

# Model 956 Circuit Controller

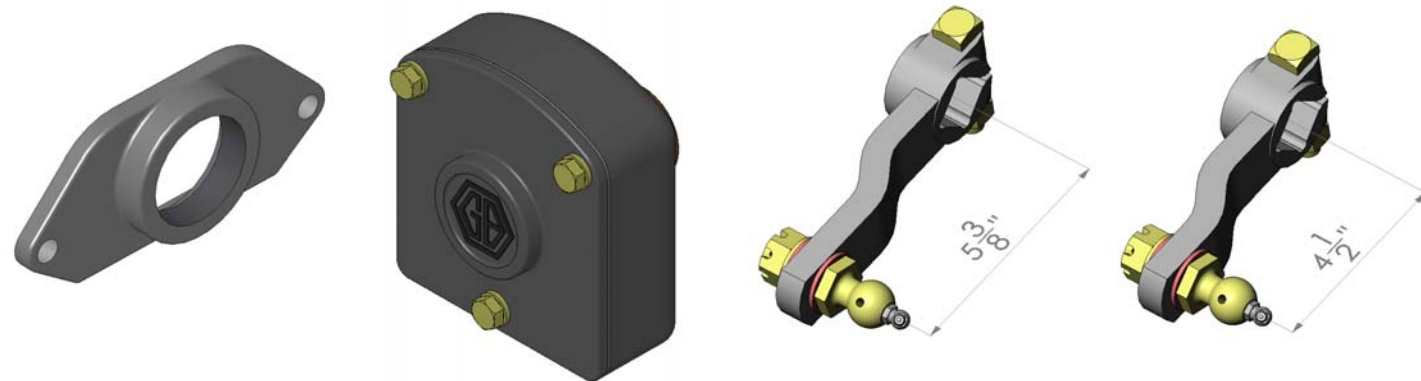
## Model 956K Push-Pull

With the switch in the position to rotate the camshaft clockwise, as shown in figure 1, the cam holds the down, positioning the contact finger against the back contact. When the switch points are moved, the clockwise rotation of the camshaft causes the cam to press down on the upper roller of the rocker, as shown in Figure 2. The rocker pivots, moving the contact finger against the pressure of the contact spring to open the back contact and close the front contact.

## ORDERING INFORMATION

To order, specify Model 956J or 956K Switch Circuit Controller, choice of crank 4 or 5, which are included with the controller. Please order accessories separately.

| ITEM | DESCRIPTION                                | G&B NUMBER            | OEM NUMBER   |
|------|--|-----------------------|--------------|
| 1    | Circuit Controller, Single Roller          | 956001-030-01         | A81-100 (7J) |
| 2    | Circuit Controller, Double Roller          | 956001-031-01         | A81-105 (7K) |
| 3    | Cap for Wire Outlet, 1-1/2" Std. Pipe      | 956017-001            | A81-130      |
| 4    | Crank, Insulated—1" Offset, 5-3/8" Centers | 956661-033-01 (Ref 4) | A81-135      |
| 5    | Crank, Insulated—1" Offset, 4-1/2" Centers | 956661-034-01 (Ref 5) | A81-137      |
| 6    | Centering Device                           | 956020-001-01         | A81-151      |



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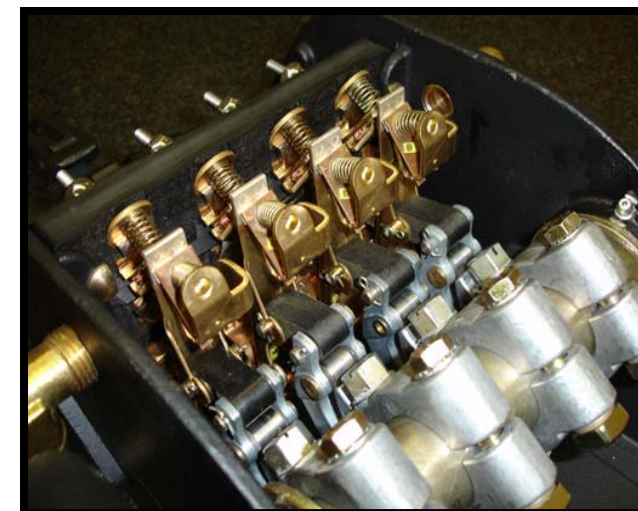
## Description:

The Model 956 Circuit Controller meets the rigorous demands of the rail industry – high sensitivity, reliability, and rugged strength to withstand great mechanical stress under a wide range of environmental conditions. The Model 956 consists of four sets of front-back contacts housed in a cast-aluminum cover. A mechanical linkage to the controller actuates the contacts. Thus, the controller may be used to integrate the positions of various devices with suitable control circuits. Commonly used with switches to detect switch positions, Model 956 controllers can also detect the positions of the derails, bridge locks, slide detectors, etc. They can shunt track circuits as well as control relay circuits.



## FEATURES

- **RUGGED** – heavily reinforced case, 1 1/2-inch cold-drawn steel shaft, corrosion and wear-resistant cams, spring steel cam surfaces.
- **SENSITIVE** – a 5-degree movement of the crank transfers the contacts.
- **RELIABLE** – positive action contact mechanism, spring contact pressure, withstands vibration.
- **VERSATILE** – cams adjustable to operate contacts simultaneously or progressively, left or right-hand operation, wide choice of fittings and accessories.



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## Protection

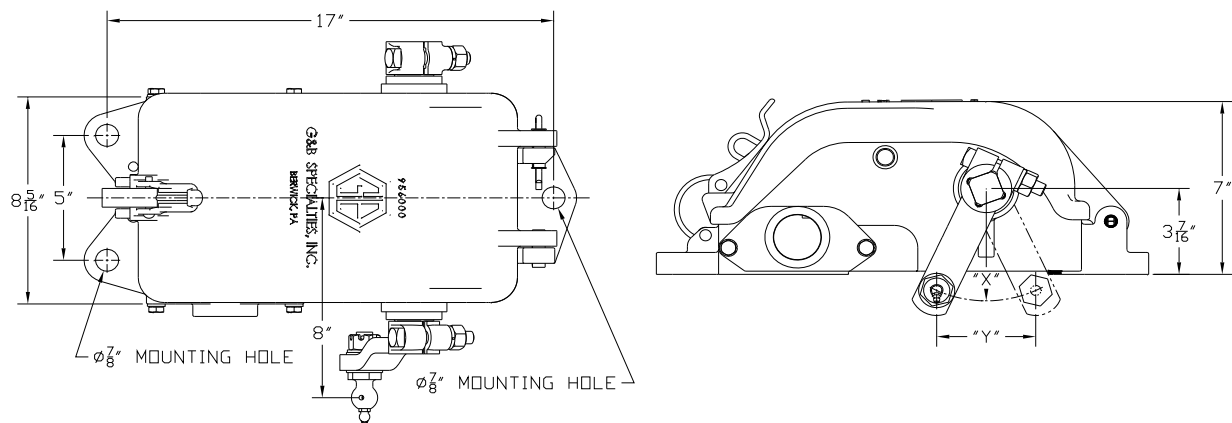
The operating mechanisms are very sensitive to detectable motion, yet isolate the contacts from vibration. The cam faces and the cam shaft are concentric—they rotate parallel to each other. Thus, crank movements due to vibration cannot affect the contact fingers. Contacts do not chatter, unless vibrations reach a level high enough to overcome the force exerted by the contact spring. The controller contacts are held tightly closed. In the roller style, the combined effect of cam and front-contact spring pressure on the contact fingers provides high front-contact pressure. Contact springs hold the fingers firmly against the back contacts. The rocker assemblies in the push/pull style use cam and spring pressure to hold the contacts firmly, in their closed position. The contact fingers move only when the crank position changes—not with crank or case vibrations.

