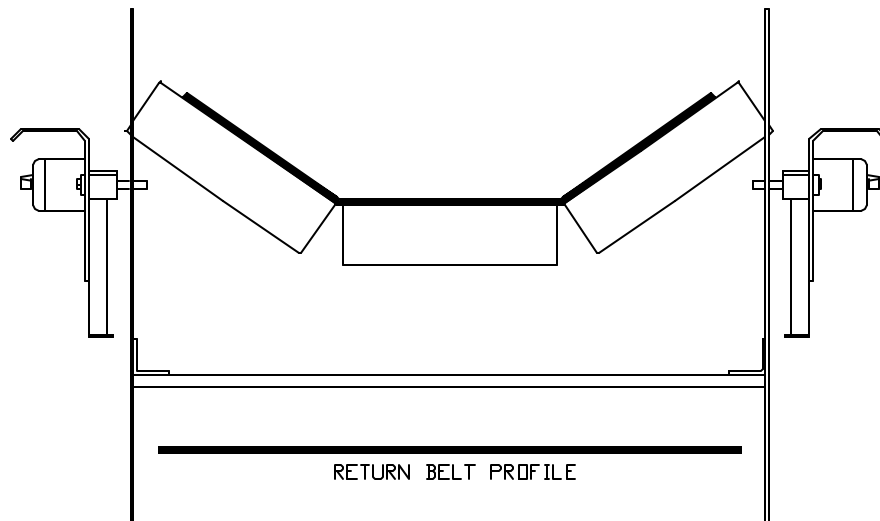


BELT PROTECTION UNIT

CTS 700 RBL/BL

TROUGH / RETURN BELT MISALIGNMENT DETECTION UNIT

OPERATIONS AND INSTALLATION MANUAL



TROUGH / RETURN BELT MISALIGNMENT DETECTOR

TYPE: CTS 700 RBL/BL

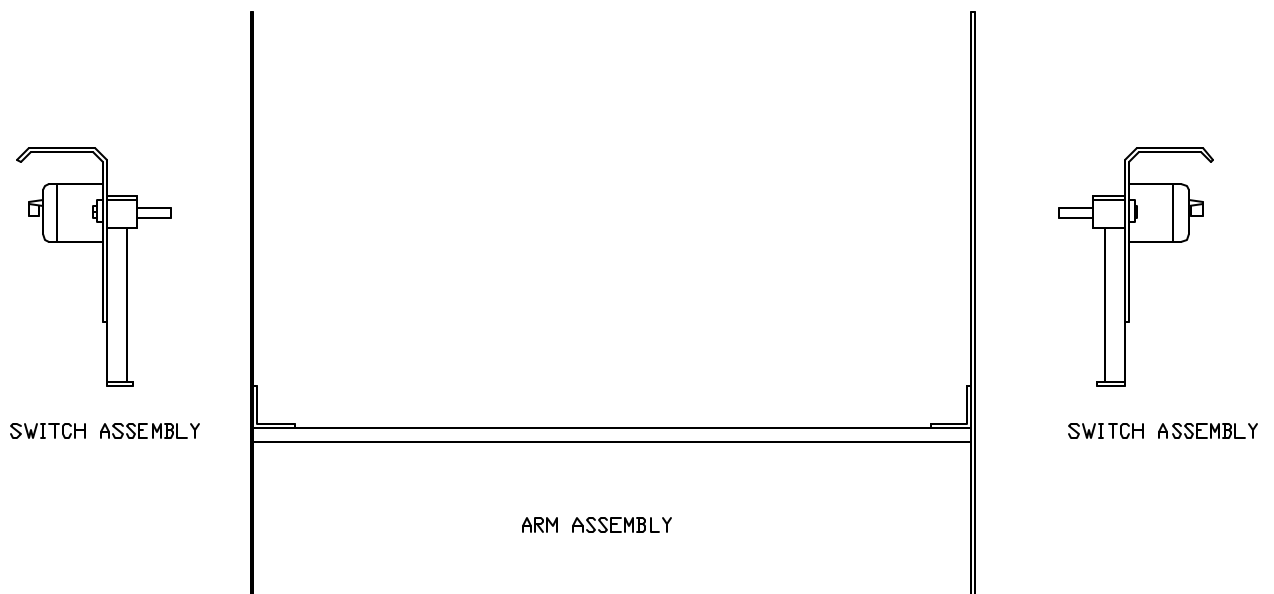
OPERATING DESCRIPTION

The unit is normally mounted at the head, tail or near take-ups of the conveyor. Misalignment of the trough return belts are detected by means of two hanging contact arms, which are connected to electrical switches via polycarbonate coupling mechanisms.

