



**Model: 01-1287-9000
Portable Towbar
F-16**

**Parts List
With Illustration**

04/2004 - Rev. 04

Tronair, Inc.

*1740 Eber Road
Holland, Ohio 43528-9794
USA*

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

Fax: (419) 867-0634

Web Site: www.tronair.com E-mail: sales@tronair.com

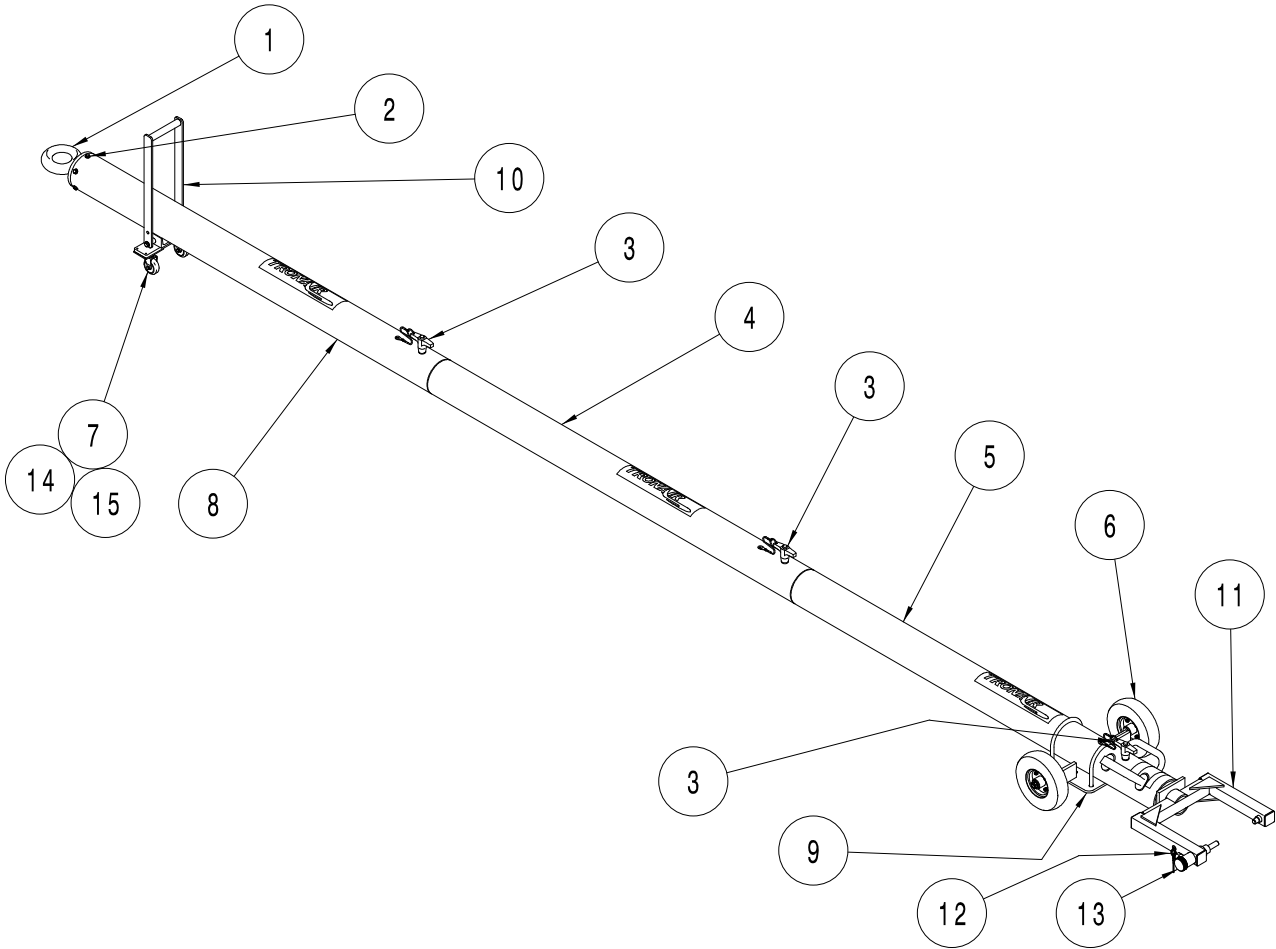
**Model: 01-1287-9000
F-16 Portable Towbar**

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.

