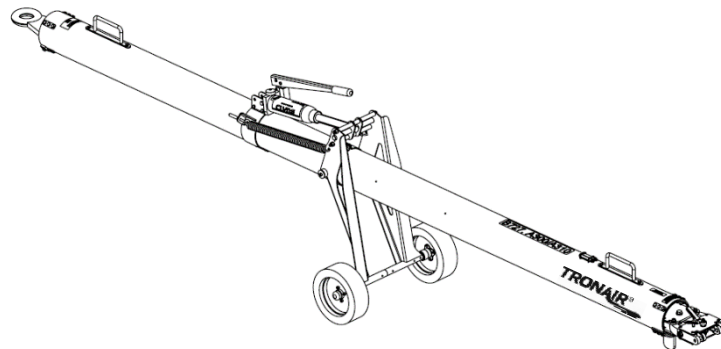




OPERATION & SERVICE MANUAL



**Model: A004190D
Airbus A300/310
Boeing 727 Towbar**

10/2022 – Rev. 01

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



Tronair, Inc.
1 Air Cargo Pkwy East
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

This towbar is designed for towing Airbus A300, A310 and Boeing 727 aircraft. The following operational instructions are only intended to familiarize the operator with the basic functions of the towbar. They are not intended to teach actual pushback procedures or techniques.

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

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, or substantial property damage** if the warning notice is ignored.

CAUTION! — Caution is used to indicate the presence of a hazard that **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 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 a skilled and trained technician.

4.0 OPERATION

4.1 PREPARATION FOR USE

The towbar has been lubricated and adjusted at the factory and no additional preparation is required.

A general inspection should be made to determine if any damage was sustained in transit. If any damage was sustained the transportation company should be notified immediately.

4.2 AIRCRAFT ATTACHMENT

It is recommended that you attach the towbar to the aircraft first, and then connect it to the tug to avoid potential aircraft damage.

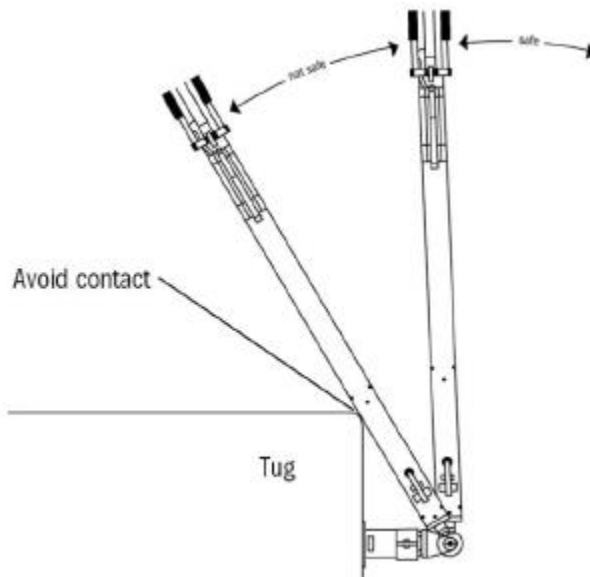
4.3 TOWING

Damage to the towbar or aircraft can result from pushing an aircraft at too sharp of an angle between the tug and the aircraft. Contact between the tug and towbar tube must be avoided.



WARNING!

DO NOT EXCEED 90° angle between the tug and towbar.



WARNING!

A damaged or bent towbar should not be used, the towbar should be repaired or replaced. The tube may not be bowed more than 1/2 in (13 mm) over its length or have any damage creating a dent more than 1/2 in (13 mm) deep. BENT TOWBARS CAN NOT BE REPAIRED AND MUST BE REPLACED.

4.4 TOWING SPEED

A maximum towing speed of 10 mph (16 kph) is recommended.



CAUTION!

Exceeding the maximum towing speed may result in damage to the aircraft, tug, or towbar.

4.5 BOLT TORQUE

Torque Values of Grade 5 Fine Thread (SAE) Fasteners
(all torque specified in ft-lbs)

BOLT DIAMETER	1/4-28	5/16-24	3/8-24	7/16-20	1/2-20	5/8-18	3/4-16	7/8-14	1-12
INSTALL TORQUE	9	20	35	55	90	90	90	90	90

Do Not Follow the above torque value chart for **Shear Bolt** and/or **Retention Bolts**.

Replacing Shear Bolt / Retention Bolt Instructions: tighten bolts only enough to remove slack or until nut reaches the end of the threads, and then loosen one half turn. Bolts should turn freely with hand wrench.

5.0 MAINTENANCE

5.1 DAILY INSPECTION

- Visually check towbar for physical damage. Repair or replace parts if necessary.
- Check head for proper operation, damaged parts, binding, etc. Readjust or replace as necessary.

