

Model: 01-1193-0010
BAe ATP
Custom Towbar



11/2007 – Rev. 08

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REVISION	DATE	TEXT AFFECTED
06	10/2002	Major Revision
07	06/2007	Added CE Marking
08	11/2007	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 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 DESCRIPTION

The Tronair Model 01-1193-0010 Custom Towbar is designed for towing the BAe ATP Aircraft. The custom towbar includes an aircraft attachment by machined hooks on the towing head to the nose landing gear tow pin. There is a handle and eyebolt at the end of the towbar for towing. The eyebolt incorporates a compression spring to dampen shock loads during towing.

1.1 SPECIFICATIONS

Aircraft Application: British Aerospace ATP

Dimensions:

Length: 137.44 in (349.1 cm) From eyebolt centerline to aircraft attachment centerline

Width: 22.88 in (58.12 cm)

Height: 20.62 in (56.2 cm)

Ground to Aircraft Height: 7.56 in (19.2 cm)

Weight: 125 lbs (56.7 kg)

Finish: Tronair Blue Powder Coat

Maximum Aircraft Gross Weight: 49,800 lbs (22.59 metric tons)

Towing Head: Zinc Plating

Shear Rating: Axial: 11,030 lbs (5,003.12 kg)

Radial: 38,160 in-lbs (4,311.5 N-m)

2.0 SAFETY INFORMATION

2.1 GENERAL

The Tronair Model 01-1193-0010 Custom Towbar is used for moving the BAe ATP 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! 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! 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.

3.0 OPERATION

3.1 PRELIMINARY CHECKLIST

3.1.1 Towbar

- Check for dents, cracks or signs of damage.
- Check weld between towbar and handles for cracks.
- Check operation and security of casters.
- Check air pressure in tires; inflate/deflate as required.
- Check all fastener connections to ensure they are not loose or missing.

3.1.2 Towing Head

- Check welds between side rails and head rail for cracks:
- Check welds between head plate, 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 hooks on towing head for bending or excessive wear.
- Check pivot bolt. Ensure connection is secure.
- Check axle locking mechanism, ensure operation of lock lever and cam. Inspect for excessive wear or damage. Replace if necessary.

3.2 USAGE PROCEDURE

3.2.1 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 head is locked in place using axle lock lever.

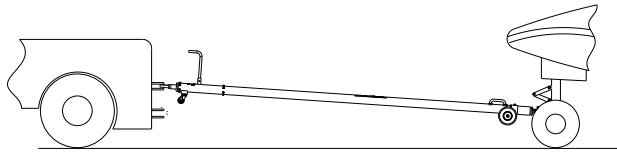
3.2.2 Tug Attachment



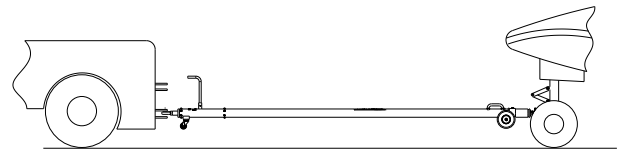
CAUTION!

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.



**Incorrect
Excessive Towbar Angle**



Correct

FIGURE 1

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 lunette eye. Indicators of binding are wear on outside diameter of the eyebolt and indentation on the inside diameter of the eyebolt. Reference Figure 3.

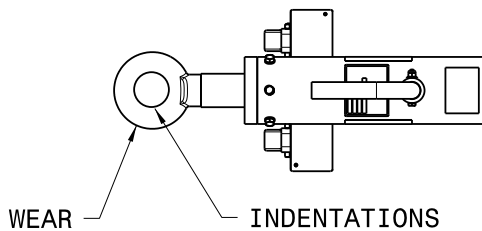
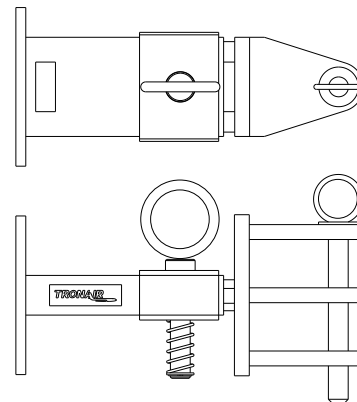


FIGURE 3



**FIGURE 4
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 4.

3.2.3 Couplers (continued)

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 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 (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.

