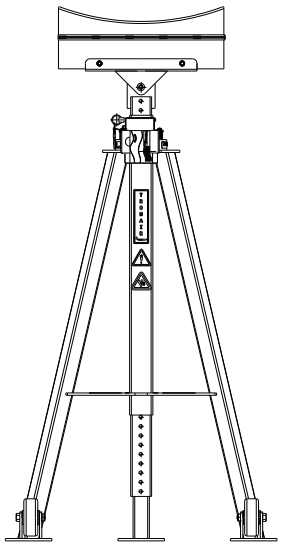
OPERATION & SERVICE MANUAL



Model: 03A5800C0010
Tailstand with Alarm

CE

11/2016 – Rev. 02

Tronair, Inc.
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REVISION	DATE	TEXT AFFECTED
01	09/2014	Original Release
02	11/2016	Modified Parts List

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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., it 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

NAME OF EQUIPMENT:	Tailstand, 1,000 lbs Capacity, CE compliant
MODEL NUMBER:	03A5800C0010 See Nameplate for Serial Number
MANUFACTURED BY:	***TRONAIR***, Inc. 1740 Eber Rd., Holland, OH 43528-9794 USA
USAGE:	The device is intended to stabilize an aircraft by its fuselage during maintenance, whose maximum load does not exceed the rated capacity of the tailstand
LIST OF DRAWINGS:	Reference Parts List and Illustrations

2.0 SAFETY INFORMATION

2.1 ALARM and WARNING SYSTEMS

The tailstand has an alarm system that alerts the operator that a force of 100 to 150 pounds (45.36 to 68.04 kg) is being applied to the top of the cradle. The unit attached to the tailstand sounds a loud 85 db pulsating alarm until the force is reduced.

2.2 WARNING and DANGER SIGNS

See labels on unit

2.3 COMPONENT SAFETY FEATURE

Extension Lock Pin provides a visual check that the pin is fully inserted to meet the rated load capacity of the tailstand.

2.4 FUNCTIONAL SAFETY FEATURES

None

2.5 FEATURES FOR OPERATOR SAFETY

Cautions and Instruction Labels located on tailstand

2.6 ENVIRONMENTAL SAFETY FEATURES

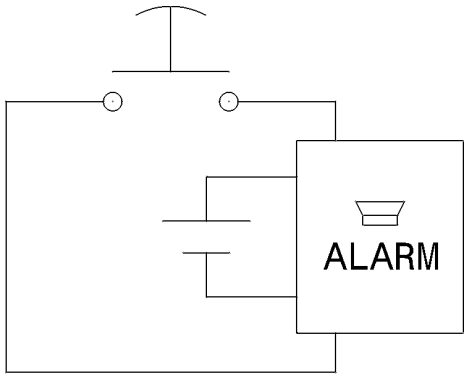
Tailstand is non-polluting

2.7 PROTECTION SYSTEMS

None

2.8 CLOSED CIRCUITS

Reference Figure



Closed Circuits

2.9 INTERLOCKING

None

2.10 NECESSARY PERSONAL PROTECTIVE EQUIPMENT

CAUTION!

Always wear safety glasses.

2.11 SAFETY GUIDELINES

CAUTION!

1. **DO NOT place hands on top of tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between top of tube and bracket on extension.**
2. **DO NOT place feet under tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between ground and extension tube.**
3. **ALWAYS install tailstand AFTER aircraft has been jacked to working position.**
4. **Never put hands between aircraft and tailstand cradle.**
5. **ALWAYS be sure tailstand extension lock pin is fully inserted and seated around tubing.**
6. **NEVER load tailstand by lowering jacks. ALWAYS lower tailstand and remove same BEFORE lowering aircraft.**
7. **DO NOT place hands near the die springs on the load alarm while the stabilization stand is in use. Pinch point exists on the die springs and between the top plate and the base of the load alarm.**
8. **DO NOT allow prolonged exposure to the sounding alarm. The alarm sound may cause permanent hearing loss.**

2.11 SAFETY GUIDELINES *(continued)*

9. **DO NOT place objects in the path of the alarm's horn opening that may limit the audible range and reduce the effectiveness of the alarm.**
10. **DO NOT turn setscrew located under the plunger switch. The distance between the setscrew and plunger is pre-set by the factory.**

2.12 CONDITIONS FOR SAFE USE

- Use in a clean dry environment on a hard level surface.
- Operate between -20° C and 50°C/-4° F and 122° F.

