



## Operation & Service Manual

**Models: 01-1253-0000  
01A1253-0000  
GII, GIII, & GIV  
Portable Towbar**



03/2007 – Rev. 03

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

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REVISION	DATE	TEXT AFFECTED
03	03/2006	Major Revision

**Models: 01-1253-0000, 01A-1253-0000  
GII, GIII, & GIV Portable Towbar**

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.

## **1.0 DESCRIPTION**

The Tronair Model 01-1253-0000 and 01A1253-0000 Portable Towbars are designed for towing Gulfstream GII, GIII, and GIV Aircraft manufactured by Gulfstream Aerospace Corporation.

The portable towbar separates into three sections for compact storage. It interfaces to the aircraft by machined pins. It provides overload protection to the landing gear by use of a shear pin and incorporates shock protection after the shear pin breaks.

### **1.1 SPECIFICATIONS**

**Aircraft Application:** GII, GIII, and GIV manufactured by Gulfstream Aerospace Corporation

**Maximum Aircraft Gross Weight:** 75,000 lbs (33.48 Metric tons)

**Dimensions:**

Length: 65.69 in (166.84 cm) From eyebolt centerline to aircraft attachment centerline

Width: 31 in (78.74 cm)

Height: 4.5 in (11.43 cm)

**Weight:** 41 lbs (18.6 kg)

**Finish:** Blue Powder Coat

## **2.0 SAFETY INFORMATION**

### **2.1 GENERAL**

The Tronair Model 01-1253-0000 Portable Towbar is to be used for moving the Gulfstream GII, GIII, and GIV 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.**

**Towbars can be used with category 1 & 2 tugs ONLY in accordance with AHM 995 "Functional specifications for an aircraft tractor" Using a higher tug 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 to the aircraft or personal injury.**

### 3.0 OPERATION

#### 3.1 TOWBAR CHECKLIST

- Check eyebolt for bending, excessive wear and/or deformity. If located, remove towbar from service and contact Tronair for repair/replacement.
- Inspect shear bolt. If shear bolt is bent or broken remove towbar from service and contact Tronair for replacement.



#### **WARNING!**

**Towing an aircraft using a towbar with a broken or missing shear bolt may cause damage to the aircraft**

- Check shock/shear assembly mounting bolts. Ensure fasteners are tight and not missing. Tighten to 25 ft-lbs or replace as required.
- Inspect towbar tube and towbar extension tube for cracks, gouges greater than 1/16 inch, and bends or deformities. If located, remove towbar from service and contact Tronair for repair/replacement.
- Check towbar section connecting ball lok-T pins. Ensure they are not missing and are connected to the towbar via their lanyards. Replace as required.
- Check head weldment mounting bolts. Ensure they are tight and not missing. Tighten or replace as required.
- Inspect all welds for cracks. If located, remove towbar from service and contact Tronair for repair/replacement.
- Inspect all members of head weldment for bending or damage. If located, remove towbar from service and contact Tronair for repair/replacement.
- Inspect sliding pins for bending, cracks, and excessive wear. If located, remove towbar from service and contact Tronair for repair/replacement.
- Check sliding pin retaining ball lok-T pins. Ensure they are not missing and are connected to the head weldments via their lanyards. Replace as required.
- Check sliding pin roll pins. Ensure they are tight and not missing. Tighten or replace as required.