5.2 BI-YEARLY INSPECTION

- Check shear bolts by turning heads with a hand wrench. Any binding indicates a partial sheared bolt, replace if necessary.
- Grease the axle lift pivots with the provided grease zerks.
 - Use Lithium EP2 or equivalent
- Check hydraulic hand pump for proper operation and adequate oil level
 - Add ATF Fluid if necessary
 - For extreme cold 5606 oil is acceptable
- Check tire pressure (if equipped with pneumatic tires). Pressure should be 24 psi
- Check lunette ring for excessive wear. Measure ring at the thinnest point, ring cross section should be no less than 1.25 inches. Replace if necessary.

5.3 YEARLY INSPECTION

- The wheels should be removed and the hub bearings repacked with grease.
 - Use Lithium EP2 or equivalent

5.4 AS REQUIRED

When replacing shear bolts and/or retention bolt: tighten bolts only enough to remove slack and then loosen one half turn. Bolts should turn freely with hand wrench.



CAUTION!

Over tightening of shear bolts and/or retention bolt will cause bolts to shear at a higher load than desired.

5.5 TOWBAR DAMAGE AND REPAIR

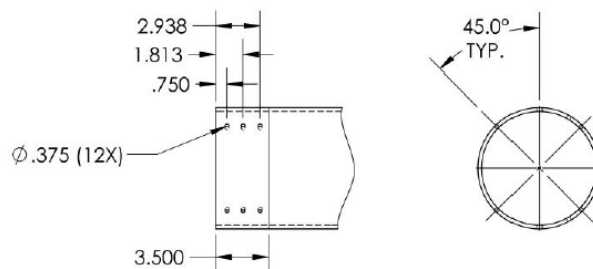
Mounting Holes: If the lunette or head mounting holes are damaged they can be repaired by shortening the tube and re-drill the holes. This may be done once per each end. Approximately 3.5" will need to be cut off to allow new holes to be drilled. Use the mating part as a guide in marking the (12) \emptyset .375 holes. Torque hardware to 35 ft-lbs.

Bowing: The tube may not be bowed more than 1/2" over its length.

Dents: Any dent in the aluminum tube may not be any deeper than 1/2" deep.

Gouges: Any gouge in the aluminum tube may not be any deeper than 1/8" deep x 1" long.

Any tube with damage that does not fit the above must be replaced.



5.6 PLACARDS

**SHEAR BOLT
USE # 15L19423**

15L19500

**SHEAR BOLT REPLACEMENT
WHEN REPLACING SHEAR BOLT DO NOT
TORQUE THE NUTS DOWN TIGHT. THE BOLTS
SHOULD ROTATE WITH VERY LITTLE EFFORT OR THE NUT
IS TOO TIGHT. THIS INCLUDES THE RETENTION BOLT.**

15O5751

B727, A300/A310

15O6179

6.0 PROVISION OF SPARES**6.1 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

**6.2 RECOMMENDED SPARE PARTS LISTS**

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

Recommended Spares to be kept on hand:

K-5546.....Kit, Shear Bolt Replacement

15F3288.....Tie & Hub Assembly

15O6017Kit, Cylinder Seal

15O6235Kit, Handle Pin

7.0 IN SERVICE SUPPORT

Contact Tronair, Inc. for technical services and information. See Section 1.3 – Manufacturer.