2.13 OPERATOR QUALIFICATIONS

This tailstand is intended to be used by a skilled and trained aircraft technician. The operator must be familiar with the jacking procedures for the aircraft to be raised, and the operation of the tailstand.

Installation/Maintenance/Dismantling Qualifications: This tailstand is to be installed, maintained, and dismantled by qualified technicians familiar with aircraft maintenance systems.

2.14 ADDITIONAL SAFETY MEASURES

This tailstand must be used in accordance with this Operation manual, and in accordance with the aircraft manufacturer's jacking and stabilizing procedures.

3.0 PACKAGING AND STORAGE

3.1 PACKAGING REQUIREMENTS

Tailstand is to be packaged as required to prevent damage to legs or cradle equipment during shipment.

3.2 HANDLING

Tailstand can be rolled by hand on its casters.

3.3 STRAPPING

Tailstand can be strapped down by suitable means to prevent unwanted movement during shipment.

3.4 PACKAGING PROTECTION

No special packaging material for cushioning or suspension is required.

3.5 LABELING OF PACKAGING

Packaging should be labeled **DO NOT DROP**.

3.6 STORAGE COMPATIBILITY

No special considerations.

3.7 STORAGE ENVIRONMENT

- Store tailstand between -20° C and +50° C/-4° F and 122° F
- Always store tailstand with extension all the way down
- Suitable for outdoor storage by using a full coverage waterproof tarp or canvas

3.8 STORAGE SPACE AND HANDLING FACILITIES

- Minimum Closed Height: 55¼ in (140.34 cm)
- Mechanical Extension: 23 in (58.42 cm)
- Maximum Height Obtainable: 78¼ in (198.76 cm)
- Weight: 80 lbs (36 kg)

4.0 TRANSPORTATION

Lifting can be accomplished by crane and strap through top of tripod, or by fork truck under lower tripod support. Approximate weight 80 lbs (36 kg).

5.0 ASSEMBLY

5.1 GENERAL INSTRUCTIONS

1. This product should be assembled and/or repaired using good workmanship practices and proper tools. Bolts and elastic stopnuts should be tightened to a torque not to exceed industry standards for Grade '5' bolts.
2. All replacement parts must be the same as or better than the original parts supplied.
3. No modifications are allowed as they may adversely affect the tailstand's safety performance.

5.2 PRE-USE CHECKS

1. Refer to the Illustrated Parts List identify and ensure that all parts are present.
2. Generally check over unit to assure the tightness of all nuts and bolts.

5.3 PERSONNEL REQUIREMENTS

This jack is to be assembled by qualified technicians familiar with aircraft maintenance systems.

5.4 ASSEMBLY STEPS

1. Slide alarm from holder and install a 9 volt battery in the alarm by removing two screws located in the back of the alarm. **Reference Figure 2.**
2. Fasten cradle assembly to extension tube with one (1) ½ - 20 x 2 ¼" long hex head bolt, two (2) ½" flatwashers, and one (1) ½ - 20 elastic stopnut. **Reference Figure 3.**

