



OPERATION & SERVICE MANUAL

**Models: 01-1185-0006
01A1185-0006
Portable Towbar
Sikorsky S-61, S-70
UH-60 & AH-64**



03/2007 – Rev. 04

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



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REVISION	DATE	TEXT AFFECTED
03	04/2005	Added Aircrafts UH-60 and AH-64 throughout
04	03/2007	Added CE marking

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 DESCRIPTION.....	1
1.1 SPECIFICATIONS	1
1.2 FEATURES.....	1
2.0 SAFETY INFORMATION.....	1
2.1 GENERAL.....	1
3.0 TRAINING.....	2
3.1 TRAINING REQUIREMENTS	2
3.2 TRAINING PROGRAM	2
3.3 OPERATOR TRAINING.....	2
4.0 OPERATION.....	2
4.1 PRELIMINARY CHECKLIST.....	2
4.1.1 Towbar.....	2
4.1.2 Towing Head.....	2
4.2 USAGE PROCEDURE.....	2
4.2.1 Aircraft Attachment.....	2
4.2.2 Tug Attachment.....	2
4.2.3 Couplers.....	3
4.2.4 Towing Operation.....	3
5.0 PROVISION OF SPARES.....	4
5.1 SOURCE OF SPARE PARTS.....	4
5.2 RECOMMENDED SPARE PARTS LISTS	4
6.0 IN-SERVICE SUPPORT.....	4
7.0 GUARANTEES/LIMITATION OF LIABILITY	4

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

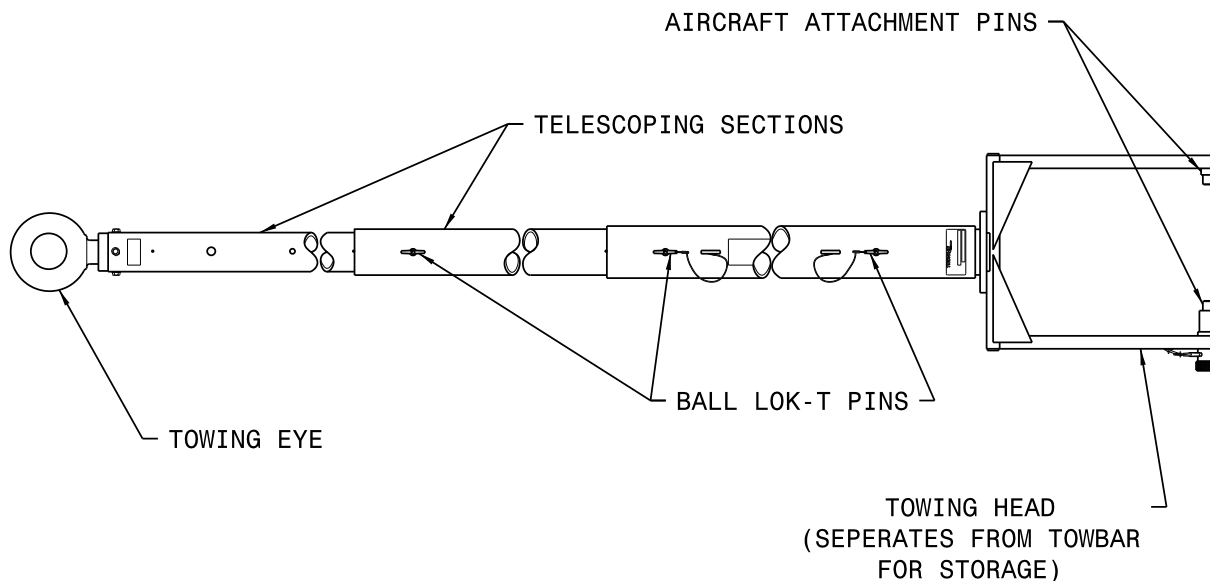
The Tronair Model 01-1185-0006 and 01A1185-0006 Portable Towbars are lightweight, carry-on towbars for Sikorsky S-61, S-70, UH-60 & AH-64 Aircraft manufactured by Sikorsky Aircraft.

