

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**HIGH TENSION CABLE BARRIER MAINTENANCE KIT**

GCB:CT

1 of 3

APPR:CAL:DBP:03-18-20  
FHWA:APPR:03-18-20

**a. Description.** This work consists of furnishing a complete high tension cable barrier maintenance kit. A complete maintenance kit consists of one tension meter with carrying case, one infrared thermometer, one cable puller, two cable grips, four U-bolt cable clamps, and one complete set of manufacturer's installation and repair manuals.

**b. Materials.** Provide maintenance kit components in new and working condition. If directed by the Engineer, demonstrate to the Engineer that all components are in working condition. Ensure batteries for electrical devices are new, fully charged at the time of delivery to the Department, and free from any signs of corrosion. The Engineer will reject any items that appear to be used, damaged, partially charged, corroded, or non-functional. Replace all rejected items at no additional cost to the Department.

1. Tension Meter with Carrying Case. Provide a tension meter in accordance with all of the following:

- A. Tension capacity ranging from 2,000 pounds to 10,000 pounds.
- B. Accommodate wire diameters ranging from 3/16 inch to 1 inch.
- C. Accurate to within  $\pm 3$  percent.
- D. Operation must not result in cable elongation exceeding 0.08 inch.
- E. Equipped with a liquid crystal display (LCD).
- F. Equipped with sheaves designed to accommodate the cable size and type installed on the high tension cable barrier project, or as specified by the Engineer.
- G. Include a dated certificate from the manufacturer indicating that the tension meter has been factory calibrated based on the cable size and type installed on the high tension cable barrier project. Ensure tension meter is factory calibrated no more than 30 days prior to delivery to the Department.
- H. Temperature operating range of -4 degrees Fahrenheit (F) to 140 degrees F.
- I. Include a hard shell carrying case approved by the meter manufacturer.
- J. Include a user's manual.

2. Infrared Thermometer. Provide an infrared thermometer in accordance with all of the

following:

- A. Measures temperatures ranging from -58 degrees F to 500 degrees F.
  - B. Equipped with a built-in laser pointer to identify the target area.
  - C. Equipped with an LCD.
  - D. Include a user's manual.
3. Cable Puller. Provide a cable puller in accordance with all of the following:
- A. Minimum pulling capacity of 5 tons (10,000 pounds).
  - B. Minimum distance between hooks, 22¾ inches or less.
  - C. Minimum lift of 20 feet.
  - D. Net weight not to exceed 100 pounds.
  - E. Average handle effort not to exceed 80 pounds.
  - F. Hooks with safety latches on both ends of the puller.
  - G. Hooks compatible with the cable grips furnished as part of the maintenance kit.
  - H. Include a user's manual.
4. Cable Grips. Provide cable grips in accordance with all of the following:
- A. Minimum service load capacity of 10,000 pounds and must not damage the cables when used below the minimum service load capacity.
  - B. Rated for gripping and pulling the cable type and size installed as part of the high tension cable barrier project.
  - C. Eye or loop on each cable grip compatible with the hooks on the cable puller furnished as part of the maintenance kit.
  - D. Equipped with a safety latch to prevent slippage off the cable.
  - E. Include a user's manual.
5. U-Bolt Cable Clamps. Provide U-bolt cable clamps in accordance with all of the following:
- A. Designed for installation on the cable type and size installed as part of the high tension cable barrier project.
  - B. Drop forged steel base with steel U-bolt and finished hex nuts.

- C. Ensure all components are hot-dip galvanized or zinc plated.
6. Installation and Repair Manuals. Provide installation and repair manuals in accordance with all of the following:
- A. Ensure the installation and repair manuals are for the high tension cable barrier system installed on this project, unless otherwise specified by the Engineer.
- B. Ensure all installation and repair manuals are original copies published by the high tension cable barrier manufacturer.
- c. Construction.** Deliver complete maintenance kit to a location within the Region to be determined by the Engineer, prior to completion of cable barrier installation. Unless otherwise specified by the Engineer, do not use any part of the maintenance kit for cable barrier installation.
- d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

**Pay Item****Pay Unit**

Cable Barrier, High Tension, Maintenance Kit .....Each

**Cable Barrier, High Tension, Maintenance Kit** will be measured and paid for per individual maintenance kit. Payment will only be made after all components in each maintenance kit have been delivered to the Department and the Department has verified that all components satisfy all of the requirements of this special provision.