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	Weldment, Eyebolt	1
4	Z-4952-02	Towbar, Middle	1
5	Z-4953-02	Towbar, Head End	1
> 7	U-1000	Caster	2
8	Z-4951-02	Towbar, Eye End	1
11	Z-4942-02	Weldment, Head	Not Sold Separately
13	R-1430	Pin, Sliding	1
14	G-1100-106005	Bolt, Hex Head, Grade 5, 5/16 – 18 x 5/8" Long	4
15	G-1251-1060R	Lockwasher, 5/16 Regular	4

◆ **K-2537 (Item 2) Bolt Replacement Kit should also be ordered along with this part.**

All other parts available in Replacement Kits only.



04/2004 - Rev. 04

Model: 01-1287-9000
F-16 Portable Towbar

Parts List

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

ITEM	PART NUMBER	DESCRIPTION	QTY
2	K-2537	Kit, Bolt Replacement; consists of:	
	.....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-3413	Kit, Ball Lok-T Pin Replacement; consists of:	
	.....G-1310-1260	Pin, Ball Lok-T.....	1
	.....G-1351-04.....	Rivet, Pop	1
	.....H-1026*12.0.....	Assembly, Lanyard.....	1
6	K-3414	Kit, Wheel (Single) Replacement; consists of:	
	.....G-1203-1115	Jamnut, 3/4-16 Elastic.....	1
	.....G-1250-1110N.....	Flatwasher, 3/4 Narrow	1
	.....U-1096	Wheel, Pneumatic Tire	1
9	K-3416	Kit, Wheel Bracket Replacement; consists of:	
	.....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
10	K-3557	Kit, Handle Replacement; consists of:	
	.....G-1100-107016	Bolt, Hex Head, Grade 5, 3/8-16 x 1-3/4" long	2
	.....G-1250-1070N.....	Flatwasher, 3/8 Narrow	2
	.....TR377-03*001.31	Spacer	2
	.....TR-1783-02.....	Spacer	2
	.....Z-4945-02	Weldment, Handle.....	1
12	K-2660	Kit, Handle Replacement; consists of:	
	.....G-1351-18.....	Rivet, 3/16-End Steel	1
	.....H-2443*07.0.....	Assembly, Lanyard.....	1
	.....Z-2626.....	Assembly, Handle	1



APPENDIX I

INS-1582 Towbar Usage Instructions

11/2003 – Rev. 03

Tronair, Inc.

