



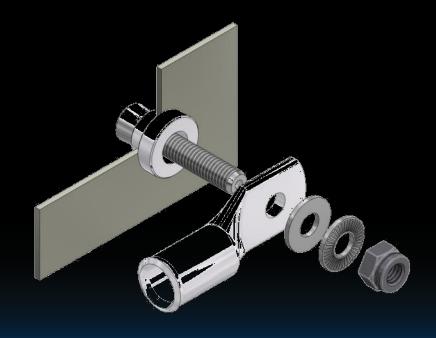
GroundControl Earth Bond System

Fast • Clean • Weld-Free • Corrosion-Resistant

GroundControl Earth Bond System

Easy attachment of weldless ground studs to metal plate

 Complete system including tools, various sizes of studs, and fastening hardware





GroundControl Earth Bond System Tools

Easy-to-operate hydraulic-assist tooling

- Setting tools for thick or thin plate and for each size of bonding stud
- One-hand operation and trigger-release retract mechanism

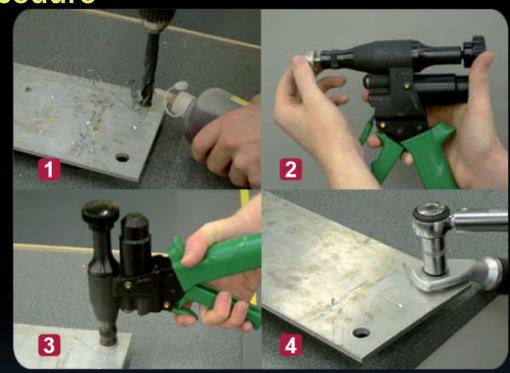




GroundControl Earth Bond system

Four-step installation procedure

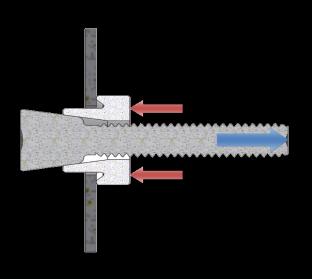
- Drill a hole, diameter dependent on thickness and size of bonding stud
- Screw the bond into the nose of the tool
- 3. Position stud in hole and repeatedly press tool lever until calibrated end point is reached. Unthread tool from stud.
- Attach the cable to the bond and tighten the nut

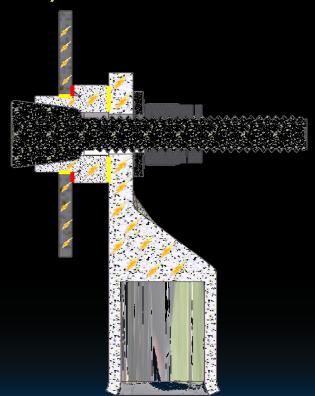




GroundControl Earth Bond System: Stud Retraction

Conductive bi-laminar (copper core) earth bond stud action







Weld-Free Benefit of GroundControl

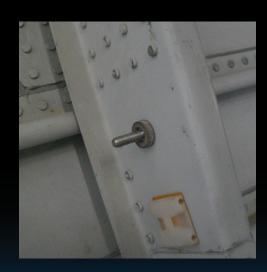
Earth Bonds

Ground points may be installed at any phase of vehicle buildout



- Internal drill hole surface, not plate surface, provides the conductive ground path
- Supports both thru-hole and blind hole installation





GroundControl Earth Bond System: Electrical Continuity Testing

Electrical connection resistance from 20 to 120 micro Ohm ($\mu\Omega$)









GroundControl Earth Bond System: Corrosion Resistance

500 hour salt spray test

- Bilaminar stud constructed from corrosion-resistant stainless steel
- Conductive internal copper bushing







GroundControl Earth Bond System: Tensile/Pull Test

200 to 800 daN

Massive radial forces applied during installation results in a virtually irremovable ground point





GroundControl Earth Bond System: Tool Ordering Information

Discrete tool required for stud size / thread

- 600-120 Hydraulic Setting Tool for 1/4"
 Earth Bonds
- 600-123 Hydraulic Setting Tool for 3/8" Earth Bonds
- 600-124 Hydraulic Setting Tool for M6 Earth Bonds
- 600-125 Hydraulic Setting Tool for M10 Earth Bonds





GroundControl Earth Bond System: Stud Ordering Information

Stud selection based on calculated / required electrical ground potential according to plate thickness and stud diameter



UNC Threads

- 687-481-08 = 1/4" Thread for Thin Plate
- 687-481-09 = 1/4" Thread for Thick Plate
- 687-481-10 = 3/8" Thread for Thin Plate
- 687-481-11 = 3/8" Thread for Thick Plate

Metric Threads

- 687-481-23 = M6 Thread for Thin Plate
- 687-481-24 = M10 Thread for Thin Plate
- 687-481-25 = M6 Thread for Thick Plate
- 687-481-26 = M10 Thread for Thick Plate



Summary: GroundControl Earth Bond System Benefits

Outstanding reliability, performance and longevity of ground points

- Fast installation equals cost savings
- Universal application: may be applied to any suitable chassis location
- Bond installed from one side
- No surface preparation of bonding area required
- Minimal operator training needed
- Professional appearance and aesthetic









GroundControl Earth Bond System

Fast • Clean • Weld-Free • Corrosion-Resistant