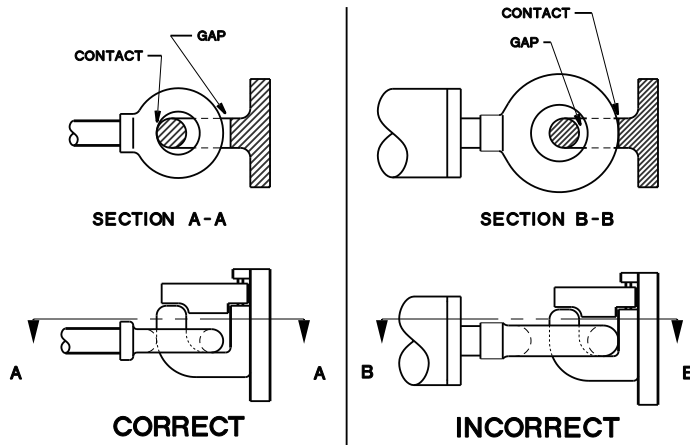


FIGURE 5

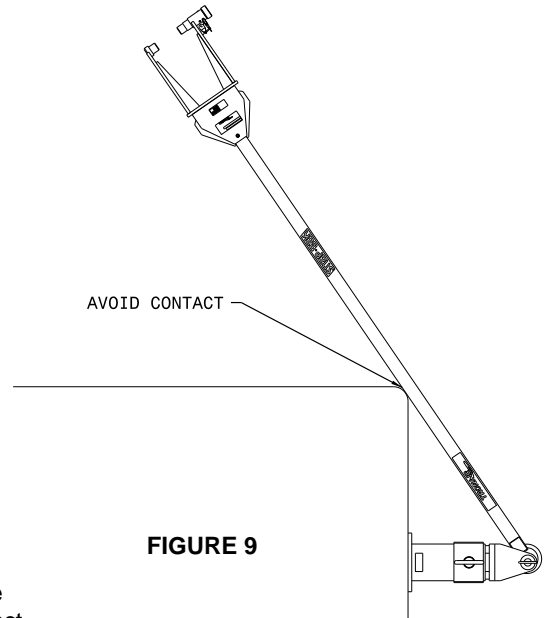


FIGURE 9

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°. **Reference Figure 9.**

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

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 PARTS LIST

Reference the following pages for Replacement Parts and Kits available.

Recommended Spares to be kept on hand:

- U-1000Caster, Swivel
- K-1112.....Kit, Wheel (Single) Replacement
- K-1726.....Kit, Bushing Replacement

6.0 IN-SERVICE SUPPORT

Contact Tronair for technical services and information.

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:

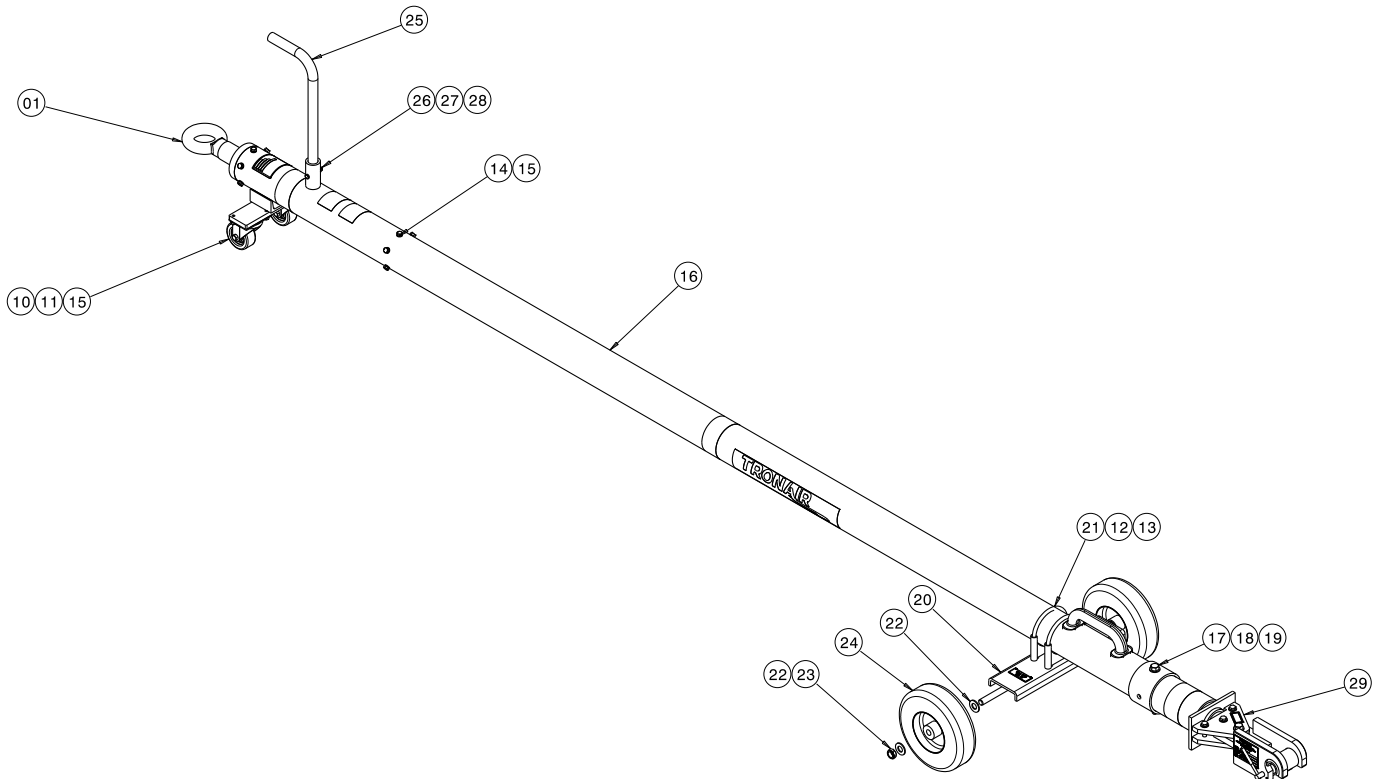
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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-3999	Assembly, Shock	2