1740 Eber Road
Holland, Ohio 43528-9794
USA

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

Fax: (419) 867-0634

Web Site: www.tronair.com E-mail: sales@tronair.com

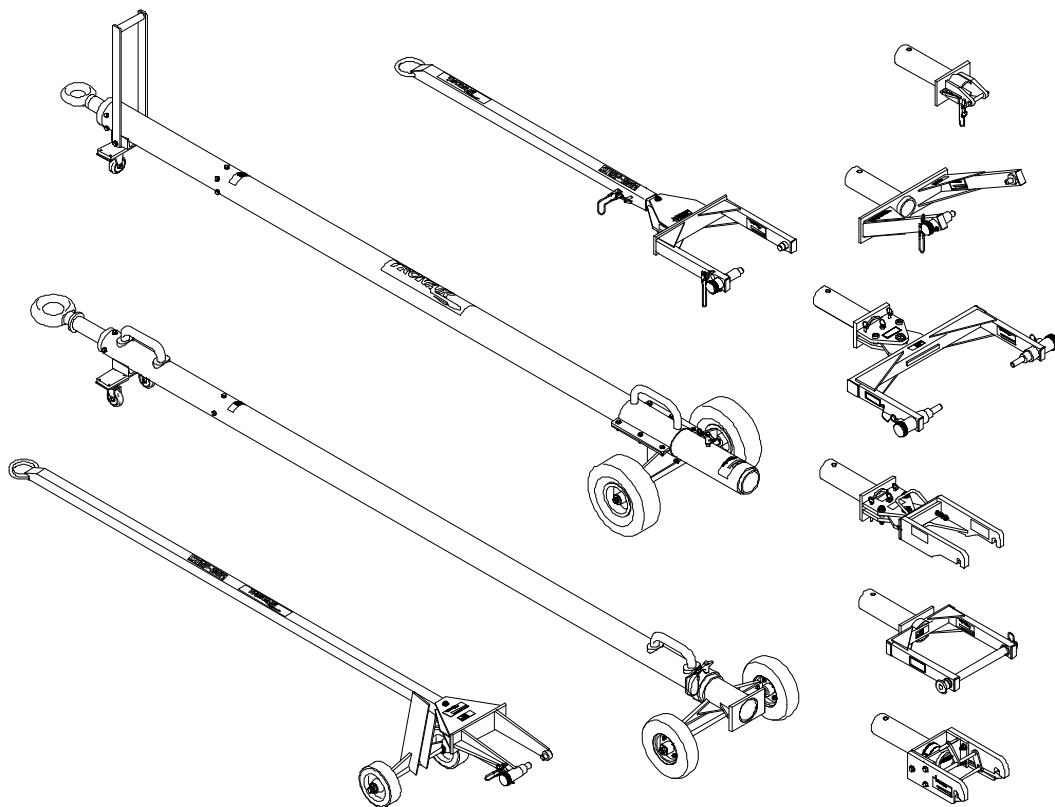
REVISION
03

DATE
11/25/03

TEXT AFFECTED
pg 1 Warning added

INS-1582
Towbar Usage Instructions

Your Tronair towbar is engineered and built to the highest standards of quality and workmanship. Under normal usage and with minimal maintenance this towbar will provide exceptional service.



WARNING! A damaged or bent towbar should not be used, but should be repaired or replaced.

Using a damaged or bent towbar can result in aircraft or equipment damage and possible personal injury.



WARNING! Towbars With Hydraulic Lifting Mechanism:

The hydraulic lift mechanism (on those towbars so equipped) should only be used to raise the towbar to facilitate connection to the aircraft or tug.

Release any hydraulic pressure when towing aircraft or moving towbar.



WARNING! Towbars Should be Used with Category 1 Tugs:

Towbars should be used with **category 1 tugs** only in accordance with AHM 995 "Functiona1 specifications for an aircraft tractor." Using a category 2 or 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

