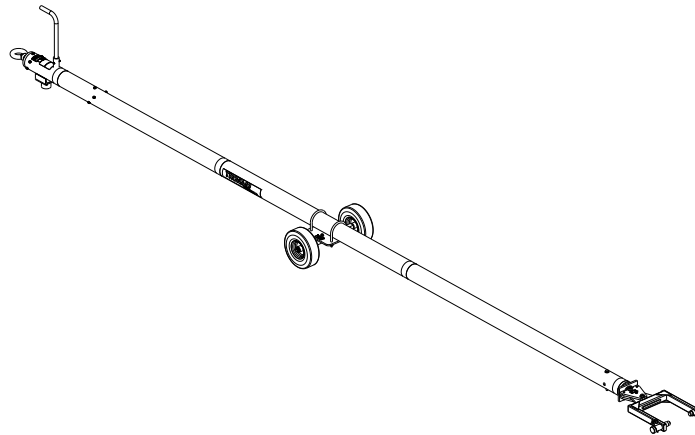




OPERATION & SERVICE MANUAL



Model: 01-1364-0000
Lear 45 Towbar



02/2023 – Rev. 02

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



Tronair, Inc.
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Swanton, OH 43558

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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 01-1364-0000 is a custom towbar for use on the Lear 45 aircraft.

The towbar includes pneumatic tires. There is an eyebolt at the towing end of the towbar which incorporates a spring to dampen shock loads.

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

Application.....Designed for use on Lear 45 aircraft
Maximum Aircraft Gross Weight.....75,000 lbs (34 Metric ton)
Length261 in (662.9 cm) from eyebolt centerline to center of Towbar pins
Width8 9/16 in (21.7 cm)
Height.....22 1/16 in (56 cm) from ground to towbar centerline
Weight.....181 lbs (82.1 kg)
Finish.....Blue Powder Coat
MaterialAluminum

2.0 SAFETY INFORMATION

2.1 GENERAL

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.

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 towing eye mounting bolts. Ensure the fasteners are not loose or missing.
- Check towing eye for bending, excessive wear and deformity.
- Check the ball lok-T pin. Ensure ball lok-T pin is securely attached to towbar via its lanyard. Ensure ball lok-T pin is not missing.



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.*

4.2 USAGE PROCEDURE

4.2.1 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.

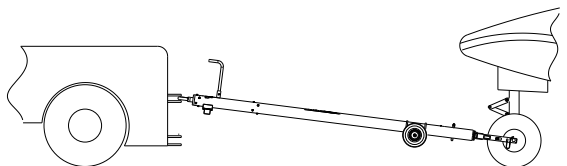
4.2.2 Tug Attachment



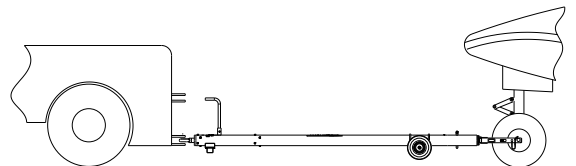
CAUTION!

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.



**Incorrect
Excessive Towbar Angle**



Correct

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
- Vertical Side Swing Latch
- Standard Duty 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.**

