




**INSTRUCTION MANUAL IM-363**  
**For HSIG Burst Disc Replacement on**  
**Gas and Steam Turbine's Hydraulic Tensioners**

Applicable Riverhawk Part Numbers

All Hydraulic Rod Tensioning, Safety Interlocking Guarded Tooling

Applicable GE Ordering Sheet Part Numbers

No Specific Ordering  
Sheet Part Numbers

 <b>GE Power Generation</b>		GENERAL ELECTRIC COMPANY	
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The latest revision may be obtained by contacting Riverhawk Company or thru [www.riverhawk.com](http://www.riverhawk.com).



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## Table of Contents

Section	Description	Page Number
1.0	Cautions and Safety Warnings	3
2.0	Scope	3
3.0	Description	4
4.0	Assembly	4
5.0	Replacement Instruction	5
6.0	Frequently Asked Questions	6
7.0	Revision History	6
Appendix A1	EC Declaration of Conformity	7
Appendix A2	UKCA Declaration of Conformity	8



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## 1.0 Cautions and Safety Warnings

### WARNING

**Improper tool use and the failure to follow the correct procedures are the primary root causes of tool failures and personal injuries. A lack of training or experience can lead to incorrect equipment installation or use. Only trained operators should service hydraulic pumps and hydraulic tools.**

### CAUTION

Personal injury and equipment damage can occur if the proper health and safety codes and procedures are not followed. Contact the site's health and safety office to determine all applicable safety rules and regulations.

### WARNING

The proper personal protective equipment must be worn at all times.

### CAUTION

Air can become trapped in the hydraulic system when connecting hoses and tensioners to a hydraulic pump. Refer to the hydraulic tensioner's instructions to determine if bleeding the air out of the hydraulic system is required.

### CAUTION

Depending on the amount of air present in the connected hoses or tensioners, it may be necessary to refill the pump with hydraulic oil.

### WARNING

Check the maximum working pressures of the hoses and tensioners connected to the pump. Do not exceed the maximum working pressure of the pump, hose, or tensioner.

## 2.0 Scope

This document describes the proper replacement of burst disc for Riverhawk tensioners using Hydraulic Safety Interlock Guards (HSIG).

Riverhawk P/N	GE VENDOC P/N	Description
GT-6776	n/a	Burst Disc Replacement Kit



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### 3.0 Description

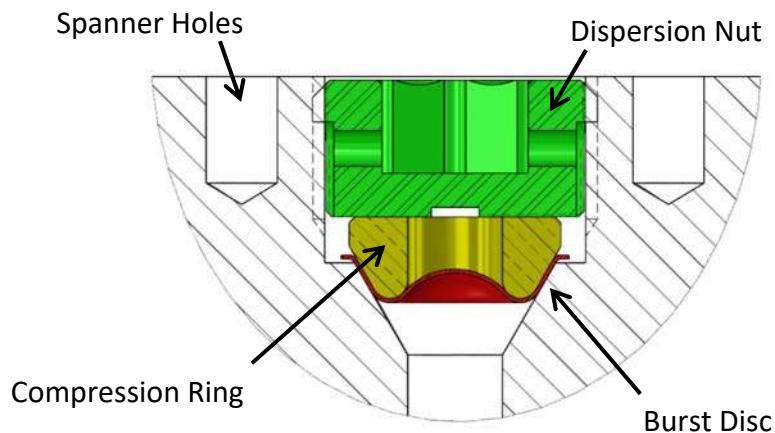
The pressure relief port is made of a female port opening in the piston and three parts, a burst disc, a compression ring and a dispersion nut. The burst disc seats on the tapered surface of the port opening. Mating of the tapered surfaces forms the seal against hydraulic leakage. The compression ring adapts the flat surface of the dispersion nut to the tapered inner surface of the burst disc. It also provides an unsupported area at the center of the disc that allows the disc to experience full pressure.

As pressure is applied to the unit, the center dome of the burst disc is loaded. When excessive pressure is applied to the disc, it will burst and release pressure. The disc must then be replaced after a burst and before tensioner operation can continue.

### 4.0 Assembly

Orientation of the components is shown in the figure below. Be sure all components are free of dirt and debris before assembly. Insert the components into the port as shown. Apply a healthy but not damaging amount of torque to the dispersion nut. Assembly is complete.

Check for hydraulic oil leaks after tensioning the first stud. If leakage occurred, then apply more torque to the port. If it appears that torque must be increased to the point where damage may occur, then disassemble the parts and inspect for damage. Repair or replace as necessary.



**Figure 4A** – Components of a Burst Disc Port Assembly



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## 5.0 Replacement Instruction

### Warning

Although it is possible for a burst disc to fail under normal service, this is very uncommon. Understanding of operating pressures is critical for safety and service of the tooling. Review tooling instruction manual for proper installation pressures for the application. Manuals can be found on the Riverhawk website at [www.riverhawk.com](http://www.riverhawk.com).