TRONAIR

11/2003 – Rev. 03

INS-1582
Towbar Usage Instructions

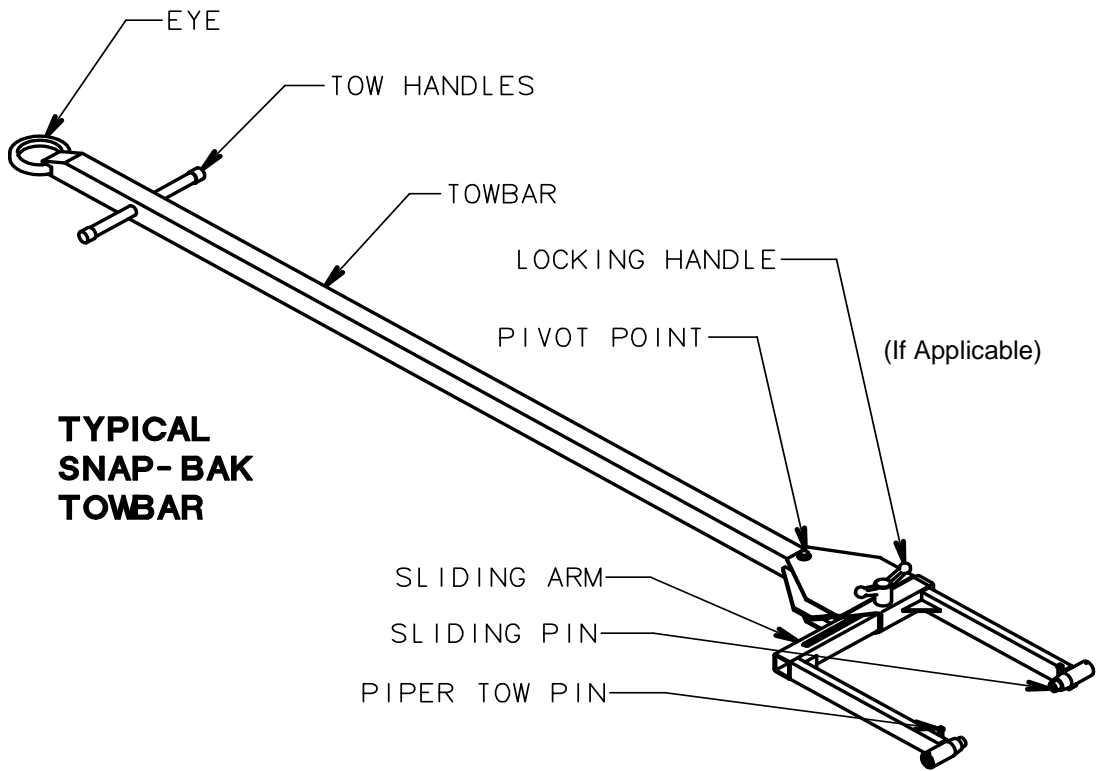


FIGURE 2

NOTE: Typical towbar. Your towbar and/or head may not have all of the features shown

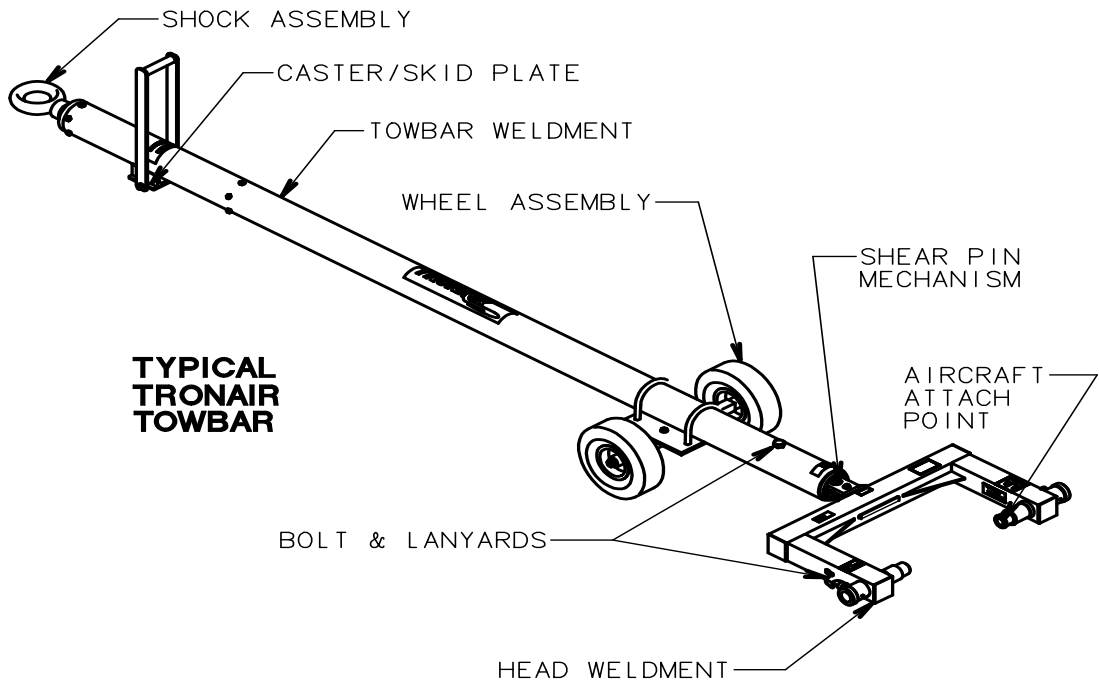


FIGURE 1

NOTE: Typical towbar. Your towbar and/or head may not have all of the features shown

TRONAIR

11/2003 – Rev. 03

INS-1582
Towbar Usage Instructions

BEFORE USING TOWBAR, COMPLETE THE FOLLOWING CHECKLISTS:

Reference *Figures 1 & 2* on Page 2.