The portable towbar includes a telescoping towbar tube for collapsible storage. The aircraft attachment is by machined pins on the towing head to the nose landing gear axle. There is an eyebolt at the end of the towbar for towing.

1.1 SPECIFICATIONS

Aircraft Application	Sikorsky S-61, S-70, UH-60 & AH-64 Aircraft manufactured by Sikorsky Aircraft
Maximum Aircraft Gross Weight.....	25,000 lbs (11.34 Metric tons)
Length	139 in (353.1 cm) From eyebolt centerline to aircraft attachment centerline when fully extended 59 in (149.9 cm) Overall collapsed (towbar only) 27.9 in (70.9 cm) Overall towbar head (separate from towbar)
Width	16.9 in (42.9 cm)
Height.....	5.25 in (13.3 cm)
Towbar Material	Aluminum
Towing Head Material	Steel

1.2 FEATURES



2.0 SAFETY INFORMATION

2.1 GENERAL

The Tronair Model 01A1185-0006 Portable Towbar is used for moving Sikorsky S-61, S-70, UH-60 & AH-64 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 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 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 lunette for bending, excessive wear and deformity.
- Check tube section ball lok-T pins. Ensure ball lok-T pins are securely attached to the lanyard tabs. Ensure ball lok-T pins are not missing.

4.1.2 Towing Head

Check welds between side rails and head rail for cracks:

- Check welds between side rails and stationary pin. Also sliding pin wear sleeve for cracks.
- Check sliding pin ball lok-T pin. Ensure ball lok-T pin is securely attached to the side rail via its lanyard. Ensure ball lok-T pin is not missing.
- Check sliding pin for bending or excessive wear. Ensure sliding pin slides freely.
- Check sliding pin roll pin. Ensure roll pin is not loose or missing.

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

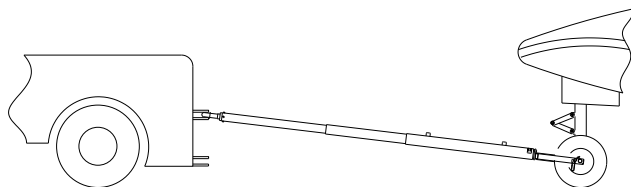
4.2.2 Tug Attachment

CAUTION!

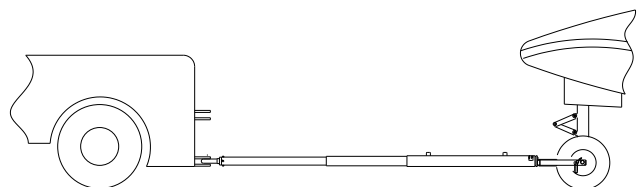


Damage to the towbar or aircraft can result from an excessive towbar angle during towing operations. Reference Figure 2.