#### 3.2 USAGE PROCEDURE

##### 3.2.1 Aircraft Attachment



#### **CAUTION!**

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

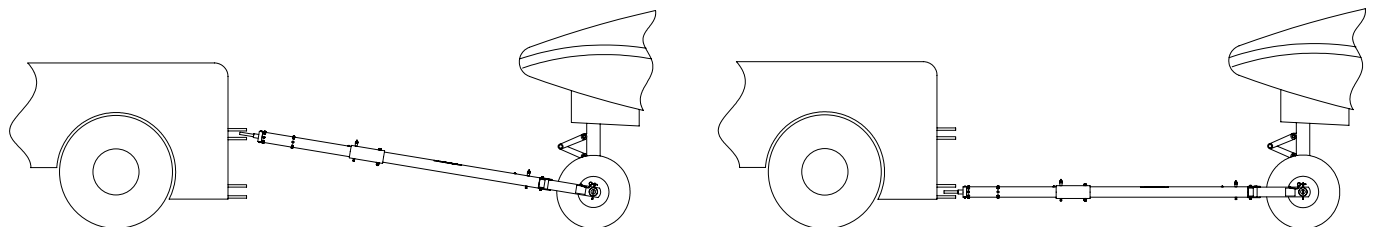
##### 3.2.2 Tug Attachment

- 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.



#### **CAUTION!**

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



**Incorrect  
Excessive Towbar Angle**

**Figure 1**

**Correct**

### 3.2 USAGE PROCEDURE (continued)

#### 3.2.3 Couplers

#### CAUTION!

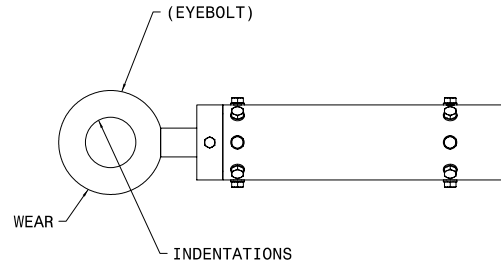


Damage to the towbar or aircraft can result while towing with the following types of couplers:

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

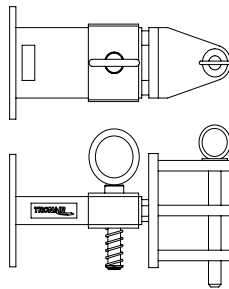
The couplers listed above are known to cause binding and failure in the eyebolt. Indicators of binding are wear on outside diameter of the eyebolt and indentation on the inside diameter of the eyebolt.

**Reference Figure 2.**



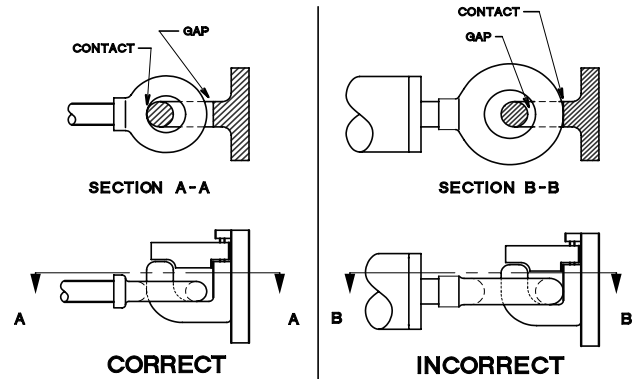
**Figure 2**

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.**



**FIGURE 3**

**01-1950-5000 Standard Telecoupler**



**FIGURE 4**

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.**

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 ( $\frac{1}{2}$ " ) 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.

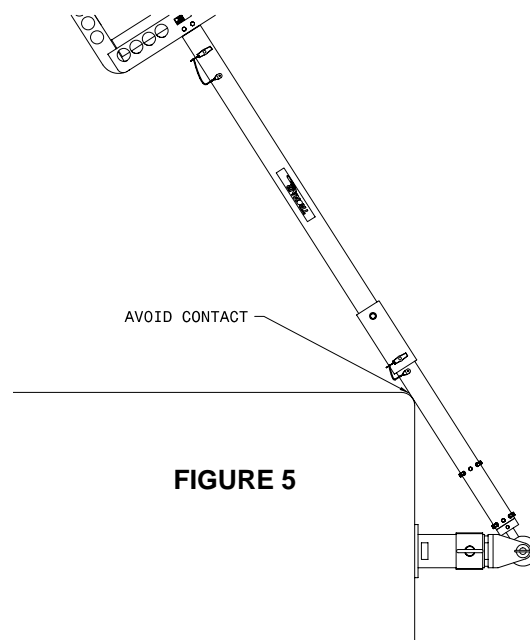
3.2 Usage Procedure continued on following page.