TOWBAR:

Area of Towbar:

Shock Assembly:

Check:

1. Weld between eye and tube (Are there cracks?)
2. Bolts attaching shock to towbar (Loose, missing, stripped, etc.)
3. Eyebolt (Is it bent, worn down, or deformed?)

Towbar Weldment:

1. Tube (Is it bent, dented, bowed, and/or have cracks?)
2. Weld at head end (Are there any cracks in the welds?)
3. Head hole (Is it elongated? Is the ball lok pin attached to the towbar?)

Caster/Skid Plate:

1. Casters (Are they missing or bent?)
2. Handles (Are they broken, bent, or missing?)
3. Bolts (Are they missing or loose?)

Wheel Assembly:

1. Wheels (Are they flat? Is the rim bent?)
2. Axle (Is it bent?)

HEAD:

Area of Head:

Bolts & Lanyards:

Check:

1. Are they loose, missing, or stripped? Are they attached to the head?

Weldment:

1. Welds holding side rails to head rail (Are there any cracks?)
2. Shear Plates (Are there cracks in welds? Are the plates bent?)

Shear Pin Mechanism:

1. Shear Pin (Is it bent or deformed? Are there spares?)
2. Bushings (Are they cracked, chipped, secure?)
3. Pivot Bolt (Are the nuts tight? Are there washers present?)

Area of Head:

Aircraft Attach Point:

Check:

1. Sliding Pin(s) (Are they bent, cracked? Do they slide freely?)
2. Locking Pin (Are they loose? Do they hold the sliding pins securely?)
3. Wear sleeves (Are the welds cracked?)
4. Roll Pins(s) (Are they rusted? Are they missing? Are they loose?)
5. Ball Lok Pin (Is it attached to head? Is it rusted? Is it bent?)
6. Axle Adapter (Is it bent? Is the slot deformed? Are bolts tight?)

SNAP-BAK AND UNIVERSAL TOWBARS:

Area of Towbar:

Towbar:

Check:

1. Spring (Has it taken a set? Loose in the assembly?)
2. Eyebolt (Is it bent, worn down, or deformed?)
3. Tube (Is it bent, dented, bowed, or cracked? Is it rusted badly?)
4. Welds (Are there any cracks in the welds?)
5. Head Hole (Is it elongated? Is the bolt attached correctly?)

Function:

1. Does it snap back?

Head:

1. Pivot Bolt (Is it present along with washers? Is the nut tight? Is it rusted?)
2. Roll Pin(s) (Are they rusted? Are they missing? Are they loose?)
3. Weldment (Is it deformed, bent, or rusted beyond reasonable use?)
4. Lanyard (Is it attached to weldment?)
5. Sliding Pin(s) (Are they bent, cracked or rusted? Does it slide?)

TRONAIR

11/2003 – Rev. 03

USAGE PROCEDURE

Aircraft Attachment:

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

Ensure sliding pins are locked in place before towing aircraft.

Tug Attachment:

Damage to the towbar or aircraft can result from an excessive towbar angle during towing operations (Reference to **Figure 3**). If aircraft with both high and low tow points are encountered, consider using two pintle hooks, as shown in **Figures 4 & 5**, so that the towbar is as level as possible during towing. Also pintle hook height should prevent contact of towbar wheels with the ground, during towing. (Reference **Figure 5**).

