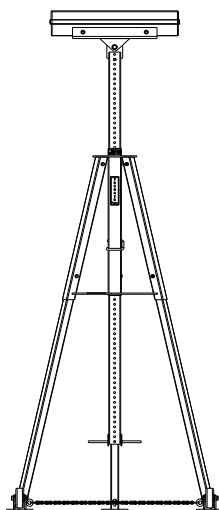




OPERATION & SERVICE MANUAL



Models: 03-5806-0000
Tailstand
CASA CN 235



05/2011 – Rev. 05

REVISION
05

DATE
05/2011

TEXT AFFECTED
Modified Parts Lists and Illustrations

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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., 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

NAME OF EQUIPMENT: Tailstand, 1,000 lbs Capacity, CE compliant
MODEL NUMBER: 03-5806-0000 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

None

2.2 WARNING and DANGER SIGNS

See labels on unit.

2.3 COMPONENT SAFETY FEATURES

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

None

2.9 INTERLOCKING

None

2.10 NECESSARY PERSONAL PROTECTIVE EQUIPMENT



CAUTION!

Always wear safety glasses.



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.

2.11 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.

2.0 SAFETY INFORMATION *(continued)***2.12 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.

2.13 ADDITIONAL SAFETY MEASURES

This tailstand must be used in accordance with this Technical 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: 102 in (259 cm)
- Mechanical Extension: 24 in (61 cm)
- Maximum Height Obtainable: 126 in (320 cm)
- Weight: 94 lbs (42.63 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 94 lbs (42.63 kg).

5.0 ASSEMBLY INSTRUCTIONS

5.1 GENERAL INFORMATION

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. The $\frac{3}{8}$ -24 bolts should be tightened to 35 ft-lbs and $\frac{1}{2}$ -20 bolts tightened to 85 ft-lbs.
2. All replacement parts must be the same as or equal to the original parts supplied.
3. No modifications are allowed as they may adversely affect the tailstand's safety performance.

5.2 PRE-USE CHECKS

- Refer to the Parts List to identify and ensure all parts are present.
- Generally check over unit to assure the tightness of all nuts, bolts and screws with extension collapsed.
- Ensure safety chain is attached to all three legs with no more than one-half inch ($\frac{1}{2}$ ") slack. (Pertains to Models: 03-5806-0000 & 03-5808-0000 only.)

5.3 ASSEMBLY STEPS

Fasten cradle assembly to extension tube with one (1) $\frac{1}{2}$ -20 x 2 $\frac{3}{4}$ inch long hex head bolt, $\frac{1}{2}$ inch flatwashers, and $\frac{1}{2}$ -20 elastic stopnuts.

CAUTION!



Safety chain must be installed to legs to prevent tailstand collapse and prevent aircraft damage and operator injury.

5.4 ASSEMBLY STEPS

Fasten cradle assembly to extension tube with one (1) $\frac{1}{2}$ -20 x 2 $\frac{3}{4}$ inch long hex head bolt, two (2) $\frac{1}{2}$ inch flatwashers, and one (1) $\frac{1}{2}$ -20 elastic stopnut.

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. 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

7.0 OPERATION

7.1 OPERATING PARAMETERS

1. The user shall work in accordance with the Operator 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.

7.2 NUMERICAL VALUES

- Rated Capacity: 1,000 lbs (454 kg)
- Minimum Closed Height: 102 in (259 cm)
- Mechanical Extension: 24 in (61 cm)
- Maximum Height Obtainable: 126 in (320 cm)
- Weight: 94 lbs (42.63 kg)

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.

7.4 OPERATING INSTRUCTIONS *(continued)*

7.4.1 Rules For Operating

- The user shall work in accordance with the Operator and/or Technical Manuals.
- The employer of the operator shall provide all necessary training.
- Operate between -20° C and 50°C/-4° F and 122° F.

7.4.2 Tailstand Instructions

To Raise Aircraft:

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

To Lower Aircraft:

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



CAUTION!