### 3.2 USAGE PROCEDURE (continued)

#### 3.2.4 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 degrees.

**Reference Figure 5**



### 4.0 TRAINING

#### 4.1 TRAINING REQUIREMENTS

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

#### 4.2 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.

#### 4.3 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.*

### 5.0 PROVISION OF SPARES

#### 5.1 SPARE PARTS

When ordering Replacement Parts/Kits & Spare Parts, please specify Model & Serial Number of your product.

Spare parts may be obtained from the manufacturer:

**TRONAIR, INC.**  
1740 Eber Road  
Holland, Ohio 43528-9794 USA

Telephone: 419-866-6301  
Fax: 419-867-0634  
E-mail: sales@tronair.com

#### 5.2 PARTS LIST AND ILLUSTRATIONS

Reference the following pages for ordering information of Replacement Parts and Kits

### 6.0 IN-SERVICE SUPPORT

Contact Tronair for technical services and information.



## **7.0 GUARANTEES**

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:

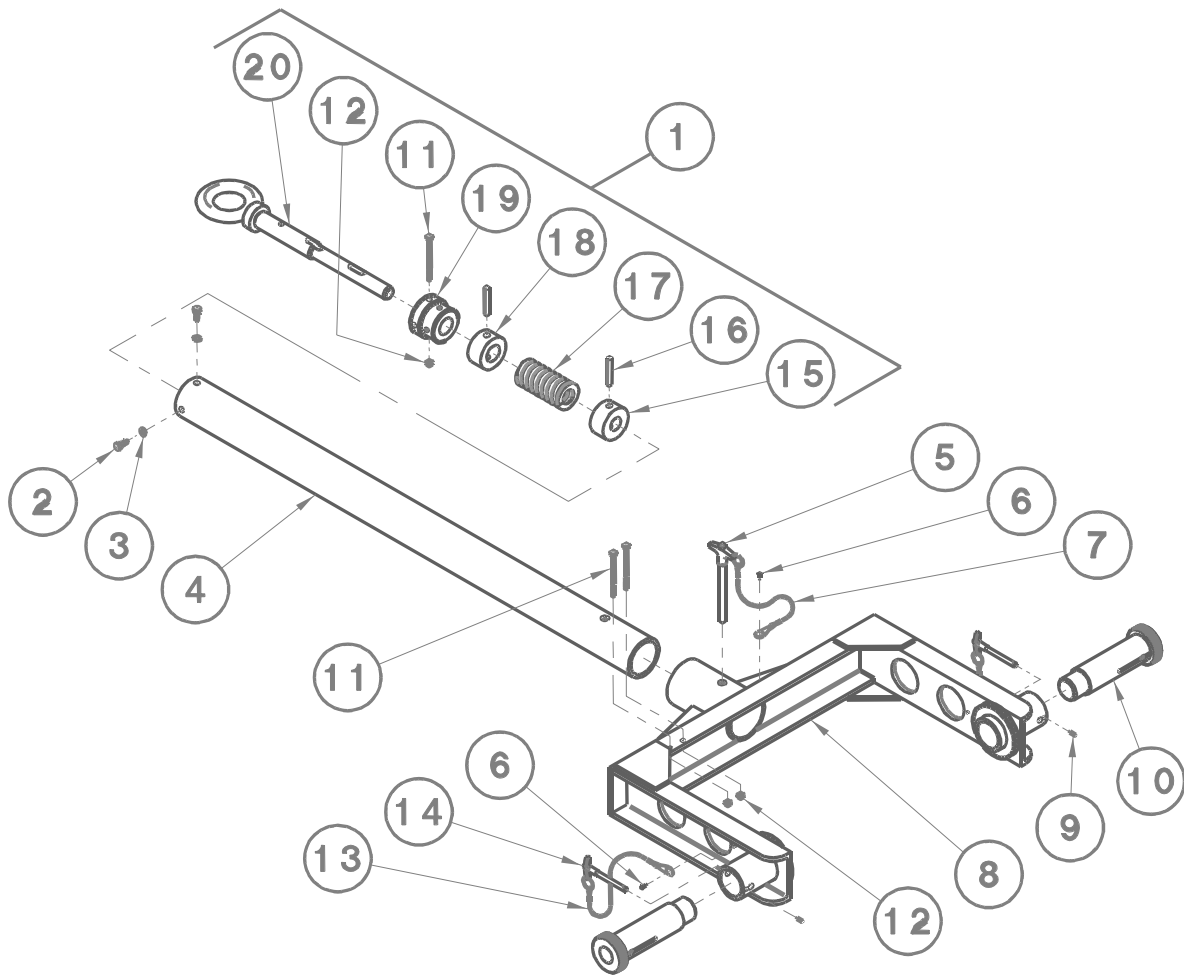
- a) Parts required for normal maintenance
- b) Parts covered by a component manufacturers warranty
- c) Replacement parts have a 90-day warranty from date of shipment