- 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 Angle



Correct Angle

FIGURE 2

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 3.**

Tronair recommends a telecoupler pintle hook arrangement. This

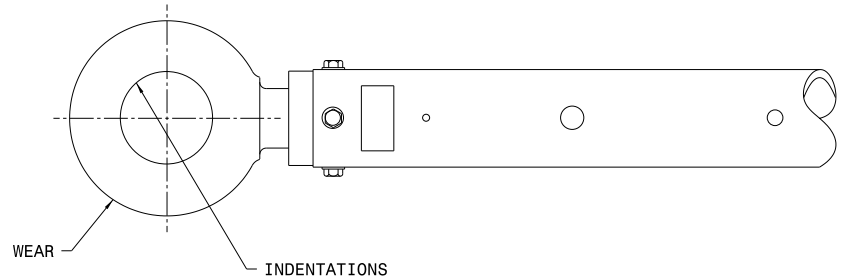


FIGURE 3

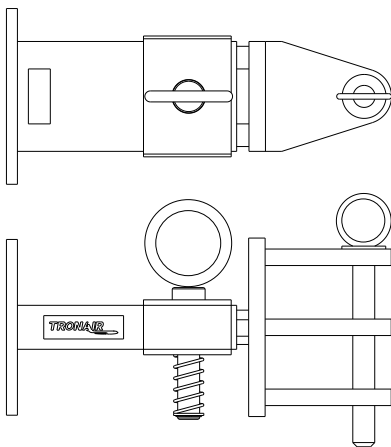


FIGURE 4

01-1950-5000 Standard Telecoupler

arrangement is known to eliminate binding. Tronair offers a Standard Telecoupler, Model Number 01-1950-5000, for use on tugs. **Reference Figure 4.**

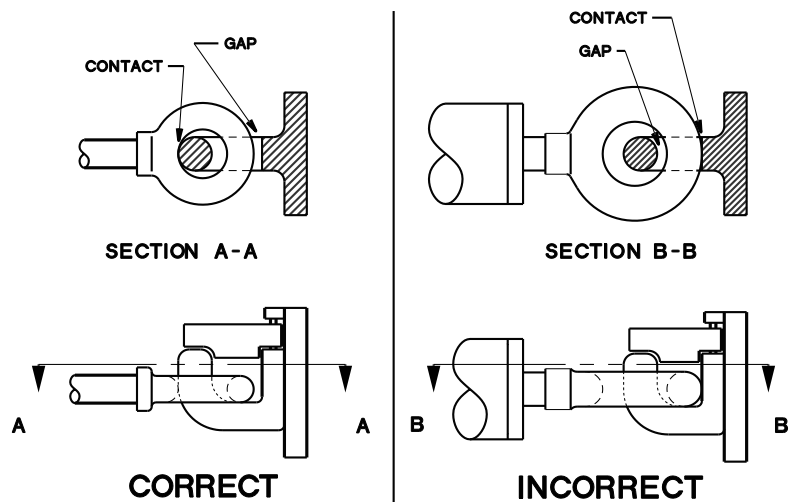


FIGURE 5

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.

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 6.**

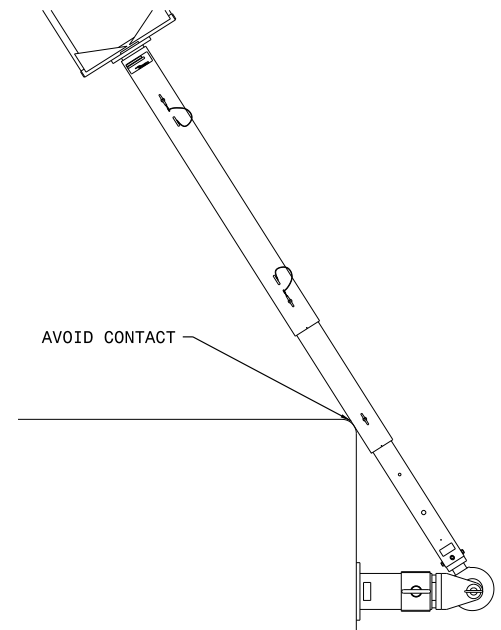


FIGURE 6

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**

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

K-1401..... Kit, Repl. Ball Lok-T Pin Replacement

K-1548..... Kit, Repl. Bolt (Set) Replacement

K-1461..... Kit, Repl. Eyebolt 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:

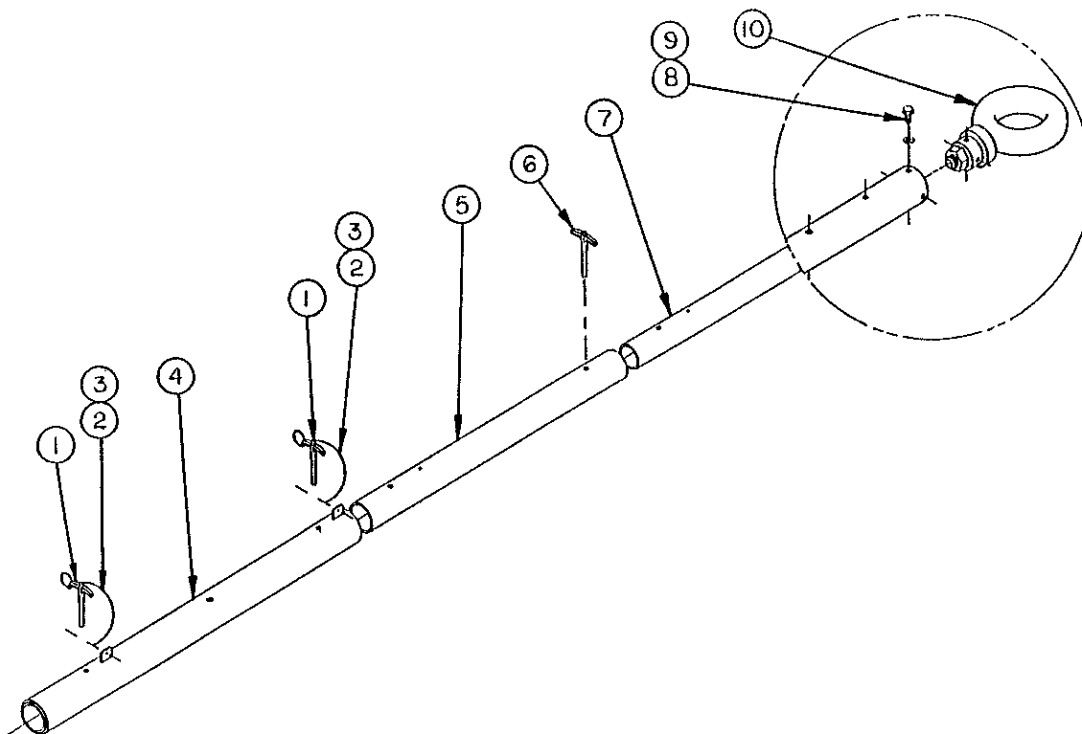
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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

