


- NOTES: 1. Operating gate arm mechanisms shall be electrically driven up and down. Mechanisms shall conform to AAR Signal Manual Part 3.2.15, except as follows:
- Motor control and gate control function(s) to be provided internally in the mechanism. Function(s) to be controlled by a double break circuit from the relay case.
  - Hold clear device should adhere to AAR specifications including as an acceptable alternative R-22-a with a minimum air gap of .02" instead of .015"; R-22-b, R-22-c, R-22-d, and R-22-h with a minimum coil resistance of 70 ohms.
  - In addition to the circuit controller contacts required in the AAR Signal Manual Paragraph 3.2.15, one additional contact which will close at 10 degrees or less is required.
  - Mechanism to include a 25 watt heater in the housing for moisture prevention on contacts.
  - Mechanism to also include counterweight mounting brackets complete and counterweights suitable for a 24' fiberglass gate arm.
  - Mechanism to include conduit for attachment between conduit entrance in the mechanism and conduit entrance in base as shown on Standard Plan CS-1001 sheets 1&2. Base end of conduit should be 2" National Pipe Thread connector.
  - Roadway mechanism, item 14 is to be used in combination with roadway and sidewalk gate arms. Item 15 is to be used with roadway or sidewalk gate arm.
  - Roadway and sidewalk mechanism, item 15, must include all parts for auxiliary gate arm assembly, 02-563953.
2. Roadway and sidewalk crossing gates will be constructed of fiberglass and stripped as shown on Standard Plan CS-1003.
3. When power lines pass highway gate arms extreme care must be exercised to make certain that gate arms will clear all power lines by 2 feet, providing that power lines cannot be relocated. At all locations, gate arms will be at 90 degrees when in clear position unless prevented by overhead clearance and then all gate arms will be at the same angle when in the clear position.
4. Gate arms will have breakaway mounting adapters and shear bolts as shown on Standard Plan CS-1001 sheet 1.

- Sidewalk gate arms shall have one light, item 10, mounted as shown on Standard Plan CS-1001, sheet 2.
- Sidewalk gate arms are to be used only where required.
- All crossing gate masts shall be constructed of 5' diameter aluminum, 6061-T6 alloy, schedule 40 pipe (1/4" wall).
- Mast 16', item 13 is to be used on installations without flashing light signals where roadway gate arms are required. Mast extension with wind guard assembly, item 12, is to be adapted to existing 6' mast, item 11, when required.
- Wind brackets will be installed on all roadway gate masts 2' below pinnacle or bell.
- Flashing light units, items 19 and 20 to have high impact lexan roundels, item 18, with 15 degrees vertical and 30 degrees horizontal infraction with high intensity hot spot.
- Flashing light signals shall be synchronized with flashing gate arm lights. Highway gate tip light and sidewalk gate light to be a steady light.
- All lamps for flashing light units and gate arms to be furnished by CONRAIL as shown on Standard Plan CS-4000.
- Track signs shall be installed in accordance with state and local agency's requirements. See items 21, 22, and 23 as shown on Maintenance of Way drawing 78302.
- "Stop on Red" sign, item 25, is to be used only in the State of Michigan. 
- Bells are to be furnished per local or state requirements.
- A shock absorber, item 1, is to be installed on all roadway gate arms 34' in length or longer, 12' from end of second section.
- Clearance distances shown on Highway crossing Signal Location Plan CS-1000.
- Plate, cover, item 27, will be used to cover 2"x4" unused cable hole in 16 foot roadway gate mast.

BLACK-LETTERS  
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CONRAIL

SHEET 3

CONRAIL  CS-1001-A

STANDARD  
AUTOMATIC CROSSING GATE  
AND SIGNAL ASSEMBLY

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