Clements National’s Cadillac® brand of trainline jumpers and receptacles provide head end power (HEP) primarily to locomotive hauled passenger rail cars. The power source can also be from a power car or wayside ground based source. Head end power is a convenient and flexible means by which electrical power can be generated by a central source and transmitted through each rail car via a trainline connection to operate auxiliary equipment. Typical HEP loads include HVAC, lighting battery charging/low voltage power supply, food service equipment and water heating equipment. The Cadillac brand of HEP trainline products has been time tested and provides the reliability and quality that you expect!

**Design Benefits:**

- Integrally molded plug (standard color – yellow) and receptacle (standard color – red) connectors. Optional colors available upon request.
- Integral molded design per Amtrak specification D77-24 provides superior environmental and shock protection.
- Compliant to Amtrak D77-24 specifications and APTA:
  - APTA RP-E-015-99
  - APTA RP-E-016-99
  - APTA RP-E-018-99
- ASTM Class M copper wire stranded cables assure maximum flexibility under adverse temperature conditions.
- Multi-tined socket contact design for enhanced contact performance.
- Floating silver-plated copper contacts, self aligning for easy mating, resist excessive voltage drop.
- Maximum water tightness achieved with:
  - Outer peripheral O-ring seal on plug body
  - Individual contact “closed entry” sealing between plug and receptacle interface
- Receptacle skirt features a patented, integrally molded, expandable stabilizer to eliminate insertion problems often encountered in connectors with glued support rings.
**MPA/MRA Performance Specifications:**

*Amtrak D77-24 & APTA RP-E-016-99*

**Operating temperatures:** -40°F to 140°F (-40°C to 60°C)

**Electrical rating:**
- **Power contacts:** 600 VAC, 400 amperes
- **Control contacts:** 600 VAC, 40 amperes

**Dielectric strength:** 2000 V rms

**Connector body material:** DuPont Synthetic Rubber

**Mating/unmating forces:** 70 lbs. Maximum - 30 lbs. Minimum

**Contact shock:** Mated connector pairs shall withstand 6" drop onto concrete surface

**Watertightness & Weatherproofness:** The mating of cable assemblies should provide a connection which is weatherproof when exposed to the conditions described in APTA RP-E-016-99 Section 4.5.

*Note: XXXX denotes customer specified length in inches. Ex: MPA-2-0060 = 60" in length.*
480V HEP Series
Head End Power Solutions

Housings

- **MRA-H-V55**
  Improved receptacle housing with integral “O” ring latch

- **MRA-H**
  Standard receptacle housing

- **MRA-BHAW**
  Improved breakaway designed receptacle housing

- **MRA-1-XXXXA**
  480V receptacle kit which includes housing and receptacle assembly

Cover Kits

- **MRRA-AMTK**
  Control circuit adapter – integral molded body

- **MRA-H-3L-K**
  Replacement cover kit – improved cover with latch

- **MRA-H-V37**
  Replacement cover kit – standard housing

- **HS-MRA-7**
  Locking Clamp

Misc. Accessories & Hardware

- **MPA-4-OR**
  Cable O-Ring

- **MPA-2-XXX-Y-V79**
  Portable Control Loop Jumper

- **MPA-SR**
  Cable strain relief for fixed jumper

Clements National also offers replacement parts that are recommended for testing and non-passenger use only.

RRA/RPA Series 480V Connector Kits, ideal for quick in-field installation or repair situations.

RRA receptacle kit with male contacts (RPA plug kit available but not shown)

Utilizes the same field-proven contact system as the integrally molded series
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Clements National is a Chicago-based electrical connector design manufacturer that has made a significant contribution in the connector industry by serving the following markets:

- Rail Mass Transit
- Marine, Oil & Gas
- Industrial

Additional Clements National Industry Specific Catalogs

- CN Series Power & Control Connectors for applications including Process & Control, Marine, Oil & Gas, Machine Tool, Industrial, Power Distribution & Transportation.
- EP Series Heavy-Duty, Explosion Proof Connectors for Hazardous Environments, including Marine, Oil & Gas, and Grain Silos.

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