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.

## PARTS LIST



### REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY
▶ 1	Z-0049-04	Shock/Shear Assembly (01-1253-0000)	1
▶ 1	Z-0049-05	Shock/Shear Assembly (01A1253-0000)	1
4	Z-3093-01	Tube Weldment	1
8	Z-3091-01	Head Weldment	1
9	G-1300-19040	Roll Pin 3/16" diameter x 1/2" long	2
10	R-1612	Sliding Pin	2
15	B-224-01	Guide Sleeve	<i>Not Sold Separately</i>
18	B-224-02	Guide Sleeve	<i>Not Sold Separately</i>
19	B-222-05	End Cap	<i>Not Sold Separately</i>

▶ Bolt Replacement Kit (K-1548) should also be ordered along with this part.

*All other parts available in Replacement Kits only*

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**REPLACEMENT KITS**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
	<b>K-1337</b>	<b>Ball Lok-T Pin, Replacement Kit; consists of:</b>	
14 .....	G-1310-0525 .....	Ball Lok-T Pin, 5/16" diameter x 2.5 Grip .....	1
6 .....	G-1351-04 .....	Pop Rivet .....	1
7 .....	H-1026*07.0 .....	Assembly, Lanyard .....	1
	<b>K-1548</b>	<b>Bolt, Replacement Kit; consists of:</b>	
2 .....	G-1420-106006 .....	Bolt, Hex Head, Grade 8, 5/16-18 x 3/4" diameter .....	4
3 .....	G-1251-106012 .....	Lockwasher, 5/16 Regular .....	4
	<b>K-1882</b>	<b>Ball Lok-T Pin, Replacement Kit; consists of:</b>	
5 .....	G-1310-0845 .....	Ball Lok-T Pin, 1/2" diameter x 4.5 Grip .....	1
6 .....	G-1351-04 .....	Pop Rivet .....	1
7 .....	H-1421*12.0 .....	Assembly, Lanyard .....	1
	<b>K-2327</b>	<b>Shear Pin Replacement Kit; consists of:</b>	
11 .....	G-1420-105034 .....	Bolt, Hex Head, Grade 8, 1/4-20 x 3-1/2" long .....	1
12 .....	G-1202-1050 .....	Stopnut, 1/4-20 Elastic .....	1





## **APPENDIX - I**

### **Declaration of Conformity**





## DECLARATION of CONFORMITY

Portable Towbar  
01-1253-0000  
01A1253-0000

Relevant provisions complied with by the machinery:  
98/37/EC

Relevant standards complied with by the machinery:

DIN EN 292-1  
DIN EN 292-2

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

A handwritten signature in black ink, reading "David L. Kidd". The signature is written in a cursive style and is positioned above a horizontal line.

Quality Assurance Representative

### ***Tronair, Inc.***

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