

**Models: 01-1229-0011
01A1229-0011
Custom Towbar
Canadair RJ Aircraft**



07/2007 – Rev. 06

When ordering Replacement Parts/Kits, please specify Model, Color and Serial Number of your Unit.

REVISION	DATE	TEXT AFFECTED
04	01/2004	pg 1 Added warning
05	03/2007	Major revision
06	07/2007	Modified 2.1 General Warning

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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 01-1229-0011 and 01A1229-0011 Custom Towbars are designed for towing the Canadair RJ Aircraft.

The custom towbars include an aircraft attachment by machined pins on the towing head which attach to the nose landing gear. There is a handle and an eyebolt at the end of the towbar for towing. The eyebolt incorporates a compression spring to dampen shock loads during towing.

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	Canadair RJ
Maximum Aircraft Gross Weight.....	53,000 lbs (23.7 kg)
Length	146-13/16 in (372.9 cm) From eyebolt centerline to aircraft attachment centerline – 01-1229-0011
	147-7/8 in (375.6 cm) From eyebolt centerline to aircraft attachment centerline – 01A1229-0011
Width	22 7/8 in (58 cm)
Height.....	20 11/16in (52.4 cm)
Weight	120 lbs (54.4 kg) 01-1229-0011
	122 lbs (55.3 kg) 01A1229-0011
Finish.....	Blue Powder Coat
Axial Shear Rating.....	10,850 lbs (4,921.5 kg)
Radial Shear Rating	40,000 in-lb (4,519.4 N-m)

2.0 SAFETY INFORMATION

2.1 GENERAL

The Tronair Model 01-1229-0011 and 01A1229-0011 Custom Towbars are used for moving the Canadair RJ Aircraft only.

To ensure safe operation, please read the following statements and understand their meaning. This manual contains safety precautions which are explained as follows. 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 75,000 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 Canadair RJ at the servicing location.

3.3 OPERATOR TRAINING

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

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

4.0 OPERATION

4.1 PRELIMINARY CHECKLIST

4.1.1 Towbar

- Check weld between towbar and handles for cracks.
- Check air pressure in tires; inflate/deflate as required.
- Check all fastener connections to ensure they are not loose or missing.

4.1.2 Towing Head

Check welds between side rails and head rail for cracks:

- Check welds between head frame, connector tube, and shear plates for cracks.
- Check shear pin to ensure it has not broken; replace if necessary.
- Check fastener connection of towing head to towbar. Ensure the connection is not loose or missing.
- Check shear pin bushings. Ensure they are not cracked or chipped.
- Check pins on towing head for bending or excessive wear.

4.2 USAGE PROCEDURE

4.2.1 Aircraft Attachment



CAUTION!

It is recommended that your towbar be attached to the aircraft first, and then connected to the tug to avoid possible aircraft damage.

- Ensure the slide pin is locked in place using the detent ball plungers.

4.2.2 Tug Attachment



CAUTION!

Damage to the towbar or aircraft can result from an excessive towbar angle during towing operations. Reference Figure 1.

- Use a pintle height so that the towbar is as level as possible during towing. Also, the pintle hook height should prevent contact of the towbar with the ground during towing.

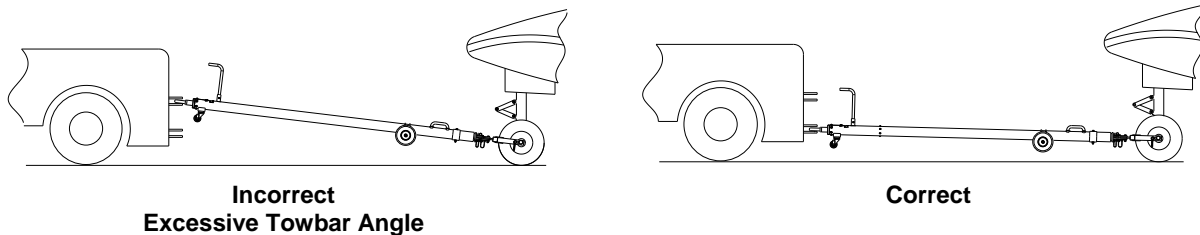


FIGURE 1

4.2.3

Couplers



CAUTION!