8.0 GAURANTEES/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:

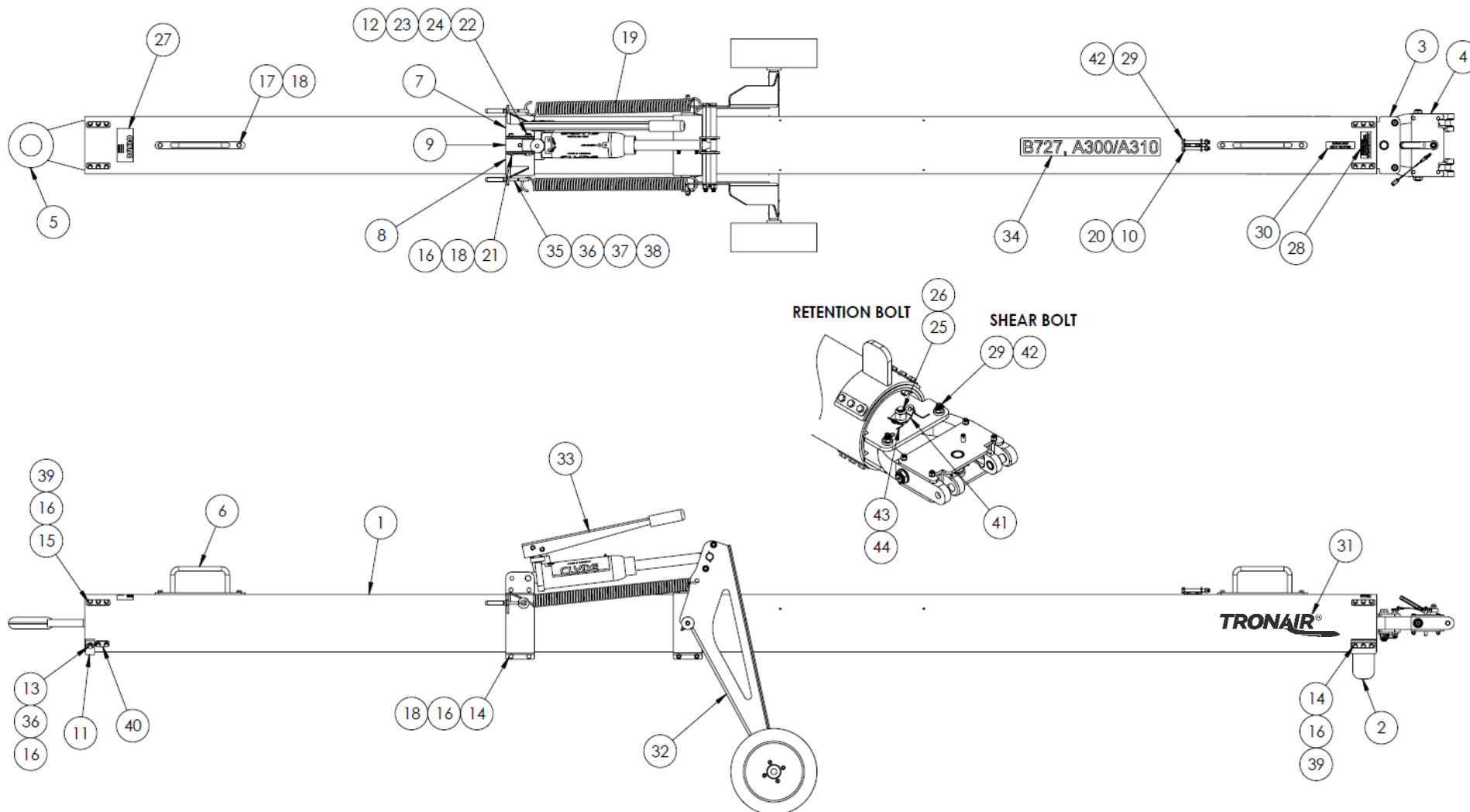
- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

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.