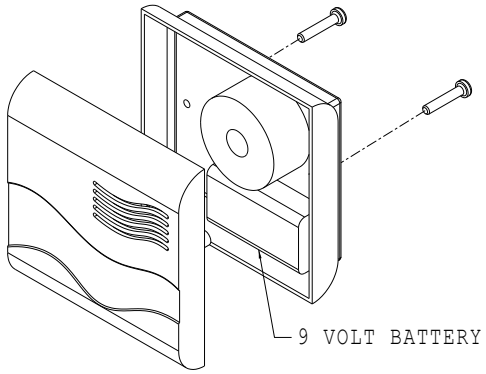


FIGURE 2

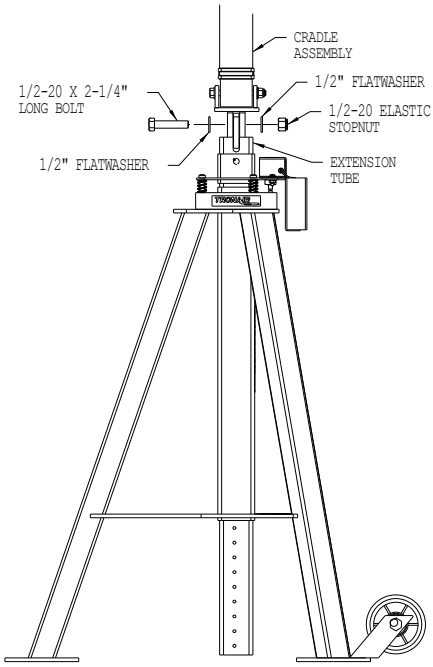


FIGURE 3

5.5 INSPECTION AND TEST PROCEDURES

1. When functional tests are required, it is recommended that the tailstand be tested at 110% of the rated capacity.
2. Test alarm by slowly applying a force evenly distributed across the top of the cradle. The cradle head will lower and engage a limit switch. A loud pulsating alarm will then sound when the force reaches between 100 to 150 pounds (45.36 to 68.04 kg). If alarm does not sound, refer to the Troubleshooting section. ***Reference Figure 4***.
3. After testing, visually inspect all welds, cradle, lock pin, and lock pin holes in the base and extension tubing for defects. If defects are found, remove tailstand from active service until repairs are made.

6.0 INSTALLATION

None

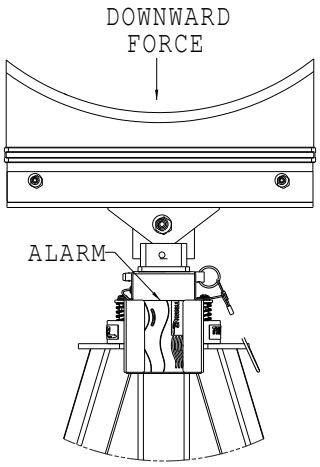


FIGURE 4

7.0 OPERATION

7.1 OPERATING PARAMETERS

1. The user shall work in accordance with this Operator and Service
2. The employer of the operator shall provide all necessary training
3. Operate between -20° C and 50° C/-4° F and 122° F

7.2 NUMERICAL VALUES

- Rated Capacity: 1,000 lbs (454 kg)
- Minimum Closed Height: 55¼ in (140.34 cm)
- Mechanical Extension: 23 in (58.42 cm)
- Maximum Height Obtainable: 78¼ in (198.76 cm)
- Weight: 80 lbs (36 kg)
- Alarm (Battery Powered): 9 vdc
- Alarm Horn: 85 db

7.3 OPERATOR CONTROLS

None

7.4 OPERATING INSTRUCTIONS

The user should be familiar with the following statements prior to using the tailstand:

CAUTION!