Damage to the towbar or aircraft can result while towing with the following types of couplers:

- Lift Head
- Standard Duty Latch
- Vertical Side Swing Latch
- Swivel Hook

The couplers listed above are known to cause binding and failure in the lunette eye. Indicators of binding are wear on outside diameter of the eyebolt and indentation on the inside diameter of the eyebolt. **Reference Figure 2.**

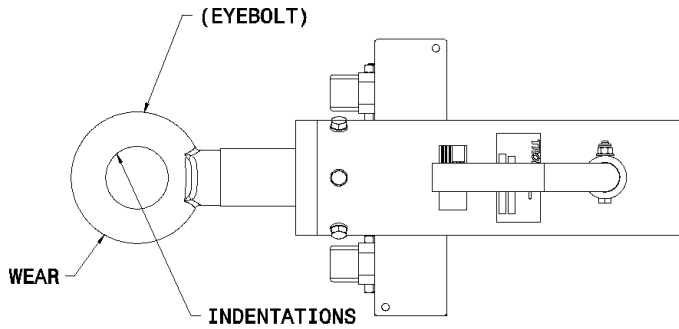


FIGURE 2

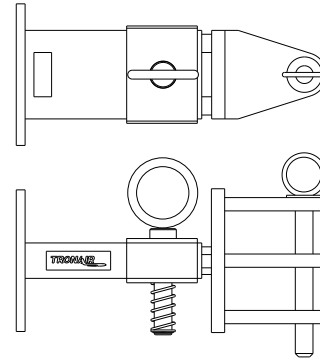


FIGURE 3 – 01-1950-5000 Standard Telecoupler

Tronair recommends a telecoupler pintle hook arrangement. This arrangement is known to eliminate binding. Tronair offers a Standard Telecoupler, Model Number 01-1950-5000, for use on tugs. **Reference Figure 3.**

Damage to the towbar and/or aircraft can result by towing or pushing an aircraft with an incorrect size eyebolt or pintle pin. A correct size eyebolt will make contact with the pintle pin. A gap between the eyebolt outside diameter and the coupler face plate should be easily seen. An eyebolt which is too large will cause the eyebolt to make contact with the face plate of the coupler. When the eyebolt is too large for the coupler, a gap between the inside diameter of the eyebolt and the coupler face plate will be seen. **Reference Figure 4.**

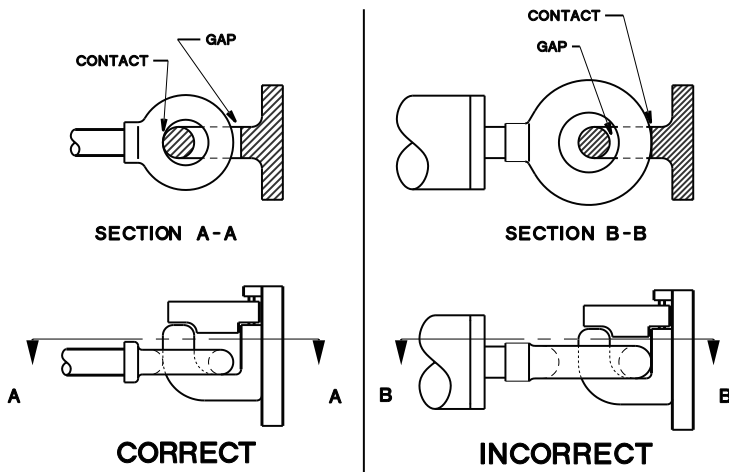


FIGURE 4

To ensure proper towing and pushing, check to make sure the pintle pin diameter is not too long for the eyebolt's inside diameter. An approximate one-half inch (1/2") gap between the pin diameter and the eyebolt should be seen. If any of these conditions are not met, please contact Tronair for information to obtain a new coupler.

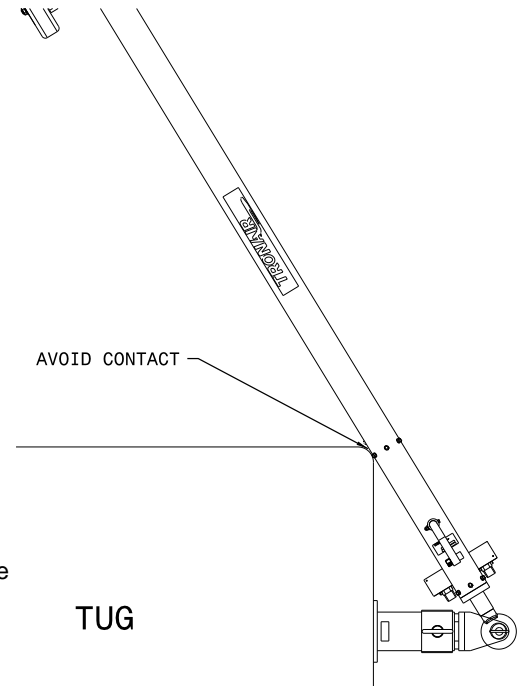


FIGURE 5

4.2.4

Towing Operation:

Damage to the towbar or aircraft can result from pushing an aircraft while maintaining too sharp of an angle between the tug and the aircraft. Contact between the towbar weldment and the tug must be avoided. It is recommended that the angle between the tug and towbar not exceed 90°. **Reference Figure 5.**

5.0 PROVISION OF SPARES

5.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc.	Telephone: (419) 866-6301 or 800-426-6301
1 Air Cargo Pkwy East	Fax: (419) 867-0634
Swanton, Ohio 43558 USA	E-mail: sales@tronair.com
	Website: www.tronair.com



For Spare Parts, Operations & Service Manuals or Service Needs:
Scan the QR code or visit Tronair.com/aftermarket

5.2 RECOMMENDED SPARE PARTS LISTS

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

Recommended Spares to be kept on hand:
G-1446-22 Shear Pin
K-1112..... Wheel (Single) Replacement

6.0 IN-SERVICE SUPPORT

Contact Tronair, Inc. for technical services and information. See Section 1.3 – Manufacturer.