- 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.
- DO NOT** place feet under tailstand near base tube receiver while lowering tailstand extension. Pinch point exists between ground and extension tube.
- 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 manufacturers 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 Casters3 Months
CleaningAnnually or as Needed

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

10.0 TROUBLE SHOOTING

None

11.0 PROVISION OF SPARES

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

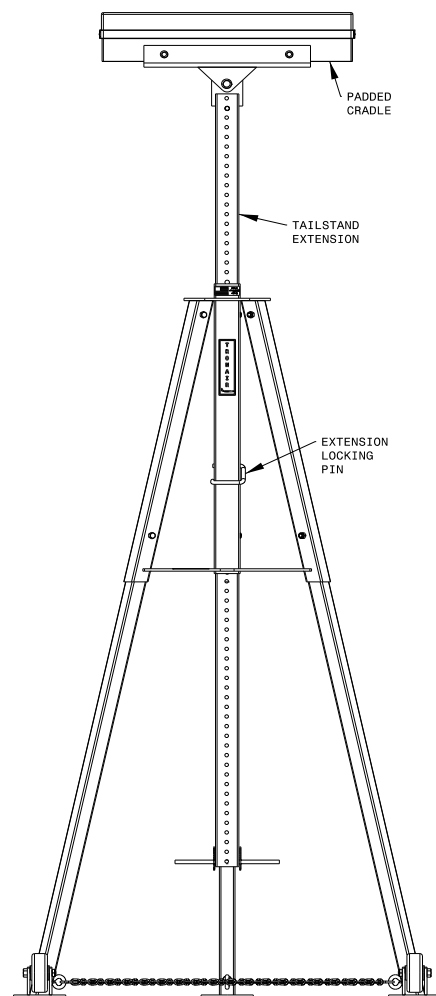
Spare parts may be obtained from the manufacturer:

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

11.1 PARTS LIST

Reference the following pages for ordering information of Replacement Parts and Kits.