1. **DO NOT place hands on top of tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between top of tube and bracket on extension.**
2. **DO NOT place feet under tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between ground and extension tube.**
3. **ALWAYS install tailstand AFTER aircraft has been jacked to working position.**
4. **NEVER put hands between aircraft and tailstand cradle.**
5. **ALWAYS be sure tailstand extension lock pin is fully inserted and seated around tubing.**
6. **NEVER load tailstand by lowering jacks. ALWAYS lower tailstand and remove BEFORE lowering aircraft.**
7. **DO NOT allow prolonged exposure to the sounding alarm. The alarm sound may cause permanent hearing loss.**
8. **DO NOT place objects in the path of the alarm's horn opening that may limit the audible range and reduce the effectiveness of the alarm.**
9. **DO NOT turn setscrew located under the plunger switch. The distance between the setscrew and plunger is pre-set by the factory.**

7.4.1 Rules For Operating

1. The user shall work in accordance with this Operator and Service Manual
2. The employer of the operator shall provide all necessary training
3. Operate between -20° C and 50°C/-4° F and 122° F

7.4.2 Operation

When a force of 100 to 150 pounds (45.36 to 68.04 kg) is applied to the top of the cradle, the cradle head will lower and depress the plunger switch. This will activate the alarm which sounds a loud 85 db pulsating alarm until the force is reduced.

7.4.3 Alarm Test

Depress plunger switch and hold for a minimum of two (2) seconds. This will sound the alarm if the electronic circuitry, horn and battery are operating correctly. Refer to Trouble Shooting section of this manual if test fails.

7.4.4 Battery Test

Depress test button and hold for a minimum of two (2) seconds. This will sound the alarm if the battery is installed correctly.

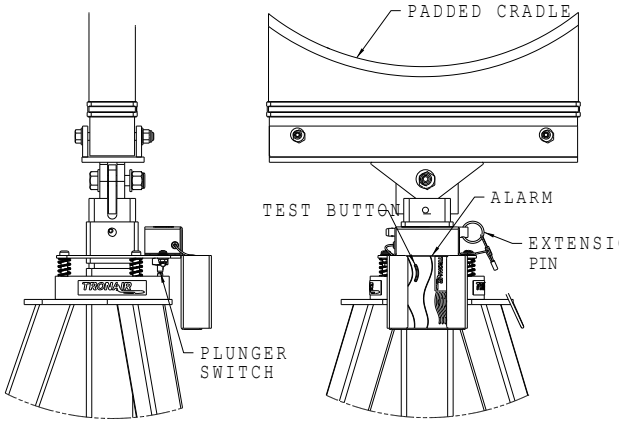


FIGURE 5

CAUTION!

Depressing the Test Button on the alarm does not provide a check for the entire electronic circuit!

7.4 Operating instructions continued on following page.

7.4 OPERATING INSTRUCTIONS *(continued)*

7.4.5 Low Battery Warning

The alarm will “chirp” every 20 to 30 seconds to indicate the battery is low and needs changing.

7.4.6 Alarm Load Test

Place a force between 100 to 150 lbs (45.36 to 68.04 kg) to the top of the cradle. This will activate the alarm. Refer to Trouble Shooting section of this manual if test fails.

7.4.7 Tailstand Instructions

To Raise Aircraft:

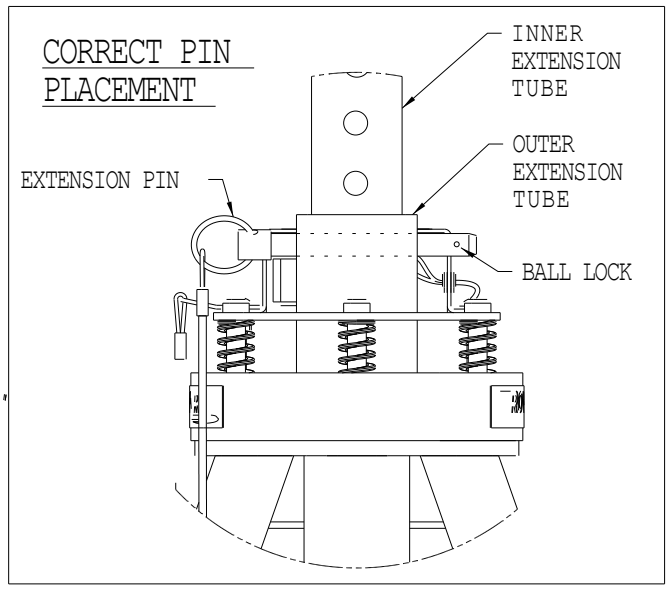
1. Jack aircraft to desired height.
2. Place tailstand on a hard, level surface.
3. Position tailstand at aircraft manufacturer’s recommended location.
4. Raise tailstand extension padded cradle as close to aircraft as possible.
5. Install tailstand extension locking pin and seat around tubing.