Item 1 consists of items 2-9 (not shown), which are not sold separately. **Due to the high compression used in assembly, this Shock Assembly should be returned to Tronair for repair. Discuss with your Salesperson.**

10	U-1000	Caster, Swivel	2
11	G-1100-106005	Bolt, HH, GR 5, 5/16 – 18 x ½" LG	4
12	G-1202-1070	Stopnut, 3/8 - 16 Elastic	4
13	G-1250-1070N	Flatwasher, 3/8 Narrow	4
14	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16- 18 x ¾" long	12
15	G-1251-1060R	Lockwasher, 5/16 Regular	16
16	Z-6514-05-01	Machining, Towbar	1
17	G-1100-109544	Bolt, HH, GR 5, ½ - 20 x 4 ½" LG	1
18	G-1203-1095	Jamnut, ½ - 20 Elastic	1
19	G-1250-1090N	Flatwasher, ½ Narrow	2
20	Z-5643-01	Weldment, Axle Mounting	1
21	H-1537-08	Clamp Muffler	2
22	G-1203-1105	Jamnut, 5/8 - 18 Elastic	2
23	G-1250-1100N	Flatwasher, 5/8 – 18 Narrow	4
24	U-1024	Wheel, Pneumatic Tire	2
25	TR-1857-01	Tube, Handle	1
26	G-1100-105520	Bolt, HH, GR 5, ¼ - 28 x 2" LG	1
27	G-1250-1050N	Flatwasher, ¼ Narrow	1
28	G-1202-1055	Stopnut, ¼ - 28 Elastic	1
29	X-1031	Assembly, Head	Ref

Parts List

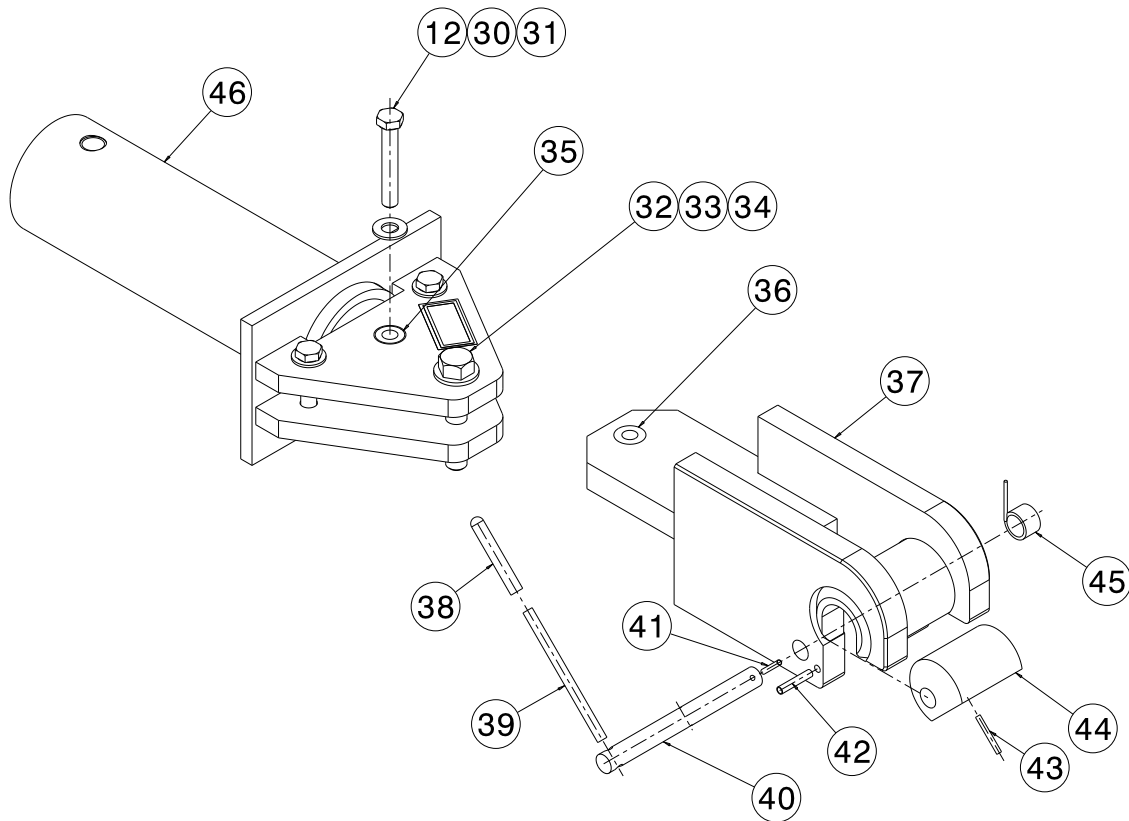
Item	Part Number	Description	Qty
	K-2905	Kit, Shock Replacement; consists of:	
1	Z-3999	Assembly, Shock	1
14	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16- 18 x ¾" long	12
15	G-1251-1060R	Lockwasher, 5/16 Regular	16

