



OPERATION & SERVICE MANUAL

**Model: 01-1208-9011
F-16 Custom Towbar**

07/2023 - Rev. 04

**For Spare Parts, Operations & Service Manuals or Service Needs
Scan the QR code or visit [Tronair.com/aftermarket](https://www.tronair.com/aftermarket)**



REVISION	DATE	TEXT AFFECTED
03	01/2023	Major revision
04	07/2023	Modified Parts List

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

This product cannot 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 01-1208-9011 custom Towbar is designed for towing Lockheed F-16 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
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1.4 SPECIFICATIONS

Aircraft Application	Lockheed F-16 Aircraft
Maximum Aircraft Gross Weight.....	42,300 lbs (19.2 metric tons)
Length	241.375 in (613 cm) From eyebolt centerline to aircraft attachment centerline
Width.....	22.7 in (57.7 cm)
Height.....	24.75 in (62.9 cm) From ground to aircraft attachment centerline.
Weight.....	135 lbs (61 kg)
Finish.....	Powder Coat

2.0 SAFETY INFORMATION

2.1 USAGE AND SAFETY INFORMATION

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.

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 unit.

3.2 TRAINING PROGRAM

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

3.3 OPERATOR TRAINING

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

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

4.0 OPERATION

4.2 PRELIMINARY CHECKLIST

4.2.1 Towbar

- Check towing eye mounting bolts. Ensure fasteners are not loose or missing.
- Check towing eye for bending, excessive wear and/or deformity.

4.2.2 Towing Head

- Check welds between head tube and connector tube for cracks.
- Check fastener connection of towing head to towbar. Ensure the connection is not loose or missing.

4.3 USAGE PROCEDURE

4.3.1 Aircraft Attachment

- Ensure the sliding pin is locked in place using the ball lok-T pin.



CAUTION!

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

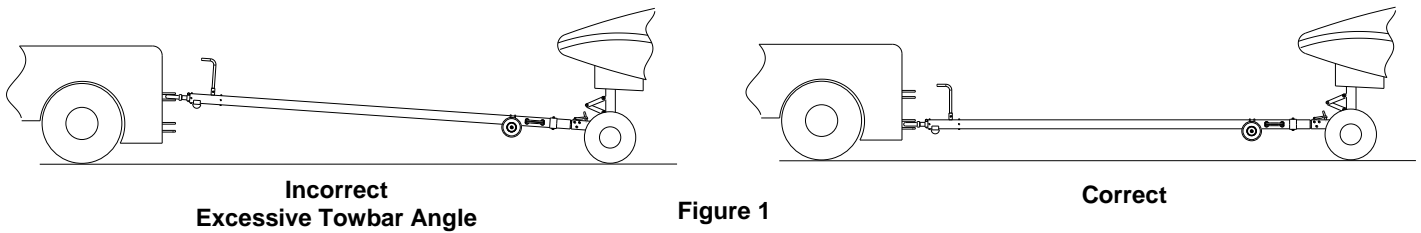
4.3.2 Tug Attachment

- 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.