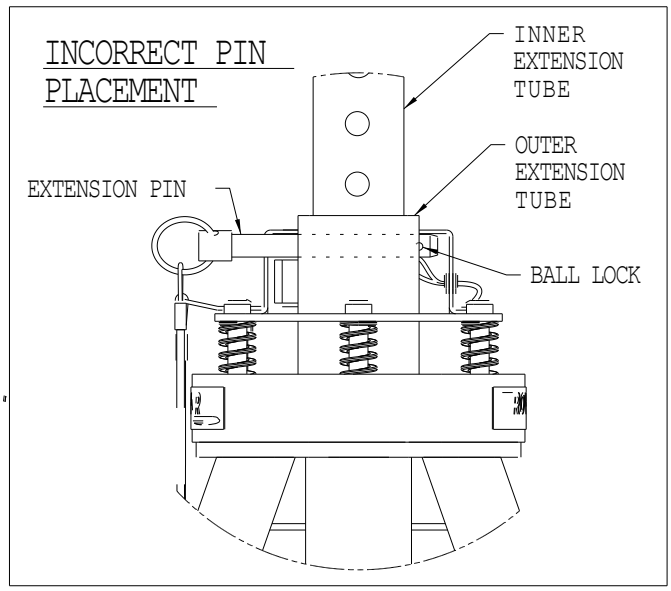
WARNING!

The locking pin MUST be placed fully through the extension tube.

The locking pin washer and ball lock MUST be placed outside the extension tube.

- **Do not place extra locking pins in any other hole on the extension tube.**
- **Under no conditions should the locking pin’s ball lock be inside the extension tube.**
- **Never use a locking pin that has been damaged.**
- **Never use an extension tube that has been damaged or deformed.**
- **Failure to comply could result in premature failure below certified weight and could cause serious injury including death.**





6. Make necessary adjustments to reduce force on tailstand when the alarm sounds.

To Lower Aircraft:

1. Clear all personnel from inside and under aircraft.
2. Remove tailstand extension locking pin and lower extension.
3. Relocate tailstand away from aircraft and secure.
4. Lower aircraft to the ground.

CAUTION!

1. **DO NOT place hands on top of tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between top of tube and bracket on extension.**
2. **DO NOT place feet under tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between ground and extension tube.**
3. **ALWAYS wear safety glasses.**

8.0 TRAINING

Training of operating personnel is the responsibility of the employer. This tailstand must be used in accordance with aircraft manufacturer's instructions.

9.0 MAINTENANCE

GENERAL

- All maintenance and/or repair work should be done using good workmanship practices and proper tools
- Tailstand shall be maintained and repaired in accordance with the manufacturer's instructions. Such maintenance and repair shall be carried out by qualified persons
- No modifications shall be carried out as they may adversely affect the compliance of the tailstand with draft standard 2006/42/EC

9.1 MAINTENANCE SCHEDULE

Cradle.....Annually or as Needed
Lubricate Casters .....3 Months
Cleaning.....Annually or as Needed

NOTE: Wipe with soft cloth only, do not pressure wash or spray water directly at cradle.

9.2 JACK FUNCTION LOAD TEST

NOTE: If function load testing is required:

- Take all necessary precautions to prevent injury.
- Do not exceed a test load equal to 110% of the tailstand rated capacity.