Item 1 consists of items 2-9 (not shown), which are not sold separately. Due to the high compression used in assembly, this Shock Assembly should be returned to Tronair for repair. Discuss with your Salesperson.

	K-1112	Kit, Wheel (Single) Replacement; consists of:	
22	G-1203-1105	Jamnut, 5/8 - 18 Elastic	2
23	G-1250-1100N	Flatwasher, 5/8 – 18 Narrow	4
24	U-1024	Wheel, Pneumatic Tire	2
	K-3961	Kit, Axle Mounting; consists of:	
20	Z-5643-01	Weldment, Axle Mounting	1
22	G-1203-1105	Jamnut, 5/8 - 18 Elastic	2
23	G-1250-1100N	Flatwasher, 5/8 – 18 Narrow	4

Parts List

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



Item	Part Number	Description	Qty
	X-1031	Assembly, Head; consists of:	
12	G-1250-1070N	Flatwasher, 3/8 Narrow	3
21	G-1100-109544	Bolt, Hex Head, Grade 5, 1/2-20 x 5 1/2" long	1
30	G-1203-1075	Jamnut, 3/8- 24 Elastic	3
39	G-1100-6-22A	Bolt, AN Steel	3
32	G-1100-109526	Bolt, HH, GR 5, 1/2 - 20 x 2 3/4" LG	1
33	G-1250-1090N	Flatwasher, 1/2 Narrow	2
34	G-1203-1095	Jamnut, 1/2 - 20 Elastic	1
35	H-1725-06	Bushing, Headless	2
36	H-1725-07	Bushing, Headless	1
37	Z-2006-01	Weldment, Head	1
38	H-1205	Cover, Red Handle	1
39	G-1300-25340	Pin, Roll, 1/4" diameter x 3 1/2" long	1
40	R-1279	Shaft, Locking	1
41	G-1300-13060	Pin, Roll, 1/8" diameter x 3/4" long	1
42	G-1300-19100	Pin, Roll, 3/16" diameter x 1" long	1
43	G-1300-13100	Pin, Roll, 1/8" diameter x 1" long	1
44	R-1280	Cam	1
45	B-056	Spring	1
46	Z-2008-01	Maching, Shear Plate	1

Parts List

Item	Part Number	Description	Qty
	K-1722	Kit, Axle Locking Mechanism Replacement; consists of:	
38	H-1205	Cover, Red Handle	1
39	G-1300-25340	Pin, Roll, ¼" diameter x 3½" long	1
40	R-1279	Shaft, Locking	1
41	G-1300-13060	Pin, Roll, 1/8" diameter x ¾" long	1
42	G-1300-19100	Pin, Roll, 3/16" diameter x 1" long	1
43	G-1300-13100	Pin, Roll, 1/8" diameter x 1" long	1
44	R-1280	Cam	1
45	B-056	Spring	1
	K-1725	Kit, Head Assembly Replacement; consists of:	
21	G-1100-109544	Bolt, Hex Head, Grade 5, ½-20 x 5½" long	1
22	G-1203-1095	Jamnut, ½-20 Elastic	1
23	G-1250-1090N	Flatwasher, ½ Narrow	2
36	X-1031	Assembly, Head	1
	K-1726	Kit, Replacement Bushing; consists of:	
35	H-1725-06	Bushing, Headless	2
36	H-1725-07	Bushing, Headless	1