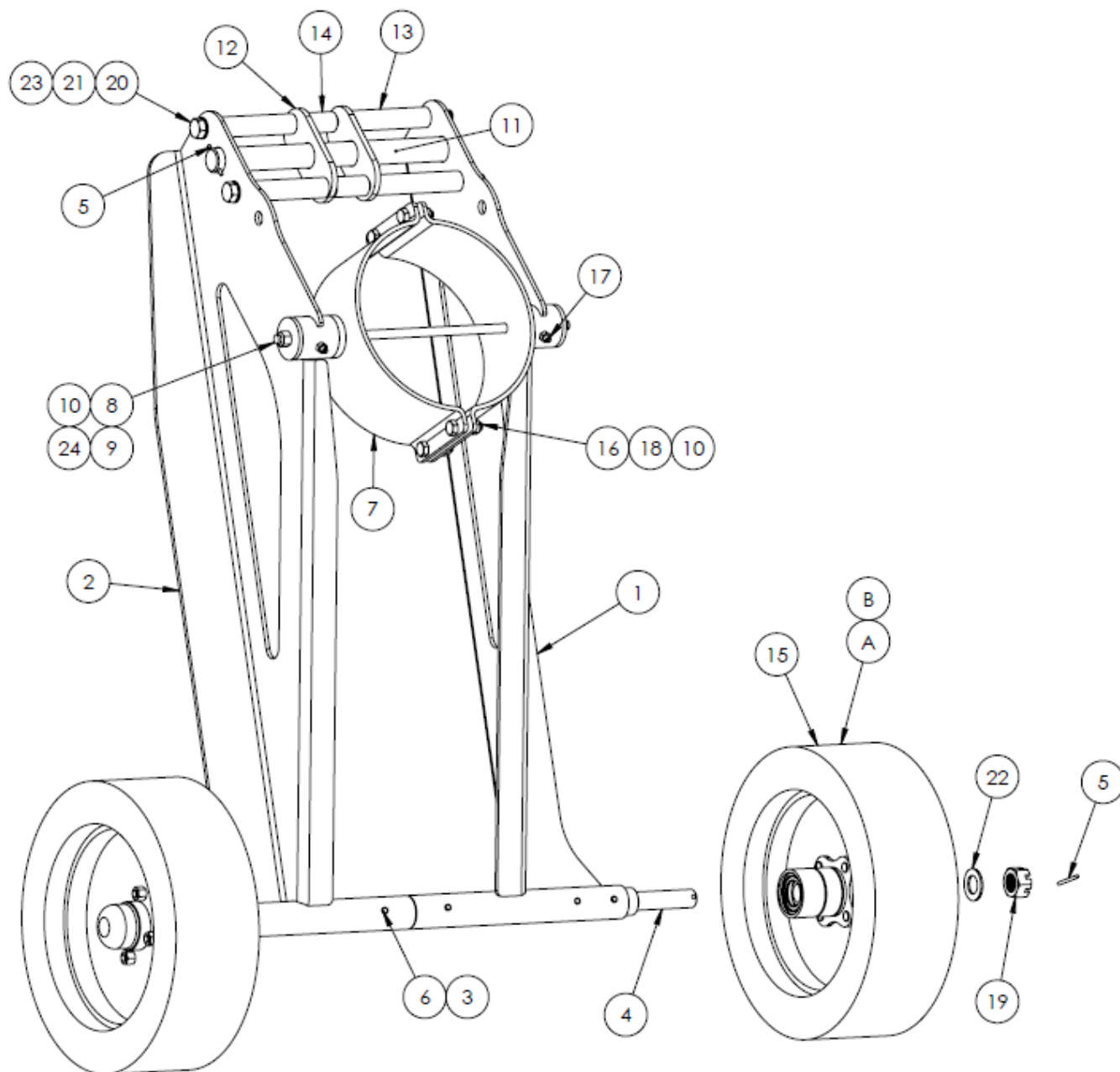
Parts List

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

Item	Part Number	Description	Qty
1	15L16835	TOWBAR TUBE	1
2	15W5732	SKEG, TOWBAR	1
3	15F2410	HEAD MOUNT ASSEMBLY	1
4	15F2408	TOWBAR HEAD ASSEMBLY	1
5	15W4565	LUNETTE WELD	1
6	15W5484	HANDLE WELD	2
7	15W186	SPRING BRKT & ATTACH ANGLE WELD RH	1
8	15W2495	SPRING BRKT & ATTACH ANGLE WELD LH	1
9	15W308	KEEPER BLOCK & PIN WELD	1
10	15L22990	SHEAR BOLT HHOLDER, SMALL	1
11	15L19014	RUB PLATE	1
12	15L506	CYLINDER END SLEEVE	1
13	15O719	3/8-24 x 1-3/4" LG. C.S.	2
14	15O337	3/8-24 x 1-1/2" LG. C.S.	8
15	15O310	3/8-24 x 1-1/4" LG. C.S.	16
16	15O308	3/8-24 NYLOK NUT	28
17	15O310	3/8-24 x 1-1/4" LG. C.S.	4
18	15O307	3/8-24 1" LG. C.S.	8
19	15O309	3/8" AN WASHER	2
20	15L2726	EXTENSION SPRING	2
21	15O3323	1/4-20 x 3/4" LG. SELF TAPPING	2
22	15O306	3/8-24 x 2-3/4" LG. C.S.	1
23	15O300	1/2-20 x 2-3/4" LG. C.S.	1
24	15O302	1/2" AN WASHER	1
25	15O660	1/2-20 NYLOK JAM NUT	1
26	15O3202	5/8-18 X 4" LG. C.S.	1
27	15O4099	SERIAL NUMBER PLATE	1
28	15O5751	PLACARD, SHEAR BOLT REPLACEMENT	1
29	15L19423	SHEAR BOLT	4
30	15L19500	SHEAR BOLT PLACARD	1
31	V-1033	TRONAIR LOGO	2
32	15F190	AXLE LIFT ASSEMBLY	1
33	15O6016	HYDRAULIC COMBO PUMP	1
34	15O6179	B727, A300/A310 PLACARD	1
35	15O5867	3/8-16 x 4-1/4" LG. EYE BOLT	2
36	15O246	3/8" WASHER	4
39	15O588	3/8-16 UNC NYLOK NUT	2
38	15L26242	THREAD PROTECTOR	2
39	15L27012	3 HOLE WASHER	14
40	15L27013	2 HOLE WASHER	2
41	15L25597	LAYNARD MTG. TAB	1
42	15O5431	7/16-20 NYLOK JAM NUT	4
43	15O6041	NYLON LANYARD	2
44	15O6042	CLIP RETAINING PIN	2
N/S	K-5546	KIT, SHEAR BOLT REPLACEMENT	

