



CO-OPERATIVE INDUSTRIES  
AEROSPACE & DEFENSE

## Gas Industrial Engine Thermocouple Harness

*Tomorrow's Technology for Today's Applications*

# A Ruggedized Thermocouple Harness Solution for the CAT 3520 Gas Industrial Engine

**Introducing a long wearing, durable harness that delivers significant performance improvement over the current OEM design.**

LFG and Co-Operative Industries have teamed together to bring our customers a newly designed product that offers the benefit of reduced engine downtime due to harness failures. With it's aerospace inspired materials and location re-routing, installing this new harness can reduce your engine lifetime operational costs.

The design of the 3520 engine places the Thermocouple (and Detonation Sensor Harnesses) up behind the exhaust manifold, and just below the head. The harnesses are subject to very high, continuous temperatures that are estimated to be well over 400° F. In this high temperature environment the OEM design quickly turns brittle and can fail. In the instances of an exhaust leak, the extremely hot gases (in excess of 1200° F) damage the harness resulting in the need for replacement.

To address this, Co-Operative Industries and LFG designed the new Thermocouple harness to be located down low on the engine - away from the high heat and damaging hot gas leaks. This, coupled with the high quality design and material selection, resolves the short life issues that all operators experience.



### Replacement Info:

Thermocouple Harness P/N 650137  
replaces OEM P/N 220-2339.

### Key advantages of the Co-Operative Industries Harness:

- **Improved Harness Routing.** The new design re-routes the harness away from potentially damaging, high temperature areas of the engine. This results in less chance of harness damage and replacement.
- **Longer Harness Life due to Improved Construction.** The rugged outer jacketing consists of extremely durable metal and organic polymer thermoplastic outer braid, providing exceptional abrasion and impact protection. A stainless steel inner braid offers additional protection from engine vibration. The combination of materials and location results in a much longer life expectancy.
- **Reduced Downtime and Cost.** Improved materials and routing results in fewer harness failures and therefore reduced engine downtime, saving operators both time and money.
- **Installation Flexibility.** The new, improved design is completely interchangeable with the original OEM product, or it can be installed seamlessly with our new Detonation and Ignition Harness designs for optimum engine performance.
- **A Proven Track Record.** Our harnesses have performed exceptionally well in the field, far outlasting the original OEM design. To date, there has not been a single failure of the LFG/Co-Operative Industries harnesses. Individual harnesses have logged over 11,000 hours without incident.

### Contact Us

For details and additional information on the advantages Co-Operative Industries can offer you, contact:

**Edwin W. Ingalls**  
President, LFG Parts Supply, LLC

Tel: 217-433-1394 or  
614 GAS ENGN or 614-427-3646  
Email: [eingalls@edgewater.net](mailto:eingalls@edgewater.net)

*or contact*

**Dave Wright**  
VP Product Development  
Co-Operative Industries

Tel: 678-376-5588, Cell: 678-296-3719  
Fax: 678-889-8926  
Email: [davedwright@bellsouth.net](mailto:davedwright@bellsouth.net)