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.**

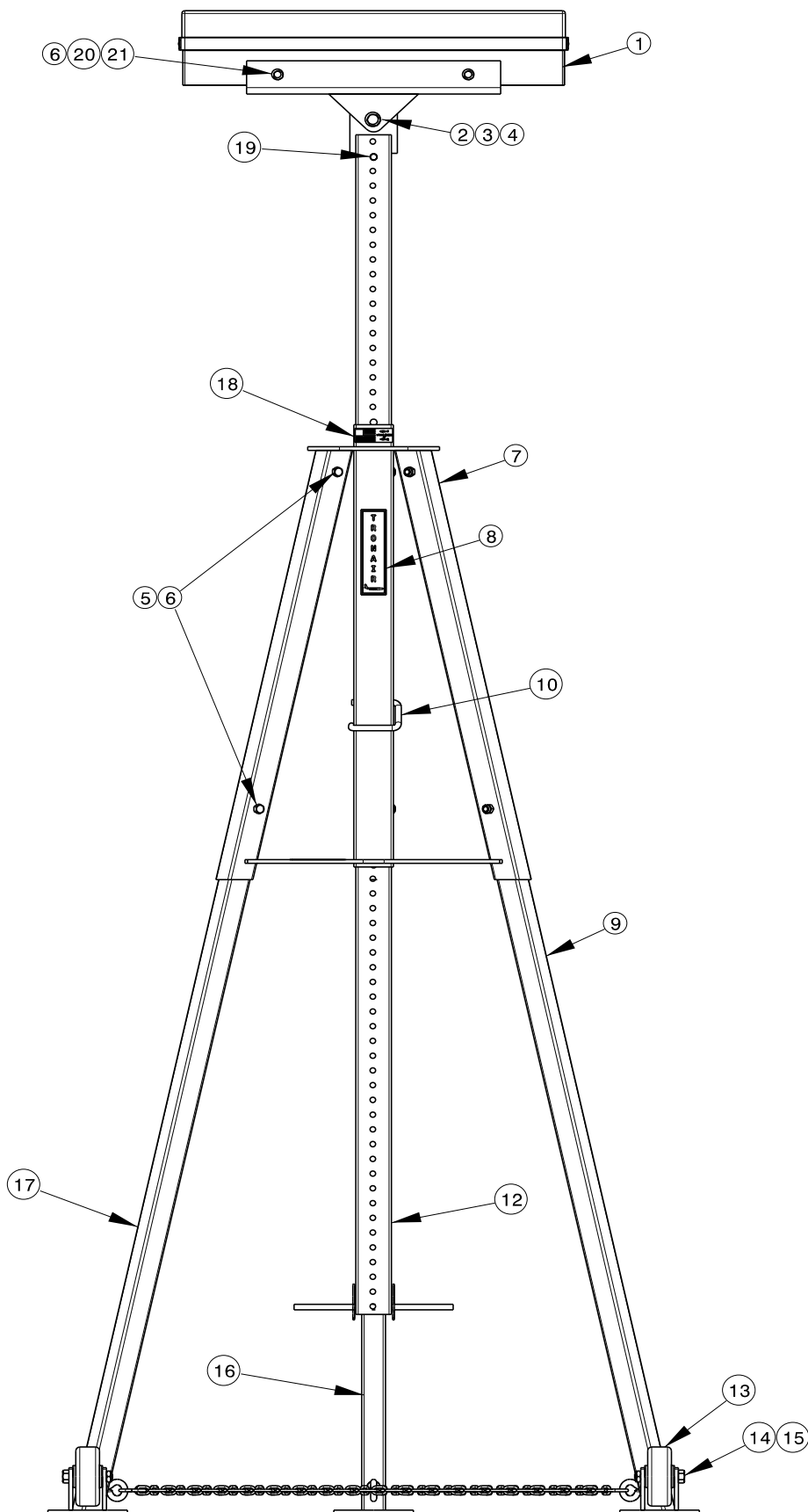
14.0 APPENDICES

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.