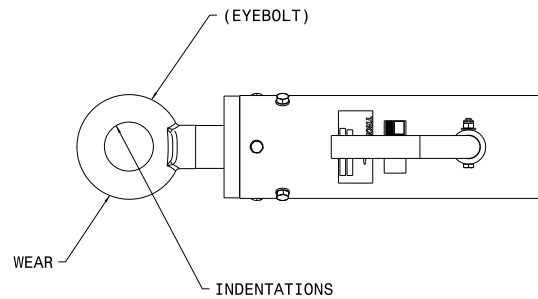


FIGURE 2

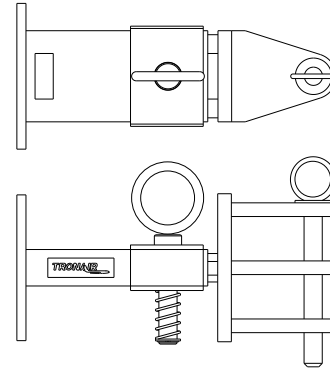


FIGURE 3
01-1950-5000 Standard Telecoupler

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.**

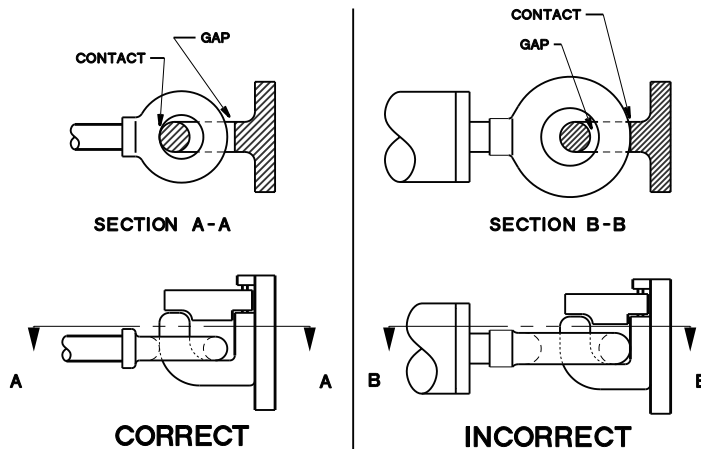


FIGURE 4

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

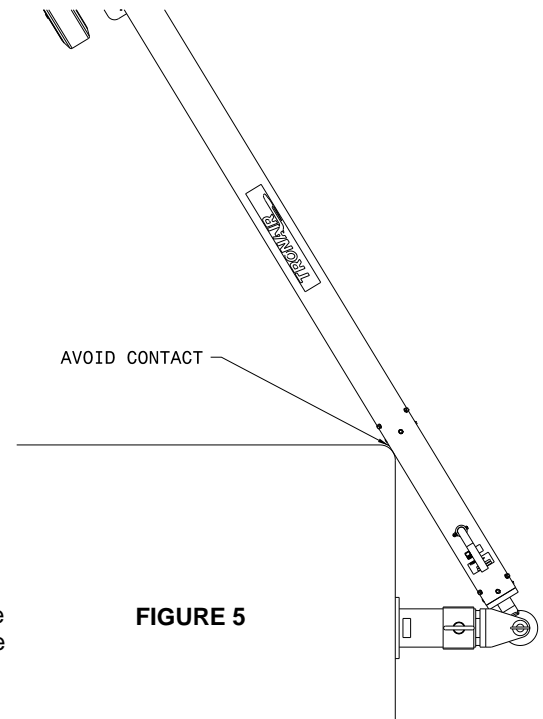


FIGURE 5

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.

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.

Recommended Spares to be kept on hand:

K-1550.....Kit, Wheel (Single) Replacement

K-2537.....Kit, Bolt Replacement

K-2663.....Kit, Wheel Towbar 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:

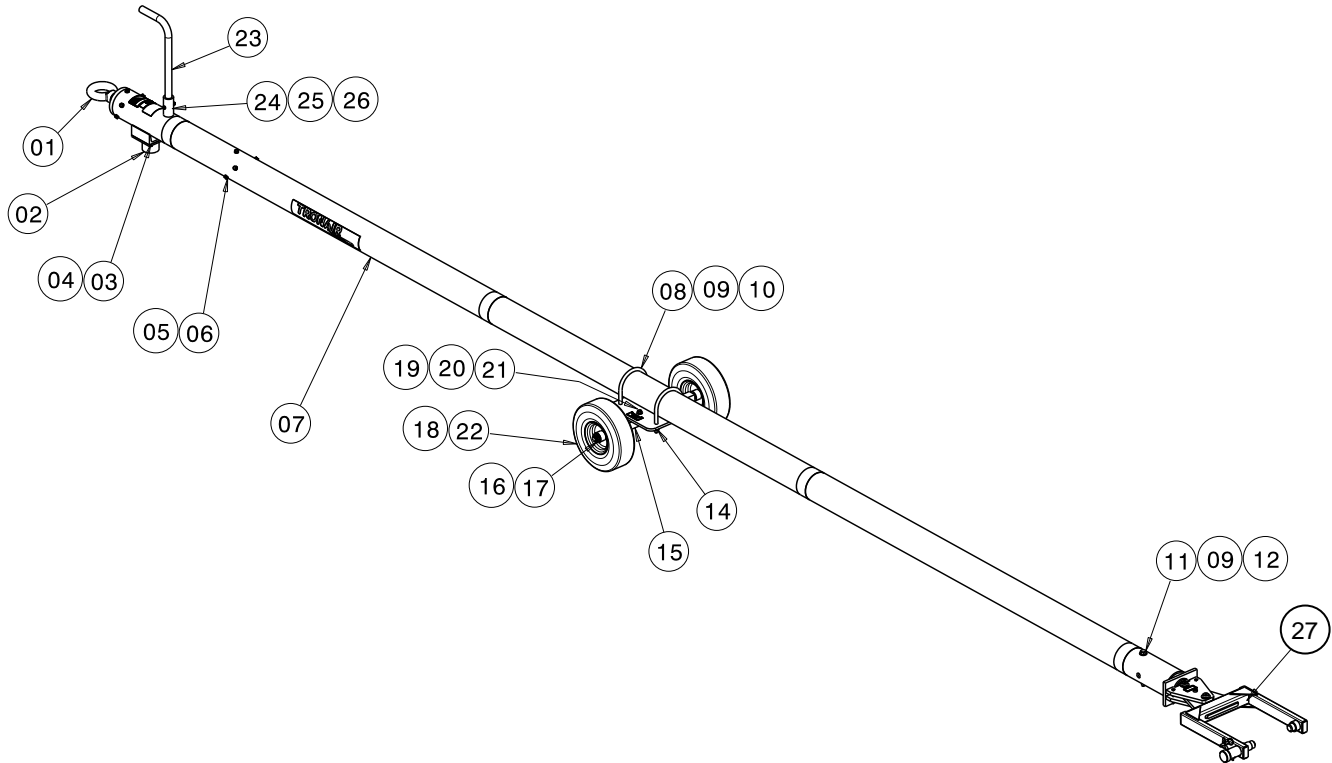
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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-4753	Assembly, Shock	1

