

### Tru-Loc® 4-Way for a Heavy Duty Fuel Injector Harness Application

#### BACKGROUND

Engine harnesses have some of the toughest requirements in the Heavy Equipment Industry, and those on large agricultural equipment are no exception. As a result, they often use special coverings, vibration dampeners, and extra brackets and clips to secure connectors in this area. If these precautions cannot secure the connection systems enough, intermittencies and discontinuities will occur between the terminals. There is also a cost disadvantage to adding many clips and brackets to try and compensate for an inadequate connection system.

#### PROBLEM

Plastic connection systems usually perform as intended in automotive applications. However, when they are brought into heavy equipment designs, they often fail due to the high vibrations, dirt, chemicals, temperature exposures, etc. This particular engine application had the high vibration requirements of a Combine where the current competition's 1.5mm terminal was failing in the field. This loss of continuity was causing warranty issues and customer downtime.

#### AIPG SOLUTION

Amphenol Industrial has created a robust connection system family for the harsh environments of the heavy equipment market for vibration levels up to 32 grms. The 1.5mm terminals utilize Amphenol's RADSOK® technology to provide better performance than our competitors' 1.5mm terminals, and they are rated to 13 amps continuous (16 AWG cable). The 2-way, 4-way, and 6-way systems also have fluoroelastomer interface seals to be impervious to diesel fuel and other chemicals. This connection system family is available for 150°C temperature applications upon request. We will also design custom mating parts for our plugs that need to mate to devices, pass-throughs, sensors, or other applications.