Parts List

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



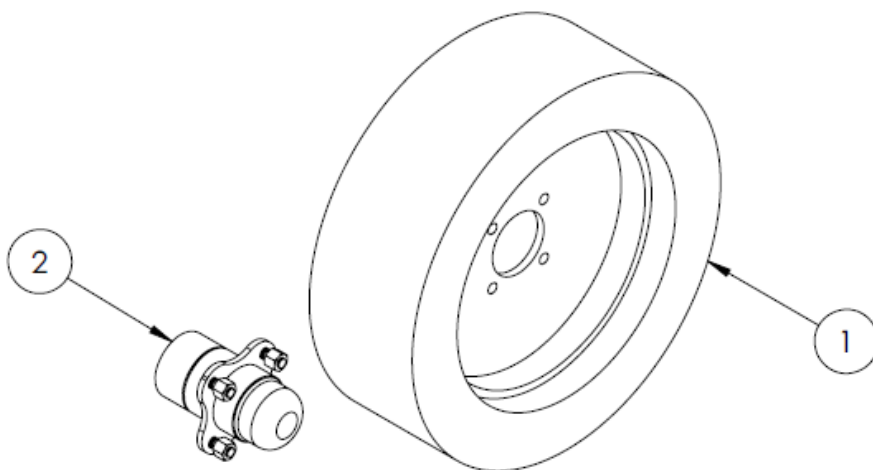
Parts List

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

Item	Part Number	Description	Qty
	15F190	4 AXLE LIFT ASSEMBLY ; consists of:	
1	15W6615	LIFT AXLE WELDMENT RH	1
2	15W6614	LIFT AXLE WELDMENT LH	1
3	15L504	AXLE ATTACHMENT TUBE CONNECTOR	1
4	15L502	AXLE	2
5	15O269	1/8" x 1-1/2" LG. COTTER KEY	4
6	15O590	1/4 x 1-1/2" LG. ROLL PIN	6
7	15W181	AXLE PIVOT SPINDLE & BRACKET WELD.	2
8	15L498	AXLE PIVOT TIE-ROD	1
9	15L499	PIVOT SPINDLE WASHER	2
10	15O308	3/8-24 NYLOK NUT	6
11	15L491	CYLINDER ATTACHMENT ROD	1
12	15L482	SPACER FLAT	2
13	15L493	OUTER SPACER	4
14	15L494	INNER SPACER	2
15	15F3288	TIRE & HUB ASSEMBLY	2
16	15O337	3/8-24 x 1-1/2" LG. C.S.	4
17	15O5865	ZERK, GREASE	2
18	15O309	3/8" AN WASHER	4
19	15O3113	3/4-16 SLOTTED NUT	2
20	15O3711	1/2- 13 UNC x 12" LG. C.S.(WAS 15L492)	2
21	15O1718	1/2-13 UNC NYLOK NUT (WAS 15O660)	2
22	15O321	3/4" AN WASHER	2
23	15O302	1/2" AN WASHER	4
24	15O1289	OILITE BEARING	4

Parts List

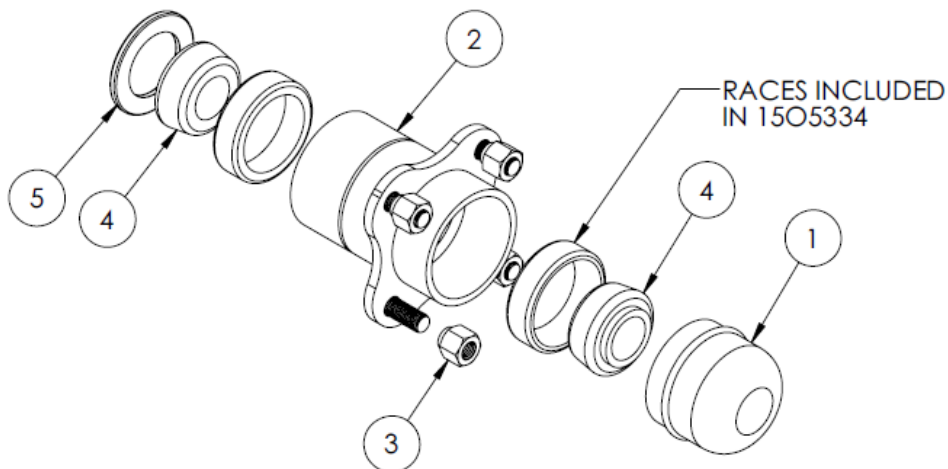
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	15F3288	TIRE & HUB ASSEMBLY ; consists of:	
1	15O6471	12 X 4 SOLID TIRE WITH 4 BOLT RIM	1
2	15O6475	HUB ASSEMBLY	1