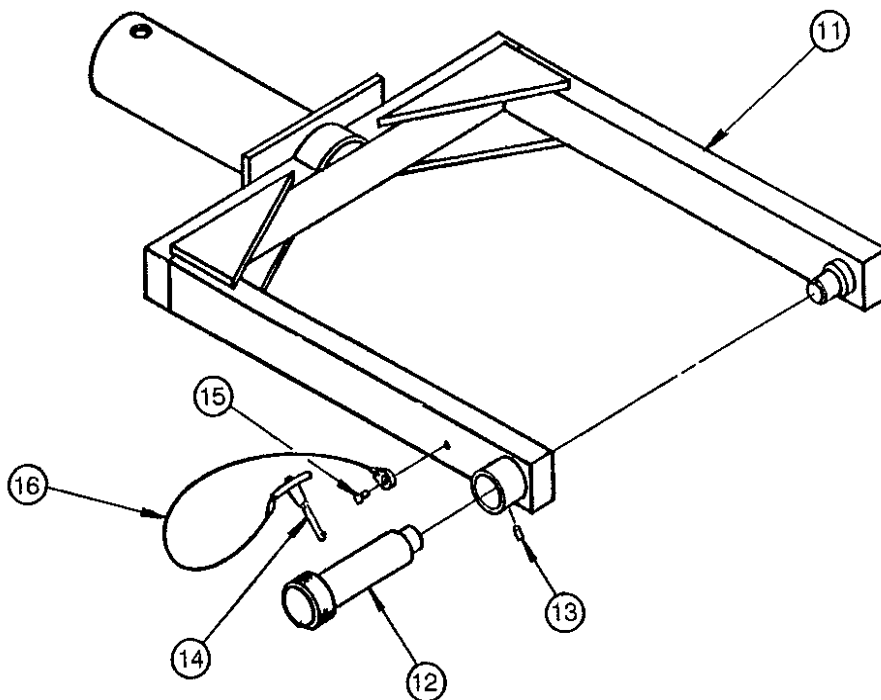
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
1	G-1310-0845	Pin, Ball Lok-T, 1/2" diameter x 4.5" Grip	1
2	G-1351-04	Rivet, 1/8 Open-End Steel	1
3	H-1026*07.0	Assembly, Lanyard	1
4	Z-1536-01	Assembly, Outer Tube	1
5	TR-1148-01	Tube, Middle	1
6	G-1310-0835	Pin, Ball Lok-T, 1/2" diameter x 4.5" Grip	1
7	TR-1389-01	Tube, Inner	1
8	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16-18 x 3/4" long	4
9	G-1251-1060R	Lockwasher, 5/16 Regular	4
	K-1401	Ball Lok-T Pin Assembly; consists of:	
1	G-1310-0845	Pin, Ball Lok-T, 1/2" diameter x 4.5" Grip	1
2	G-1351-04	Rivet, 1/8 Open-End Steel	1
3	H-1026*07.0	Assembly, Lanyard	1
	K-1548	Bolt/Washer Assembly; consists of:	
8	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16-18 x 3/4" long	4
9	G-1251-1060R	Lockwasher, 5/16 Regular	4
01-1185-0006			
	K-1461	Eyebolt Assembly; consists of:	
8	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16-18 x 3/4" long	4
9	G-1251-1060R	Lockwasher, 5/16 Regular	4
10	Z-1537	Weldment, Eyebolt	1
01A1185-0006			
	K-2290	Eyebolt Assembly; consists of:	
8	G-1420-106006	Bolt, Hex Head, Grade 8, 5/16-18 x 3/4" long	4
9	G-1251-1060R	Lockwasher, 5/16 Regular	4
10	Z-2902	Weldment, Eyebolt	1

Parts List

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



Item	Part Number	Description	Qty
		Sliding Pin Assembly; consists of:	
12	R-1482	Pin, Sliding	1
13	G-1300-19040	Pin, Roll, 3/16" diameter x 1/2" long	1
	K-2143	Head Assembly; consists of:	
11	X-1019	Assembly, Head (Includes Items 12 to 16)	1
12	R-1482	Pin, Sliding	1
13	G-1300-19040	Pin, Roll, 3/16" diameter x 1/2" long	1
14	G-1310-0415	Pin, Ball Lok-T Pin, 1/4" diameter x 1.5" Grip	1
15	G-1351-04	Rivet, 1/8 Open-End Steel	1
16	H-1026*07.0	Assembly, Lanyard	1
N/S	V-1003	Label, Serial Number	1



APPENDIX I

Declaration of Conformity



EU Declaration of Conformity

Model Number(s) 01-1185-0006, 01A1185-0006

Product Type/Name: Custom Towbar

Serial Number(s): Enter serial number(s)

Declaration: Tronair has assessed the equipment described above against the Essential Health and Safety Requirements of one or more Directives. Based on this assessment, the equipment described above is deemed to comply with the directive(s) listed below.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Directives: European Machinery Directive 2006/42/EC

Standards: EN ISO 12100:2011 Safety of machinery – General principles for design – Risk assessment and risk reduction

Markings:



The technical documentation for the machinery is available from:

Mr. Joel Nunn
34 Epirus Road, SW6 7UH, London, UK
Email: jnunn@tronair.com

Location of Issue: Tronair, 1 Air Cargo Parkway East, Swanton, OH 43558

Certificate: EU_DoC_01-1185-0006

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

Patrick Finch
Quality Assurance Representative

Enter a date

Date



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