9.3 CLEANING ALARM

Remove alarm from mounting bracket. The openings around the alarm perimeter may be cleared of debris by using compressed air or a vacuum cleaner hose to blow/suction openings. The outside surface of the alarm unit may be wiped with a damp cloth.

10.0 TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSE	ACTION
Alarm Will Not Sound	Load was on the cradle for a short period of time	Limit switch has to be engaged for a minimum of two (2) seconds
	Defective alarm	Replace alarm
	Battery power depleted	Replace battery
	Defective limit switch	Replace limit switch
	Broken wire connection	Check wire connection between limit switch and alarm
	Cradle head did not lower far enough to contact limit switch	Test per Section 5.5.2
Alarm "Chirps	Indicates low battery	Replace battery (Alarm will "chirp" every 20 to 30 seconds for a minimum of 7 days until battery is changed)
Alarm Produces An Erratic Or Low Sound	Defective alarm	Replace alarm

11.0 PROVISION OF SPARES

Recommended Spares to be kept on hand:
G-1311-02.....Pin, Leg Lock

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc.
1740 Eber Road
Holland, Ohio 43528-9794 USA

Telephone: (419) 866-6301 or 800-426-6301
Fax: (419) 867-0634
E-mail: sales@tronair.com
Website: www.tronair.com

11.1 PARTS LIST

Reference the following pages for Replacement Parts and Kits available.

When ordering Replacement Parts/Kits, please specify Model & Serial Number of your product.

12.0 IN-SERVICE SUPPORT

Contact Tronair for technical services and information.

13.0 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*.**

14.0 APPENDICES

APPENDIX I Declaration of Conformity

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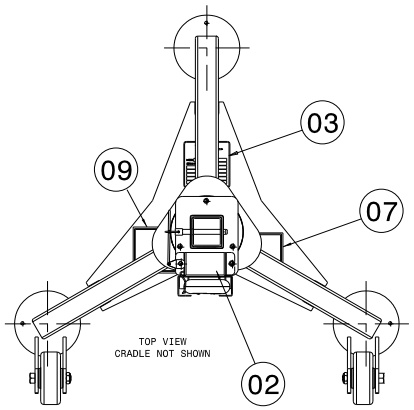
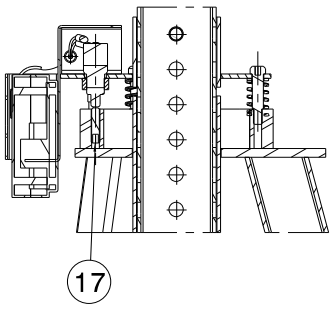
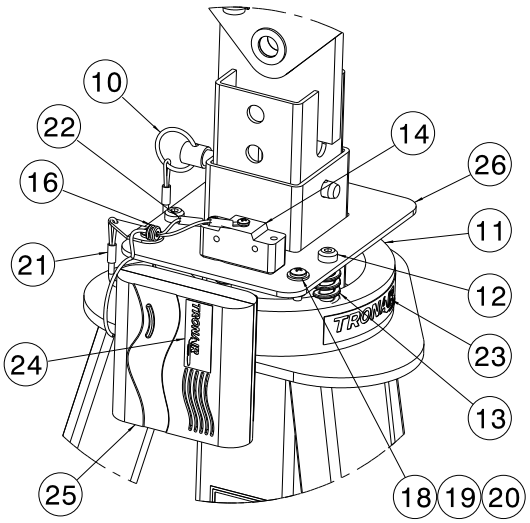
Parts List