Item 1 consists of items which are not sold separately. Due to the high compression used in assembly, it is suggested this Shock Assembly be returned to Tronair for repair. Discuss with your Salesperson.

11	G-1100-109554	Bolt, Hex Head, Grade 5	1
12	G-1203-1095	Jamnut, ½ - 20 Elastic	1
23	TR-1857-01	Tube, Handle	1
24	G-1100-105520	Bolt, Hex Head, Grade 5, ¼-28 x 2" long	1
25	G-1202-1055	Stopnut, ¼-28 Elastic	1
26	G-1250-1050N	Flatwasher, ¼ Narrow	1
27	X-1084	Assembly, Head	1
	K-1145	Kit, Replacement Moveable Wheel Bracket; consists of:	
19	G-1100-107514	Bolt, Hex Head, Grade 5, ⅜ -24 x 1 ½" long	4
20	G-1250-1070N	Flatwasher, ⅜ Narrow	4
21	G-1202-1075	Stopnut, ⅜ -24 Elastic	4
	K-1550	Kit, Replacement Wheel (Single); consists of:	
16	G-1203-1115	Jamnut, ¾-16 Elastic	1
17	G-1250-1110N	Flatwasher, ¾ Narrow	1
18	U-1027	Wheel, Pneumatic Tire	1
22	TR-1585	Spacer, Wheel	1
	K-2537	Kit, Replacement Bolts; consists of:	
5	G-1420-106012	Bolt, Hex Head, Grade 8, 5/16 -18 x 1¼" long	6
6	G-1251-1060R	Lockwasher, 5/16" Regular	6