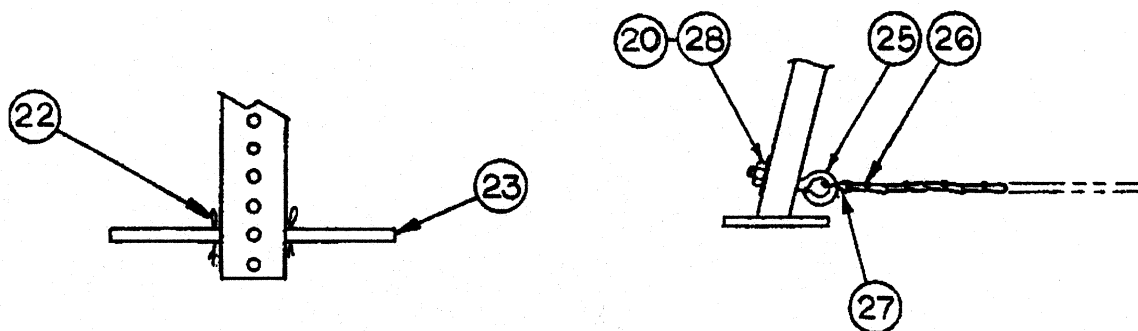
Parts List

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

Item	Part Number	Description	Qty
2	G-1100-109522	Bolt, Hex Head, Grade 5, ½-20 x 2 ¼" long	1
3	G-1202-1095	Stopnut, ½-20 Elastic	1
4	G-1250-1090N	Flatwasher, ½ Narrow	2
5	G-1100-107522	Bolt, Hex Head, Grade 5, ¾-24 x 2 ¼" long	6
6	G-1202-1075	Stopnut, ¾-24 Elastic	8
10	G-1311-02	Pin, Leg Lock	1
14	G-1100-109526	Bolt, Hex Head, Grade 5, ½-20 x 2 ¾" long	2
15	G-1203-1095	Jamnut, ½-20 Elastic	2
19	G-1300-44240	Pin, 7/16" diameter x 2 ½" long, Roll	1
20	G-1250-1070N	Flatwasher, ¾ Narrow	7
21	G-1100-107534	Bolt, Hex Head, Grade 5, ¾-24 x 3 ½" long	2
	K-1165	Kit, Wheel (Set) Replacement; consists of:	
13	U-1002	Wheel	2
14	G-1100-109526	Bolt, Hex Head, Grade 5, ½-20 x 2 ¾" long	2
15	G-1203-1095	Jamnut, ½-20 Elastic	2
	K-1798	Kit, Cradle Assembly Replacement; consists of:	
1	Z-2085	Assembly, Cradle	1
6	G-1202-1075	Stopnut, 3/8 -24 Elastic	2
20	G-1250-1070N	Flatwasher, 3/8 Narrow	4
21	G-1100-107534	Bolt, Hex Head, Grade 5, ¾-24 x 3 ½" long	2
	K-1799	Kit, Center Extension Replacement; consists of:	
2	G-1100-109522	Bolt, Hex Head, Grade 5, ½-20 x 2 ¼" long	1
3	G-1202-1095	Stopnut, ½-20 Elastic	1
4	G-1250-1090N	Flatwasher, ½ Narrow	1
12	Z-2087-01	Weldment, Center Extension	1
19	G-1300-44240	Pin, 7/16" diameter x 2 ½" long, Roll	1
	K-1801	Kit, Leg with Wheel Bracket Replacement; consists of:	
5	G-1100-107522	Bolt, Hex Head, Grade 5, 3/8 -24 x 2 ¼" long	2
6	G-1202-1075	Stopnut, 3/8 -24 Elastic	2
9	Z-1167-02-01	Weldment, Leg	1
	K-1802	Kit, Leg with Wheel Bracket Replacement; consists of:	
5	G-1100-107522	Bolt, Hex Head, Grade 5, 3/8 -24 x 2 ¼" long	2
6	G-1202-1075	Stopnut, 3/8 -24 Elastic	2
17	Z-1167-03-01	Weldment, Leg	1
	K-1803	Kit, Leg Replacement; consists of:	
5	G-1100-107522	Bolt, Hex Head, Grade 5, 3/8 -24 x 2 ¼" long	2
6	G-1202-1075	Stopnut, 3/8 -24 Elastic	2
16	Z-1167-01-01	Weldment, Leg	1
	K-4530	Kit, Plate Weldment Replacement; consists of:	
5	G-1100-107522	Bolt, Hex Head, Grade 5, 3/8 -24 x 2 ¼" long	6
6	G-1202-1075	Stopnut, 3/8 -24 Elastic	6
7	Z-1122-01	Weldment, Top Plate	1
8	V-1198-02	Label, "Tronair"	1
18	V-1001	Label, "Made In USA"	1

Parts List

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



Item	Part Number	Description	Qty
20	G-1250-1070N	Flatwasher, $\frac{3}{8}$ Narrow	7
25	G-1335-14	Eyebolt, $\frac{3}{8}$ -16 x 3 $\frac{1}{4}$ " long, Formed	3
26	H-1024-03*108	Chain, Double Loop, 4/0	1
27	H-1518-03	Hook, "S"	3
28	G-1202-1070	Stopnut, $\frac{3}{8}$ -16 Elastic	3
	K-1804	Kit, Pin/Handle Replacement; consists of:	
22	G-1313-06	Cotter, $\frac{1}{8}$ " diameter Hairpin	2
23	R-1310	Pin	1



APPENDIX I

Declaration of Conformity



DECLARATION of CONFORMITY

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

Tailstand with Alarm
03-5806-0000

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:

A handwritten signature in cursive script, reading "Patrick Finch", is written over a horizontal line.

Quality Assurance Representative