Parts List

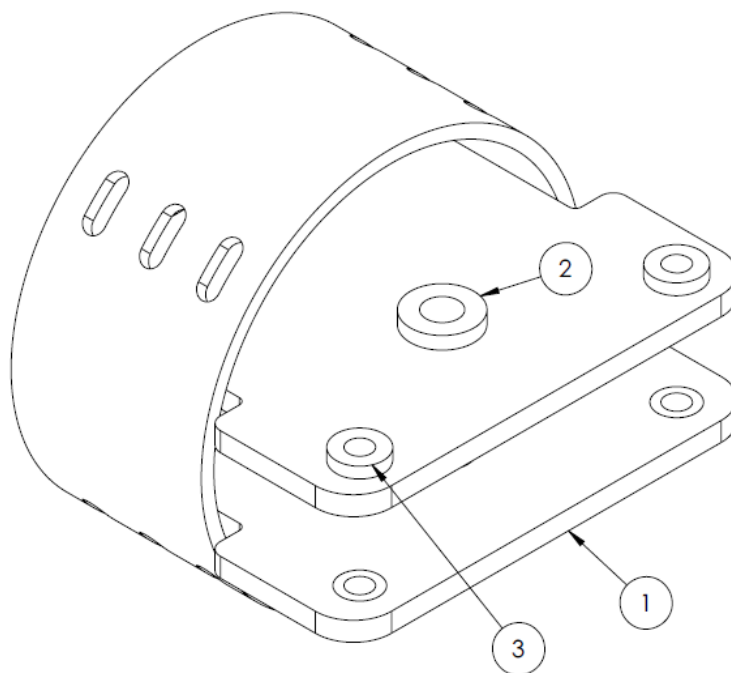
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	15O6475	HUB ASSEMBLY ; consists of:	
1	15O5335	DUST CAP	
2	15O5334	HUB	
3	15O5747	5/16-24 LUG NUT	4
4	15O5332	.750 BORE TAPERED BEARING	2
5	15O5333	GREASE SEAL	1

Parts List

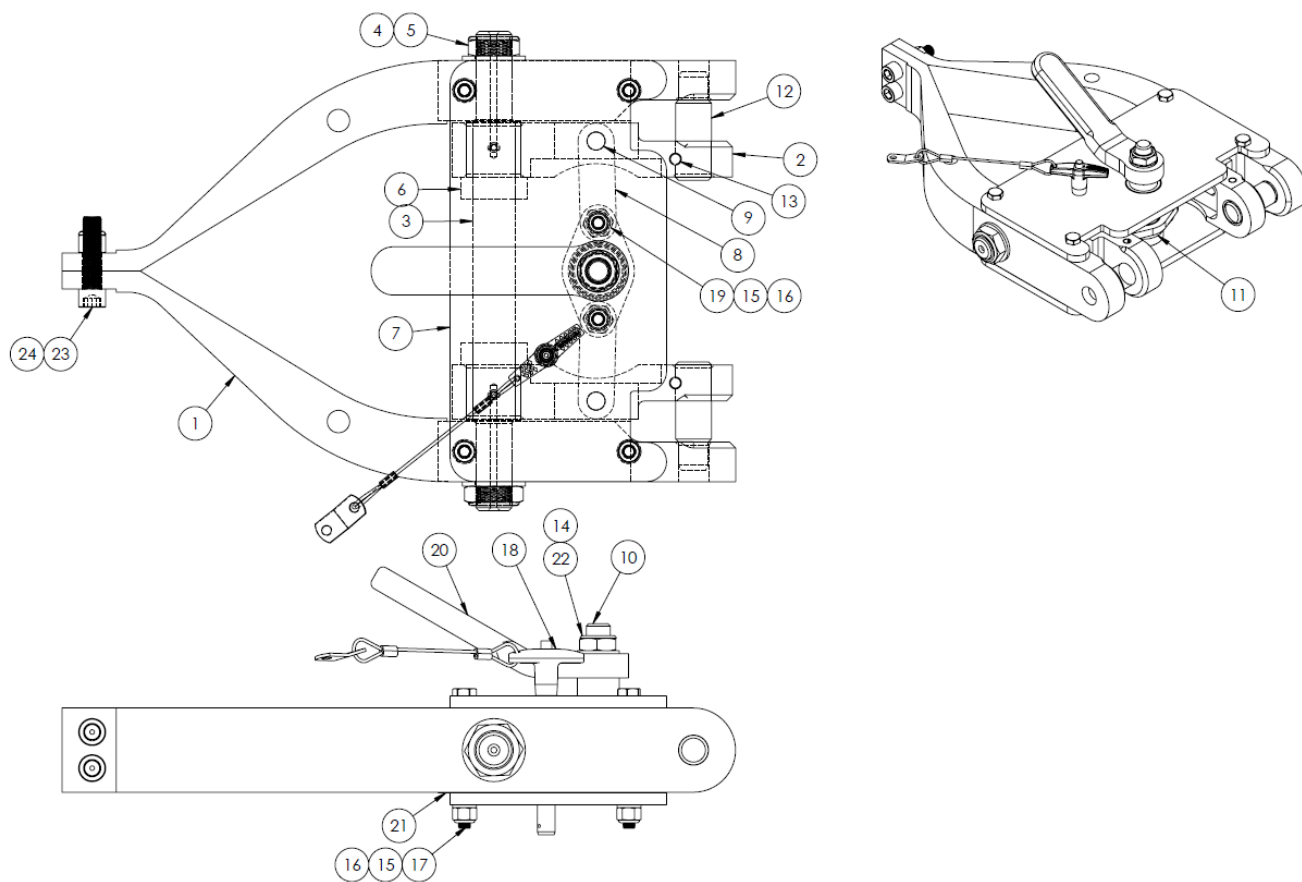
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	15F2410	HEAD MOUNT ASSEMBLY ; consists of:	
1	15W4872	PLATE WELD	1
2	15O5569	BUSHING TYPE H	2
3	15O322	DRILL JIG BUSHING	4