Parts List

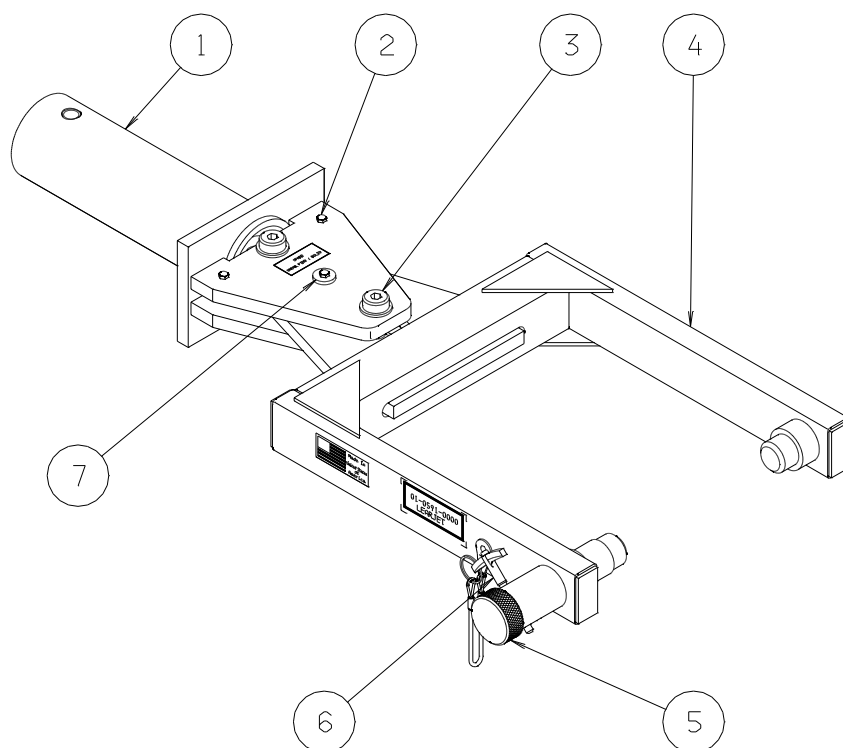
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
	K-2663	Kit, Replacement Wheel Towbar Bracket; consists of:	
8	G-1009-38	U-bolt	2
9	G-1250-1090N	Flatwasher, ½ Narrow	4
10	G-1202-1090	Stopnut, ¼ -13 Elastic	4
14	J-2599-01-01	Plate, Wheel-Towbar Mounting	1
	K-2664	Kit, Replacement Axle; consists of:	
15	Z-3579-01-01	Weldment, Axle	1
19	G-1100-107514	Bolt, Hex Head, Grade 5, 3/8 -24 x 1 ½" long	2
20	G-1250-1070N	Flatwasher, 3/8 Narrow	4
21	G-1202-1075	Stopnut, 3/8 -24 Elastic	2
22	TR-1585	Spacer, Wheel	2
	K-3274	Kit, Replacement Shock Assembly; consists of:	
1	Z-4753	Assembly, Shock	1
▶ 5	G-1420-106012	Bolt, Hex Head, Grade 8, 5/16 -18 x 1 ¼" long	12
6	G-1251-1060R	Lockwasher, 5/16" Regular	12
	K-3734	Kit, Replacement Skid; consists of:	
2	Z-5611	Assembly, Skid	1
3	G-1100-105006	Bolt, Hex Head, Grade 5, ¼-20 x ¾" long	4
4	G-1251-1050R	Lockwasher, ¼ Regular	4
	K-4615	Kit, Replacement Towbar Tube; consists of:	
7	Z-5756-01	Machining, Towbar	1

▶ 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
1	Z-3819-01	Machining, Shear Plate	1
4	Z-3818-01	Replacement, Head	1
2	K-1433	Kit, Shear Bolt; consists of:	
	G-1110-3-22A	Bolt, AN Steel, #10-32	1
	G-1202-1035	Stopnut, #10-32 Elastic	1
3	K-3157	Kit, Shoulder Bolt Replacement; consists of:	
	G-1202-1090	Stopnut, ½-13 Elastic	1
	G-1155-109216	Screw, 5/8" diameter Socket Head Shoulder.	1
	G-1250-1100N	Flatwasher, 5/8 Narrow	2
5	K-2777	Kit, Sliding Pin Replacement; consists of:	
	R-1790	Pin, Sliding	1
	G-1300-19040	Pin, 3/16" diameter x ½" long	1
6	K-1308	Kit, Ball-Lok Pin Replacement; consists of:	
	G-1310-0415	Pin, ¼" diameter x 1.5" long	1
	G-1351-04	Rivet, 1/8" diameter	1
	H-1026*07.0	Assembly, Lanyard	1
7	K-1608	Kit, Bushing Replacement; consists of:	
	H-1725-10	Bushing, Headless	1
	H-1724-02	Bushing, Head Press Fit	2



APPENDIX I

Declaration of Conformity



EU Declaration of Conformity

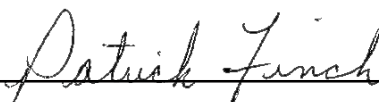
The design, development and manufacture is in accordance with European Community guidelines

Multi-Head Towbar
01-1364-0000

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:



Quality Assurance Representative



Tronair, Inc.
1 Air Cargo Pkwy East
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