7.0 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:

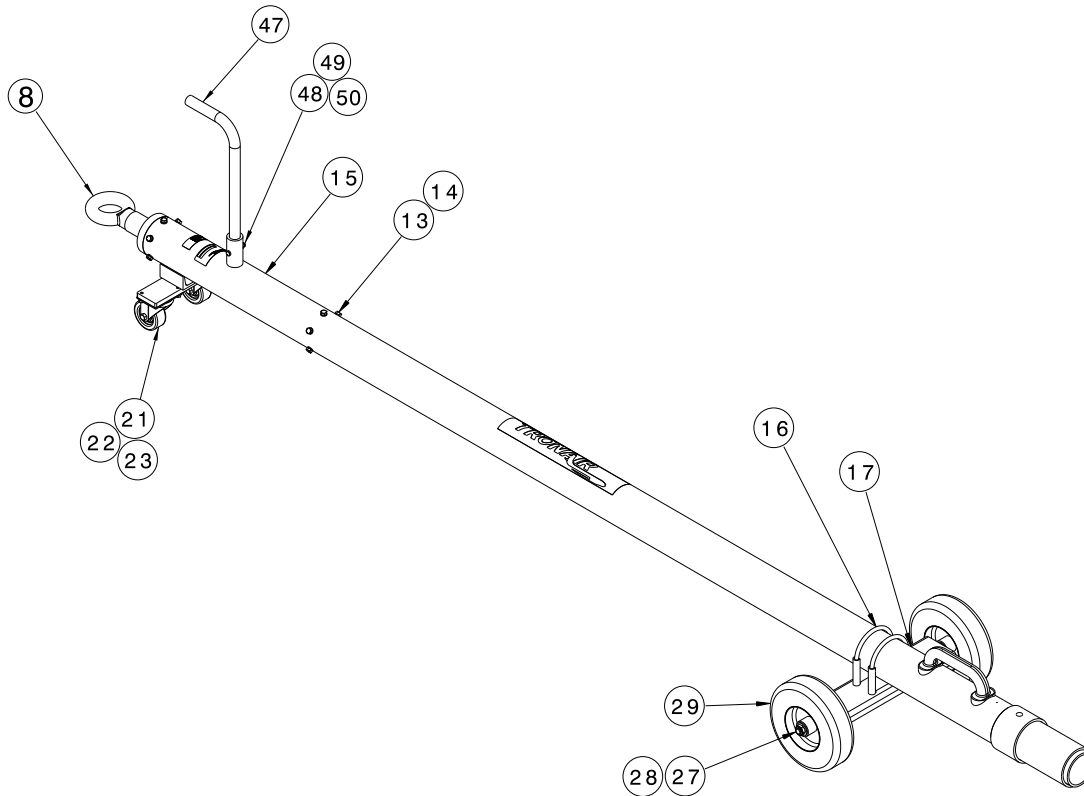
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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.**