Parts List

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



Parts List

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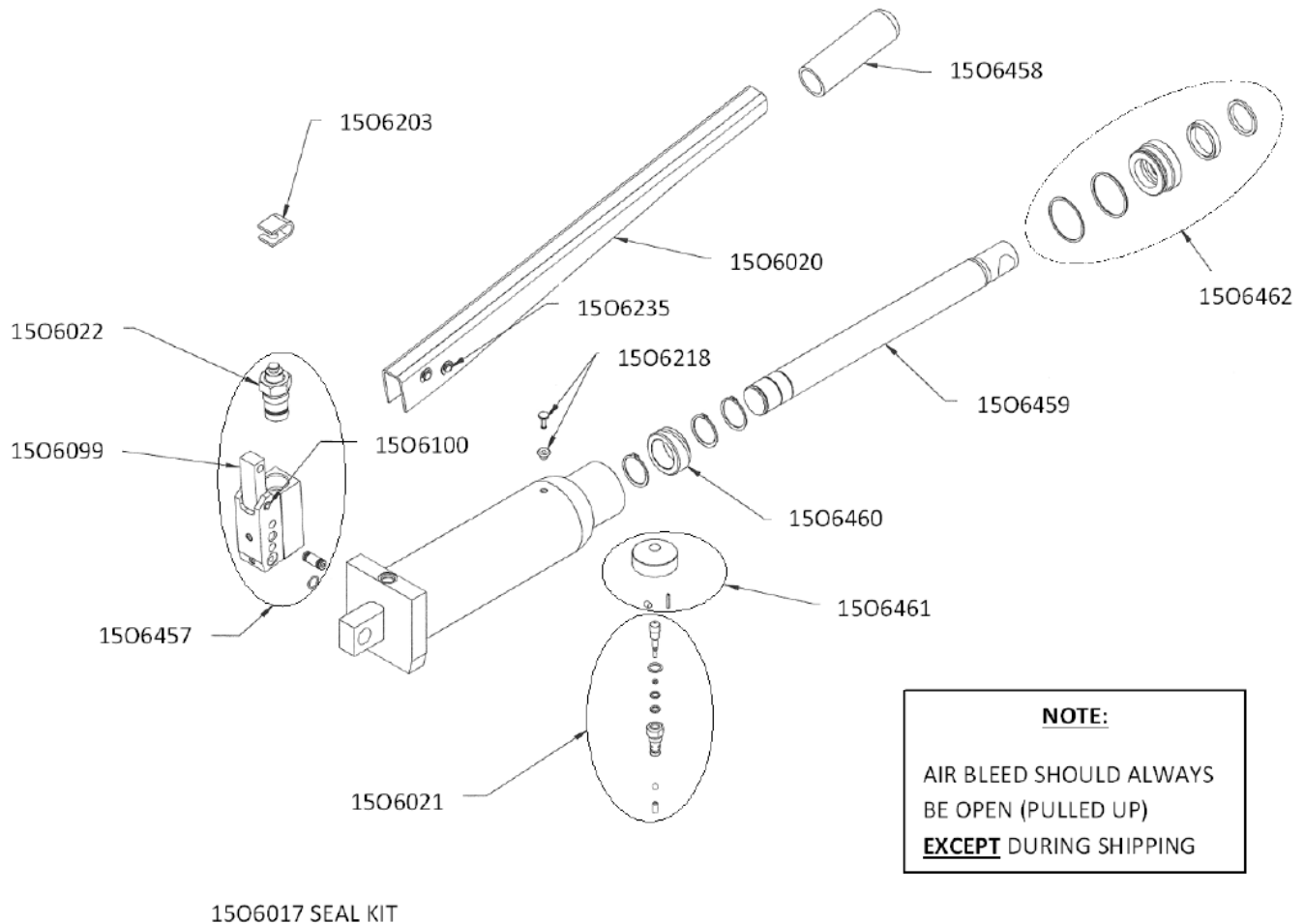
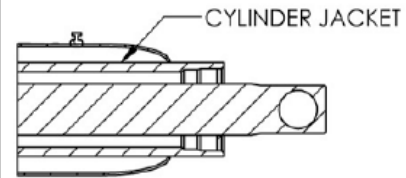
Item	Part Number	Description	Qty
	15F2408	TOWBAR HEAD ASSEMBLY ; consists of:	
1	15L483	HEAD, SIDE ARM	2
2	15L19470	SLIDING PIN POSITIONER	2
3	15L489	HEAD SHAFT	1
4	15O321	3/4" AN WASHER	2
5	15O595	3/4-16 NYLOK JAM NUT	2
6	15L486	BUSHING, PIN	2
7	15L19469	HEAD PLATE	2
8	15L487	PIN POSITIONER LINK	2
9	15L485	POSITIONER LINK PIN	2
10	15W4976	PIN DRIVE WELD	1
11	15L476	DRIVE WELDMENT BUSHING	2
12	15L484	CONNECTOR PIN	2
13	15O318	1/4 x 1-3/4" LG. ROLL PIN	2
14	15O302	1/2" AN WASHER	1
15	15O303	1/4" AN WASHER	6
16	15O298	1/4-28 NYLOK NUT	6
17	15O828	1/4-28 x 2-3/4" LG. C.S.	4
18	15O2976	BALL LOCK PIN	1
19	15L19954	SHOULDER BOLT	2
20	15L6378	WRENCH, HEAD	1
21	15O325	.01 X 1-1/4" X 4" LG SHIM STOCK	AS REQ'D
22	15O660	1/2-20 NYLOK JAM NUT	1
23	15O5734	3/8-24 x 1-1/2" LG. SOCKET HEAD C.S.	2
24	15O308	3/8-24 NYLOK NUT	2