Should the belt, trough or return, run off center (either to the right or to the left) to the extent that it can cause damage to the belt or the conveyor structure, it will come into contact with one of the contact arms. Once contacted, the arms will start to swing in the moving direction of the belt thus activating the tripping mechanism and stopping the conveyor.

Once operated, the switch will latch in "off" position and must be manually reset.

UNIT PARTS: Each CTS 700 RBL/BL Unit consists of three parts that include (2) Switch Assemblies and (1) Arm Assembly as shown below. **Note:** All Switch assemblies are exactly the same.



INSTALLATION

1. Place a switch unit on the stringer with the switch facing away from the conveyor. Mark and drill (2) mounting holes, $\frac{1}{2}$ " diameter, in each stringer using the foot of the switch as a template. See Figure (1) below.

NOTE: The holes must be positioned in such a way there is a clearance between the existing idlers on the conveyor and the swinging motion of the contact arms and the connecting beam. It is recommended that the unit be centered between two existing idlers as shown in Figure (2).

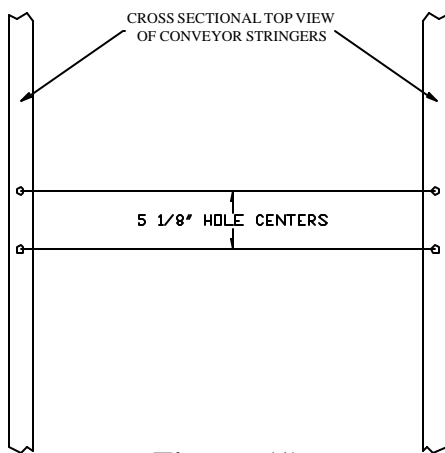


Figure (1)

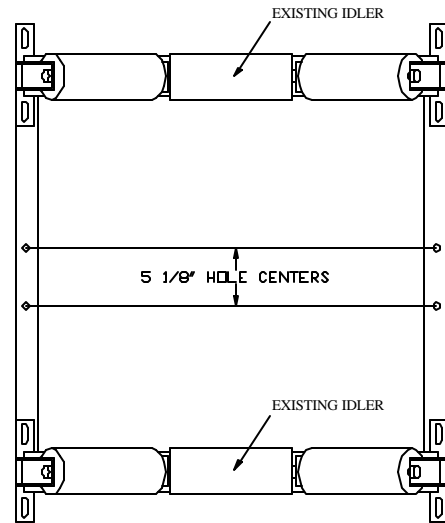


Figure (2)

2. Bolt one of the switch units in place with the switch facing away from the conveyor.
3. Slide the Arm Assembly onto the shaft of the Switch Assembly from step two above. See Figure (3) below.

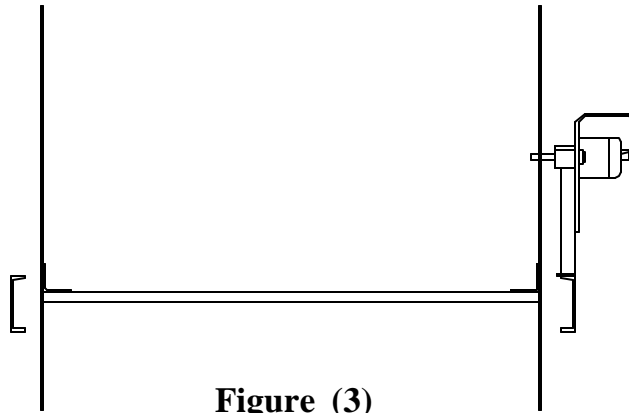


Figure (3)

4. Slide the polycarbonate pivot pin on the second switch assembly into the opposite arm and bolt in place. With all three sub assemblies in place the Misalignment unit will look like Figure (4) below.