4.3.3 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.**

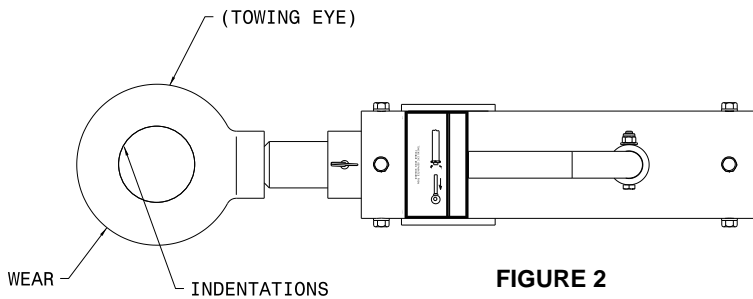


FIGURE 2

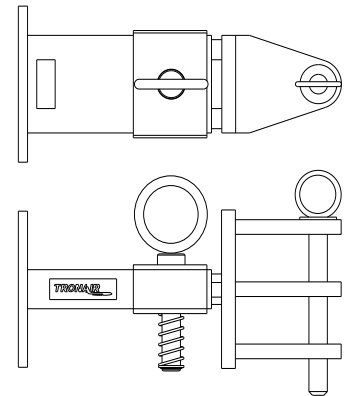


FIGURE 3

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.**

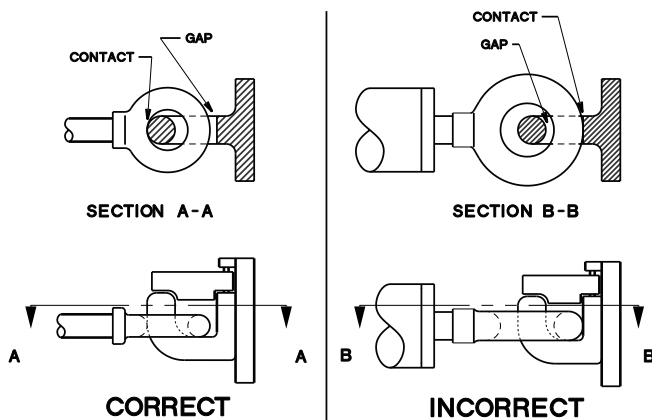


FIGURE 4

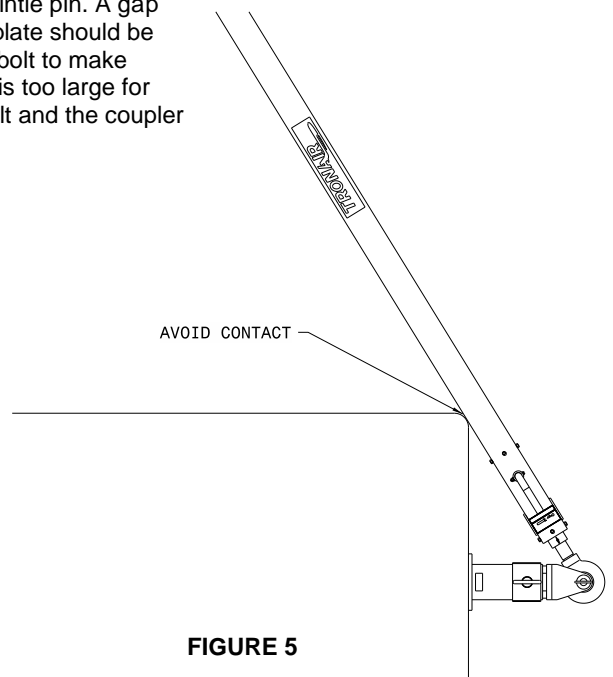


FIGURE 5

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.

4.3.4 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.

1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

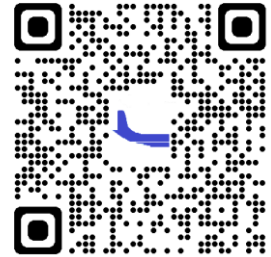
Telephone: (419) 866-6301 or 800-426-6301

Fax: (419) 867-0634

E-mail: sales@tronair.com

Website: www.tronair.com

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



5.2 RECOMMENDED SPARE PARTS LISTS

Recommended Spares to be kept on hand:

G-1310-0620 ...Ball Lok-T Pin Replacement

G-1310-1260 ...Ball Lok-T Pin Replacement

K-2537.....Kit, Replacement Bolts

K-3414.....Kit, Wheel Replacement (Single)

K-3416.....Kit, Wheel Bracket 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:

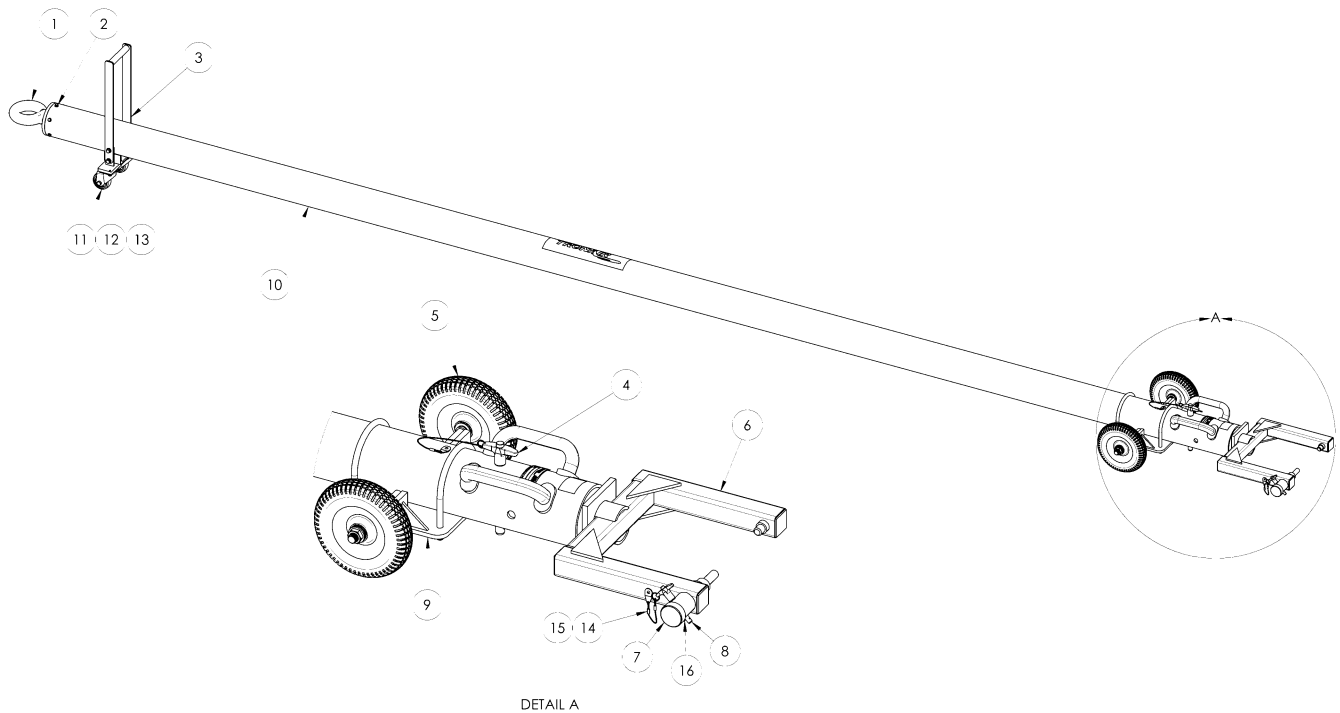
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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
◆ 1	Z-5292	ASSEMBLY, EYEBOLT	1
6	Z-5359-02	WELDMENT, HEAD (NOT SOLD SEPARATELY)	1
7	R-2050	PIN, SLIDING	1
8	G-1310-0620	PIN, BALL LOK-T	1
10	Z-4943-02	WELDMENT, TOWBAR (NOT SOLD SEPARATELY)	1
> 11	U-1000	CASTER	2
12	G-1100-106005	BOLT, HEX HEAD, GRADE 5, 5/16 – 18 X 5/8" LONG	4
13	G-1251-1060R	LOCKWASHER, 5/16 REGULAR	4
14	H-1026*07.0	LANYARD	1
15	G-1351-04	RIVET	1
16	G-1300-19040	ROLL PIN	1
2	K-2537	KIT, BOLT REPLACEMENT ; <i>consists of:</i>	
	G-1420-106012	BOLT, HEX HEAD, GRADE 8, 5/16-18 X 1-1/4" LONG	6
	G-1251-1060R	LOCKWASHER, 5/16 REGULAR	6
3	K-3417	KIT, HANDLE REPLACEMENT ; <i>consists of:</i>	
	G-1100-107004	BOLT, HEX HEAD, GRADE 5, 3/8-16 X 1/2" LONG	4
	G-1251-1070R	LOCKWASHER, 3/8 REGULAR	4
	Z-4945-02	WELDMENT, HANDLE	1
4	K-3413	KIT, BALL LOK-T PIN REPLACEMENT ; <i>consists of:</i>	
	G-1310-1260	PIN, BALL LOK-T	1
	G-1351-04	RIVET, 1/8 OPEN-END STEEL	1
	H-1026*12.0	ASSEMBLY, LANYARD	1

- ◆ **K-2537 (Item 2) Bolt Replacement Kit should also be ordered along with this part.**
- > **Use Loctite 271 or equivalent during reassembly.**

Parts List

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

Item	Part Number	Description	Qty
5	K-3414	KIT, WHEEL (SINGLE) REPLACEMENT; <i>consists of:</i>	
	G-1203-1115	JAMNUT, 3/4-16 ELASTIC	1
	G-1250-1110N	FLATWASHER, 3/4 NARROW	1
	U-1096	WHEEL, PNEUMATIC TIRE	1
	TR-1585	SPACER, WHEEL	1
9	K-3416	KIT, WHEEL BRACKET REPLACEMENT; <i>consists of:</i>	
	G-1009-35	U-BOLT, 1/2-13	2
	G-1202-1090	STOPNUT, 1/2-13 ELASTIC	4
	G-1250-1090N	FLATWASHER, 1/2 NARROW	4
	Z-4949-02	WELDMENT, WHEEL MOUNT	1