Parts List

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

FILL PROCEDURE:

- REMOVE THE BRASS VENT PLUG THEN THE RUBBER GROMMET.
- FILL TILL THE ATF FLUID JUST COVERS THE CYLINDER JACKET.
- DO NOT OVER FILL. OVER FILLING WILL
- CAUSE OIL TO LEAK OUT THE AIR BLEED.
- REPLACE THE RUBBER GROMMET
- THEN THE BRASS VENT PLUG.



AIR BLEED PROCEDURE

1. Elevate the towing eye end of towbar until combo pump is pointing downward (handle end raised).
2. Extend cylinder fully by pumping handle.
3. Retract cylinder SLOWLY by opening release knob SLIGHTLY.
4. Repeat step 3 until no sign of air is noticeable.

Parts List – 1506016

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

Part Number	Description	Qty
1506017	CYLINDER SEAL KIT ; consists of:	
	SPRING	1
	O-RING	1
	O-RING	4
	B/U WASHER	4
	BALL	1
	O-RING	1
	O-RING	1
	B/U WASHER	1
	O-RING	1
	SCREEN	1
	ROD SEAL	1
	ROD WIPER	1
	O-RING	1
	B/U WASHER	1
	RETAINING RING	3
	WIPER	1
	SEAL, U-CUP	1
1506020	REPLACEMENT HANDLE KIT ; consists of:	
	HANDLE	1
	PIN	2
	RETAINING RIN	4
	GRIP	1
1506021	RELEASE VALVE KIT ; consists of:	
	SPRING	
	RELEASE VALVE BODY	
	O-RING	
	O-RING	
	B/U WASHER	
	BALL	
	O-RING	
	RELEASE VALVE SCREW	
1506022	PUMPING STATION KIT ; consists of:	
	B/U WASHER	1
	O-RING	1
	PISTON	1
	PISTON RETAINER	1
	WIPER	1
	SEAL, U-CUP	1
1506218	VENT VALVE/FILL PULG KIT ; consists of:	
	VENT PLUG	1
	VENT VALVE	1

Part Number	Description	Qty
1506457	PUMP KIT ; consists of:	
	PUMP BLOCK	1
	CHECK VALVE	3
	EXPANDER PLUG	2
	HANDLE LINK	1
	SPRING PIN	1
	PISTON RETAINER	1
	PISTON	1
	O-RING	1
	B/U WASHER	1
	WIPER	1
	SEAL, U-CUP	1
	PLUG SAE	1
	RELIEF VALVE TUBE	1
	RELIEF VALVE SEAT	1
	BALL	1
	RELIEF VALVE GUIDE	1
	WASHER	1
	COMPRESSION SPRING	1
	B/U WASHER	3
	O-RING	3
	BUSHING	1
1506464	RELEASE KNOB KIT ; consists of:	
	KNOB	1
	PIN	1
	SET SCREW	1
1506462	RETAINER NUT KIT ; consists of:	
	RETAINER NUT	1
	ROD SEAL	1
	ROD WIPER	1
	O-RING	1
	B/U WASHER	1
1506235	HANDLE PIN KIT ; consists of:	
	PIN	1
	RETAINING RING	2
1506099	HANDLE LINK	1
1506100	SLOTTED SPRING PIN	1
1506203	U-CLIP PISTON TAB	1
1506458	HANDLE GRIP	1
1506459	PISTON ROD	1
1506460	PISTON, CYLINDER BEARING	1
1506015	PLACARD	1