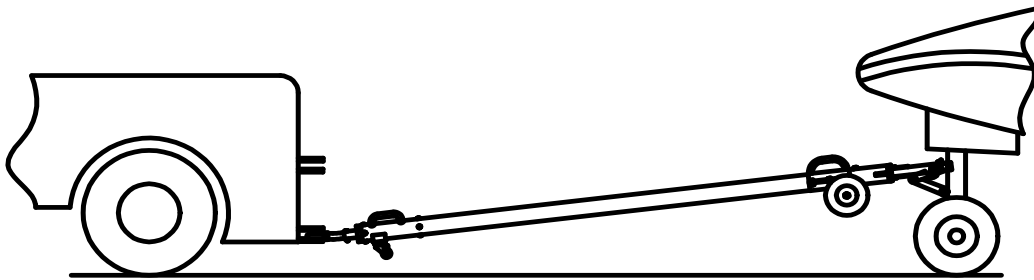


FIGURE 3 - INCORRECT

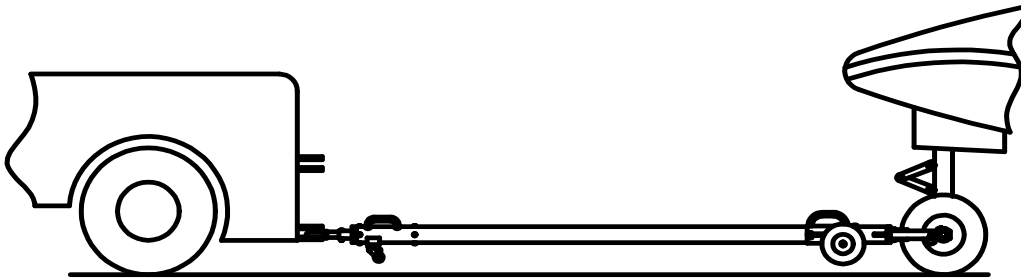


FIGURE 4 - CORRECT

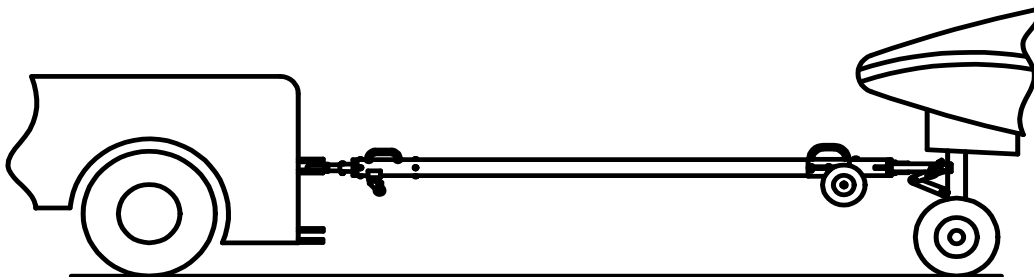


FIGURE 5 - CORRECT

USAGE PROCEDURE *(continued)*

Type Of Coupler:

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

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

These types of couplers are known to cause binding and failure in the eyebolt. Indicators of eyebolt binding are wear on the outside diameter of the eye and indentations on the inside diameter. The failure will begin at the head of the eye. See **Figure 6**.

Figure 7 illustrates a pintle hook arrangement that is known to eliminate eyebolt binding. Tronair recommends using this type of hook on your tug.

Eyebolt and Pintle Pin Size:

Damage to the towbar 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. See **Figure 8**.

To ensure proper towing and pushing, check to make sure that the pintle pin diameter is not too large for the eyebolt's inside diameter. Approximately a 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.