### 5.1 Removal of Burst Disc

1. Place cylinder on stable surface, and insert spanner tool into tensioner cylinder. Rotate spanner tool until the pins of the spanner tool are located into mating holes of the cylinder piston.
2. Place wrench onto flats of spanner tool and hold it in position.
3. Using 3/8" hex key wrench, loosen and remove dispersion nut from cylinder. If compression ring and burst disc are not removed with dispersion nut, use small magnetic tool and pick to remove these parts.



### 5.2 Installation of Rupture Disk.

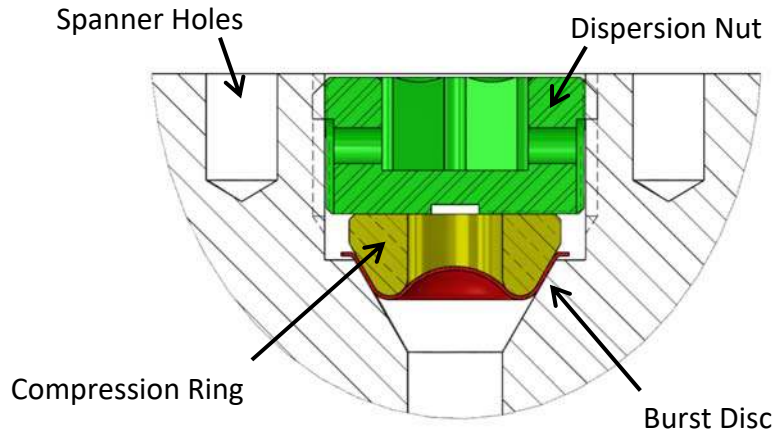
1. Insure all components are clean from dirt and debris.
2. Support tensioner cylinder with burst disc port facing upward.
3. Place new burst disc into port so that the convex center portion of the disc is facing upward.
4. Position compression ring into port to mate with the burst disc.
5. Insert dispersion nut into threaded hole and lightly tighten it against compression ring.



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6. Using spanner tool and 3/8" Allen wrench, fully tighten dispersion nut. Apply a healthy but not damaging amount of torque to the nut.



**Figure 5A – Components of a Burst Disc Port Assembly**

## 6.0 Frequently Asked Questions

This section contains some frequently asked questions and problems. If the steps listed here do not solve your problem, contact the Riverhawk Company thru our website, email, or phone call.

- Q:** The hydraulic tensioner cylinder appears to be leaking after installing new burst disc.  
**A:** Using spanner tool apply more torque to the port. If it appears that torque must be increased to the point where damage may occur, then disassemble the parts and inspect for damage or debris. Repair or replace as necessary.
- Q:** The burst disc failed shortly after being replaced.  
**A:** Check the tooling instruction manual for proper installation pressures. Note: The rated max hydraulic pressure is **not** the installation pressure.

## 7.0 Revision History

Revision Letter	Effective Date	Description
B	Jan 25, 2022	Added EC Declaration of Conformity and UKCA Declaration of Conformity
A	Jun 1, 2016	Changed terminology to be more consistent. Removed Section 5.1.1 to reflect current tool design.



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Revision Letter	Effective Date	Description
-	Jan 21, 2015	Released

## Appendix A1

### EC Declaration of Conformity

Manufacturer: Riverhawk Company  
 Address: 215 Clinton Road  
 New Hartford, NY 13413, USA

The hydraulic pump and bolt tensioning tool described in this manual are used for installing and applying tension to large bolts that are specifically designed by Riverhawk Company to be tensioned hydraulically.

All applicable sections of European Directive 2006/42/EC for machinery have been applied and fulfilled in the design and manufacture of the hydraulic pump and bolt tensioning tool described in this manual. Reference also ISO 12100:2010, ISO 4413:2010, and ISO 4414:2010.

Furthermore, this equipment has been manufactured under the Riverhawk quality system per EN ISO 9001:2015

Consult the Declaration of Conformance included with the shipment of this equipment that identifies the authorized Riverhawk representative, applicable serial numbers, and appropriate signature.



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## Appendix A2

### UKCA Declaration of Conformity

Manufacturer: Riverhawk Company  
Address: 215 Clinton Road  
New Hartford, NY 13413, USA

The hydraulic pump and bolt tensioning tool described in this manual are used for installing and applying tension to large bolts that are specifically designed by Riverhawk Company to be tensioned hydraulically.

All applicable sections of Supply of Machinery (Safety) 2008 have been applied and fulfilled in the design and manufacture of the hydraulic pump and bolt tensioning tool described in this manual. Reference also ISO 12100:2010, ISO 4413:2010, and ISO 4414:2010.

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