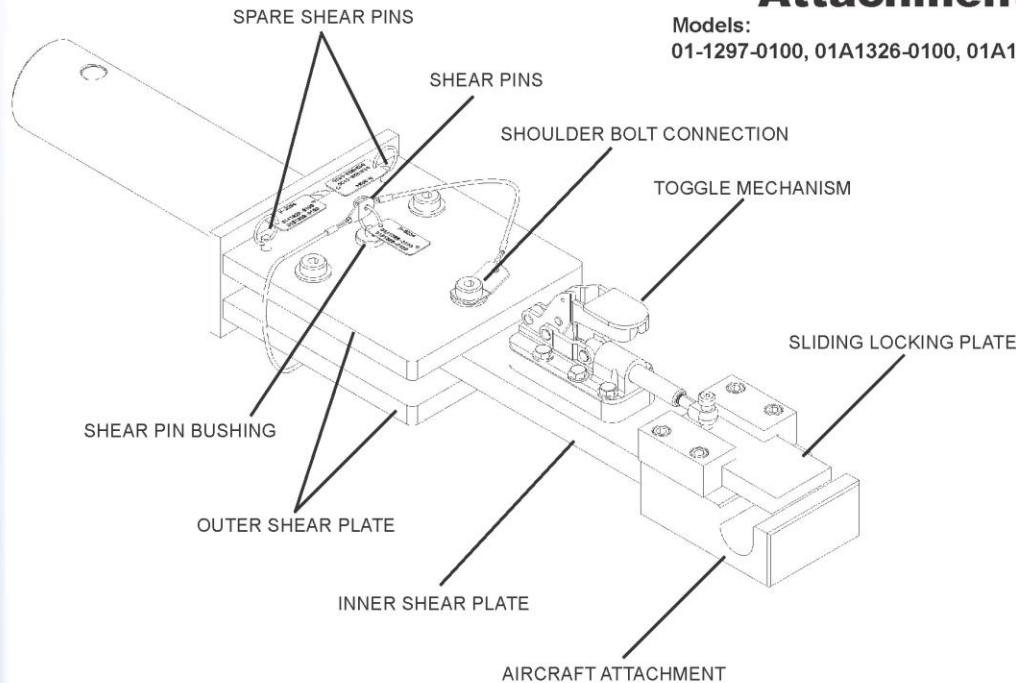
A handwritten signature in cursive script that reads "Patrick Finch". The signature is written in black ink and is positioned above a horizontal line.

Quality Assurance Representative

Heavy Duty Clamp Style Attachment Heads

Models:

01-1297-0100, 01A1326-0100, 01A1332-0100, 01-1336-0100



Tronair recommends towbar inspections at least once a week.

- Inspect for weld cracks. If found remove the towbar multi-head from service and contact Tronair for repair.
- Inspect the side rails, head rail, and head plate for bending. If found remove the towbar multi-head from service and contact Tronair for repair.
- For towbar multi-heads with shear, inspect the shear plates for bending. If found remove the towbar multi-head from service and contact Tronair for repair.
- Inspect the sliding locking plate and the toggle mechanism for bending, cracks, and excessive wear. If found remove the towbar multi-head from service and contact Tronair or your Tronair distributor for replacement.
- Ensure the sliding locking plate can move freely within its housing. If any binding occurs, inspect the sliding locking plate for bending and the housing for flatness. If either condition exists, contact Tronair for repair options.
- For towbar multi-heads with shear, check the shoulder bolt connections through the shear plates. Verify they are not clamping the shear plates together. There should not be any clamping force applied to the shear plates so the assembly functions properly. If required, back the stopnut off to remove any clamping force applied.
- For towbar multi-heads with shear, inspect the shear pin. If the shear pin is bent, broken, or missing contact Tronair or your Tronair distributor for replacement. Tronair recommends purchasing spare shear pins for rapid replacement, use only Tronair specified shear pins.
- For towbar multi-heads with shear, inspect the shear pin bushings. If the shear pin bushings are cracked or chipped, contact Tronair or your Tronair distributor for replacement, use only Tronair specified shear pin bushings.
- Inspect all steel components for signs of rust. Touch up with paint as required.

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