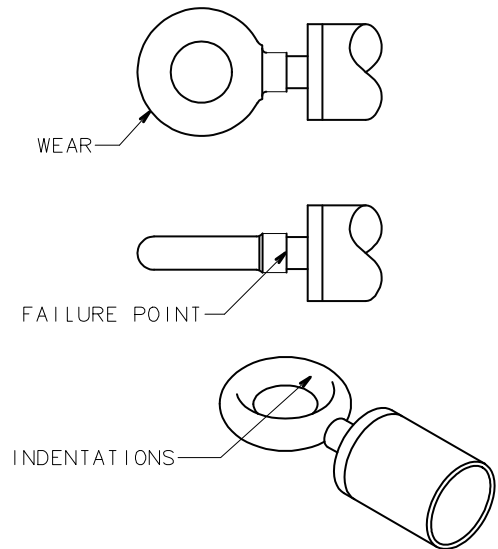


FIGURE 6

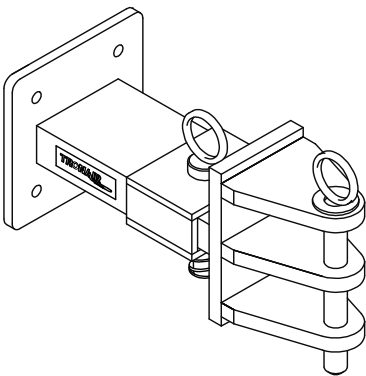


FIGURE 7

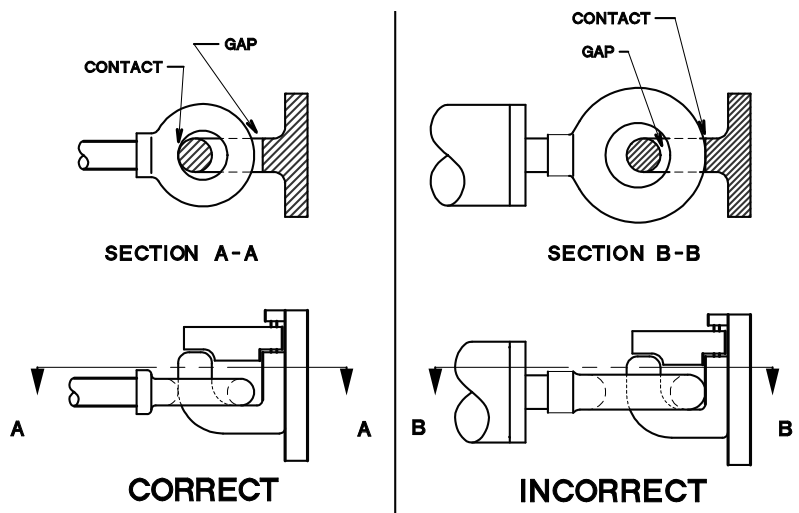


FIGURE 8

Usage procedure continued on following page

USAGE PROCEDURE *(continued)*

Towing Angle:

Damage to the towbar or aircraft can result from pushing an aircraft while maintaining too sharp of an angle between the tug and the towbar. Contact between the towbar weldment and tug must be avoided. It is recommended that the angle between the tug and towbar not exceed 90°. See **Figure 9**.

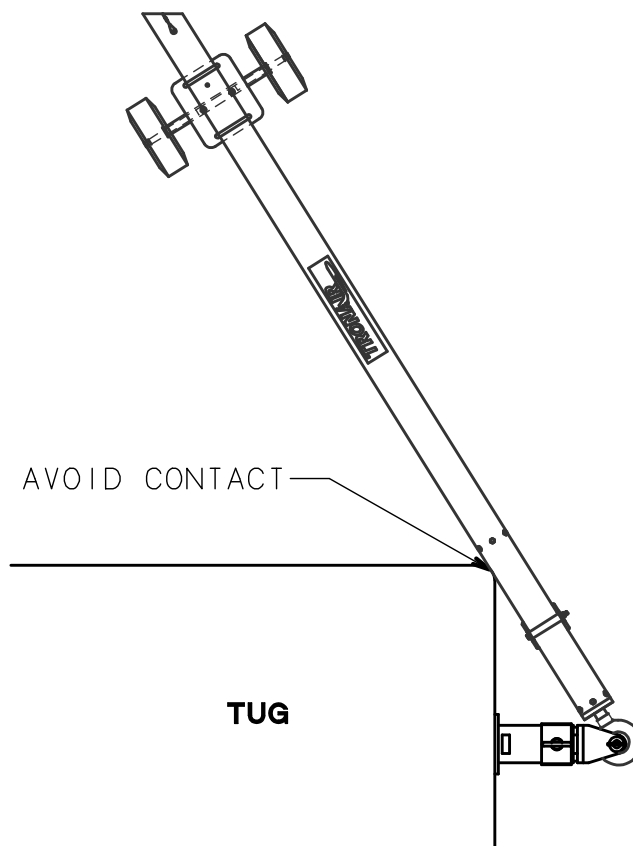


FIGURE 9