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

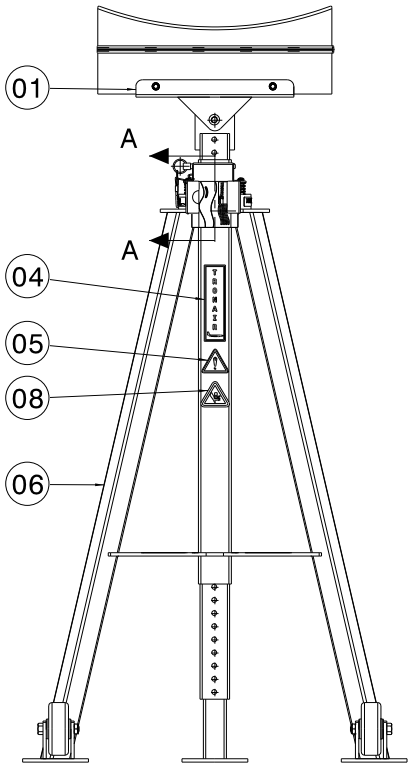


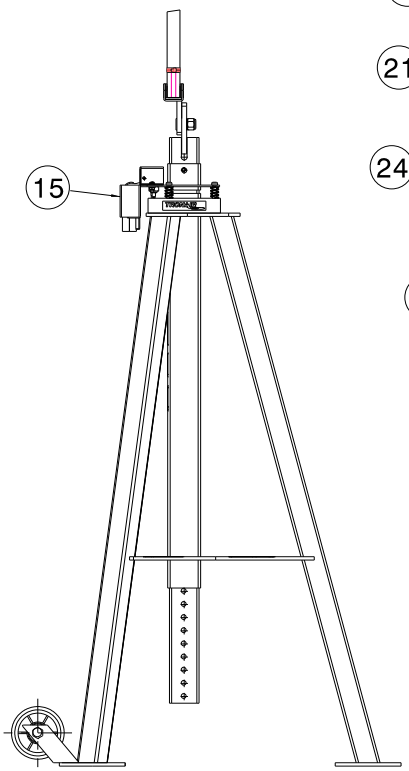


SECTION VIEW A-A



DETAIL A
COVER (ITEM 15) NOT SHOWN





Item	Part Number	Description	Qty
1	Z-1581	Assembly, Cradle	1
2	V-1001	Label, Made In USA	1
3	V-2118	Label, Serial Number (CE)	1
4	V-1198	Label, Tronair	1
5	V-1805	Label, ISO General Danger	1
6	Z-9242	Assemble, Tailstand Base	1
7	V-1996	Label, Tailstand Base	1
8	V-1999	Label, ISO Hand Crush Force From Above	1
9	V-1997	Label, Tailstand Instructions	1
10	G-1493	Pin, ⅜ x 3 long	1
11	TR-1883	Base	1

Parts List

Item	Part Number	Description	Qty
12	G-1155-105210	Screw, 5/16 x 1 SOC Head Shoulder	3
13	H-2762	Spring, Light Duty Tie	3
14	EC-1796	Switch, Limit	1
15	S-1923-01	Cover, Switch	1
16	H-1901-01	Grommet	1
17	G-1163-10	Screw, Hex SOC CUP Pint Set, ¼ - 20	1
18	G-1250-1030N	Flatwasher, #10 Narrow	3
19	G-1159-103505	Screw, Round Head CROSS REC, #10 – 32 x ⅝ long	2
20	G-1202-1035	ESN, #10 – 32	2
21	H-1026*07.0	Cable Assembly	1
22	EC-1180-04	Terminal, Ring Tongue	2
23	V-1197	Label, Tronair	2
24	V-2065	Label, Tronair	1
25	H-2763	Alarm	1
26	Z-5962-01	Weldment, Outer Tube	1
31	V-1998	Label, Max Capacity	1
32	V-2000	Label, ISO Foot Crush Force Applied Above	1
Not Shown	EC-1854	Battery, 9 Volt	1
Not Shown	EC-1787	Joint, Wire	2

APPENDIX I

Declaration of Conformity

DECLARATION of CONFORMITY

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

TELESCOPING TAILSTAND (TRIPOD)
03A5800C0010

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:

Patrick Finch

Quality Assurance Representative

Tronair, Inc.
1 Air Cargo Pkwy East
Swanton, OH 43558

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Email: sales@tronair.com