## Contact Arrangement

Since the front and back contacts are articulated, they cannot take a permanent set due to bending. Firmly seated in locking grooves, the supports keep the contacts properly aligned. Coil springs between the contacts and their supports give high contact pressure and long contact wipe. Flexible copper braid electrically bonds each contact to its support. The contact fingers are channel shaped for increased strength. Contact springs hold the fingers tightly against the contacts. Silver contact surfaces provide high electrical conductivity.

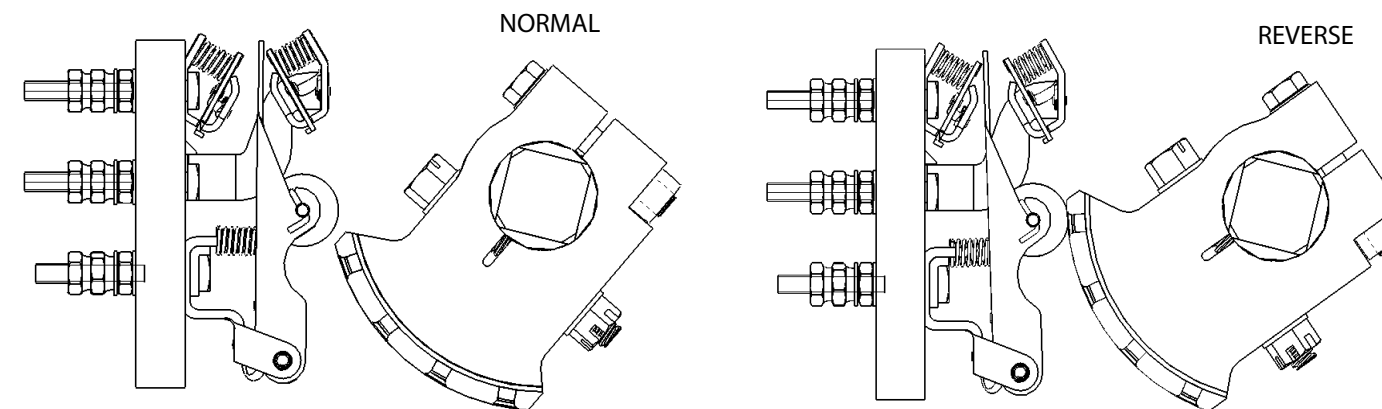
## Adjustment

Each of the four cams can be separately adjusted to operate its associated contacts at any desired position of the actuating device. Any cam can be adjusted easily—and with great accuracy—by loosening the clamping screw and turning the adjusting screw. Precisely fitted to hobbled threads in the shaft, the cam can be moved around the shaft to the exact position desired. Tightening the clamping locks the cam securely in position. The screws are easy to reach—no need to disconnect the external linkage and rotate the shaft until the screws are accessible. Made of die-cast aluminum, the cams resist corrosion. Hardened steel inserts on the roller contacting surfaces protect against cam wear.



# Model 956 Circuit Controller

| Throw of Cranks |                  |                    |           |                                  |           |
|-----------------|------------------|--------------------|-----------|----------------------------------|-----------|
| Crank Ref       | Centers of Crank | Circuit Controller | Max Throw | Min Throw                        | Max Throw |
| 4               | 5 3/8"           | Model 956J         | 6"        | 3 1/2"                           | 5 1/2"    |
| 4               | 5 3/8"           | Model 956K         | 7"        | 3 1/2"                           | 5 1/2"    |
| 5               | 4 1/2"           | Model 956J         | 5"        | 3"                               | 4 5/8"    |
| 5               | 4 1/2"           | Model 956K         | 5 7/8"    | 3"                               | 4 5/8"    |
|                 |                  |                    |           | <b>With Centering Attachment</b> |           |



## Model 956J Cam and Roller

With the switch in the normal position, the pressure of the contact spring holds the contact finger firmly against the back contact. When the switch points are moved toward reverse, the hardened steel cam face presses against the roller attached to the contact finger. The roller moves up on the cam face, and the contact finger moves, against the pressure of the contact spring, to open the back contact and close the front contact.