Parts List

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

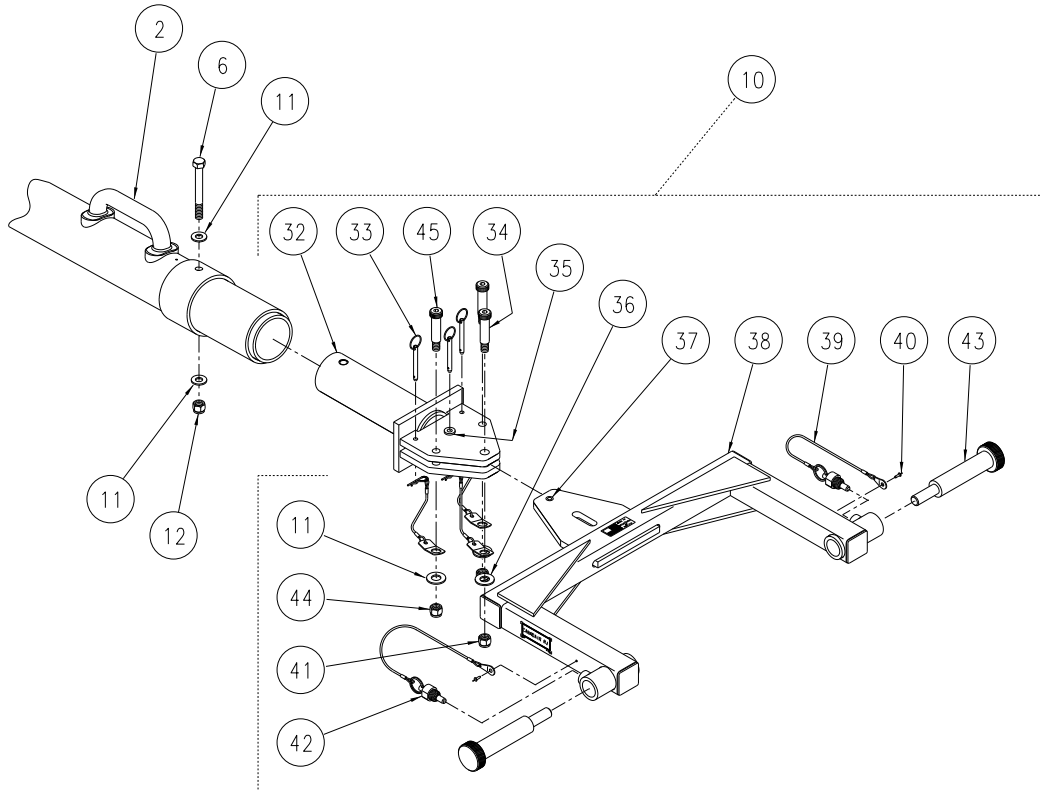


Item	Part Number	Description	Qty
◆ 8	Z-3999	Assembly, Shock (01-1229-0011)	1
◆ 8	Z-4137	Assembly, Shock (01A1229-0011)	1
15	Z-6514-01-01 (Reference Only)	Weldment, Towbar	<i>Not Sold Separately</i>
▶ 13	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16 -18 x 3/4" long	12
14	G-1251-1060R	Lockwasher, 5/16 Regular	12
16	H-1537-08	Clamp, Muffler	2
17	Z-5643-01	Weldment, Axle Mounting Bracket	1
21	G-1100-106005	Bolt, Hex Head, Grade 5, 5/16 -18 x 5/8" long	4
22	G-1251-1060R	Lockwasher, 5/16 Regular	4
23	U-1000	Caster, Swivel	2
47	TR-1857-01	Tube, Handle	1
48	G-1100-105520	Bolt, Hex Head, Grade 5, 1/4-28 x 2" long	1
49	G-1202-1055	Stopnut, 1/4-28 Elastic	1
50	G-1250-1050N	Flatwasher, 1/4 Narrow	1
	K-1112	Kit, Wheel Replacement; consists of:	
27	G-1250-1100N	Flatwasher, 5/8 Narrow	1
28	G-1203-1105	Jamnut, 5/8 -18 Elastic	1
29	U-1024	Wheel, Pneumatic Tire	1

- ◆ Due to the high compression used in assembly, this Shock Assembly should be returned to Tronair for repair. Discuss with Customer Service Salesperson.
- ▶ Use Loctite 271 or equivalent during re-assembly.

Parts List

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



Item	Part Number	Description	Qty
2	Z-5614-01-01 (Reference Only)	Weldment, Towbar	Not Sold Separately
10	X-1110	Assembly, Head; consists of:	1
32	Z-2628-01	Assembly, Shear Plate	1
33	G-1446-22	Pin, Shear	3
34	G-1155-109216	Screw, Socket Head Shoulder, 5/8" diameter x 1 1/4" long	1
35	H-1724-06	Bushing, Head Press Fit	2
36	G-1250-1100N	Flatwasher, 5/8" Narrow	1
37	H-1725-11	Bushing, Headless	1
38	Z-5094-01	Weldment, Head	1
39	H-2443*07.0	Assembly, Lanyard	2
40	G-1351-04	Rivet, 1/8" Open-End Steel	2
41	G-1202-1090	Stopnut, 1/2" -13 Elastic	1
42	Z-2626	Assembly, Handle	2
43	R-1430	Pin, Sliding	2
44	G-1202-1070	Stopnut, 3/8" -16 Elastic	2
45	G-1155-107216	Screw, Socket Head Shoulder, 1/2" diameter	2
	K-3467-01	Kit, Head Assembly Replacement; consists of:	
6	G-1100-109554	Bolt, Hex Head, Grade 5, 1/2" -20 x 5 1/2" long	1
10	X-1110	Assembly, Head; consists of:	1
11	G-1250-1090N	Flatwasher, 1/2" Narrow	2
12	G-1203-1095	Jamnut, 1/2" -20 Elastic	1



APPENDIX I

Declaration of Conformity



DECLARATION of CONFORMITY

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

Custom Towbars
01-1229-0011
01A1229-0011

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