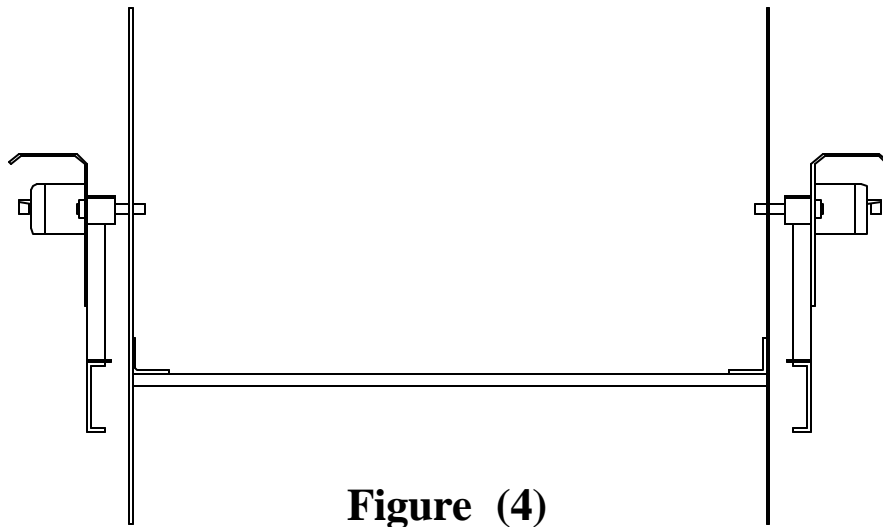


Figure (4)

SETTING TRIP SENSITIVITY

The switch coupling mechanism has been designed to provide an adjustable mechanical trip delay in order to prevent spurious trips from a snaking belt.

In order to set the contact arms for the most sensitive detection, the following procedure must be followed:

With the switch in the "ON" position turn the black pivot pin slowly by hand in the travelling direction of the return belt on one side and the travelling direction of the trough belt on the other side until they starts to engage the electrical switches, See Figure (5). The set screws are now tightened onto the polycarbonate pivot pin and locked into place using the jam nuts

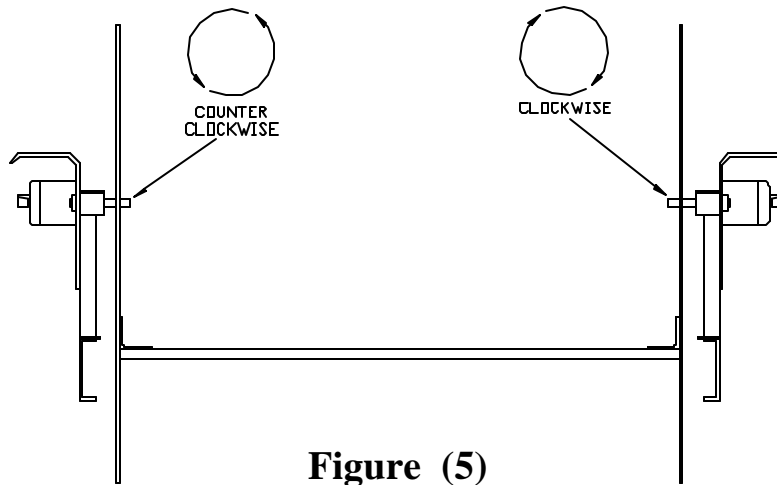


Figure (5)

NOTE: If there are more than one unit on the same belt line move all the pivot pins on one side of the conveyor in one direction and all the opposite pivot pins in the other direction.

See CONTACT ARM MOVEMENT CHECK

In order to set the contact arms for less sensitive detection, the following procedure must be followed:

With the switch in the "ON" position turn the black pivot pins slowly by hand in the travelling direction of the return belt and/or the trough belt until it starts to engage the electrical switch. At this point turn the pin back 1/4" before fastening the set screws onto the polycarbonate pivot pin and lock it into place by means of the jam nuts.

CONTACT ARM MOVEMENT CHECK

To check the correct working of the misalignment unit, the contact arm must be moved in the direction of the belt travel until the electrical switch latches in the "OFF" position.

In this position the contact arm should not exceed 19 inches from the vertical in the case of a delayed setting and 11 inches in the case of an instant setting.

When released the arm will return to its original position the electrical switch will remain in the "OFF" position.

WIRING THE MISALIGNMENT UNIT

Remove the switch cover by loosening the (4) screws in the corners. Each switch contains (2) sets of normally closed contacts as indicated in Figure (6) below. Connect to the normally closed contacts using the contact block provided. Replace the switch cover and the unit is ready for service.

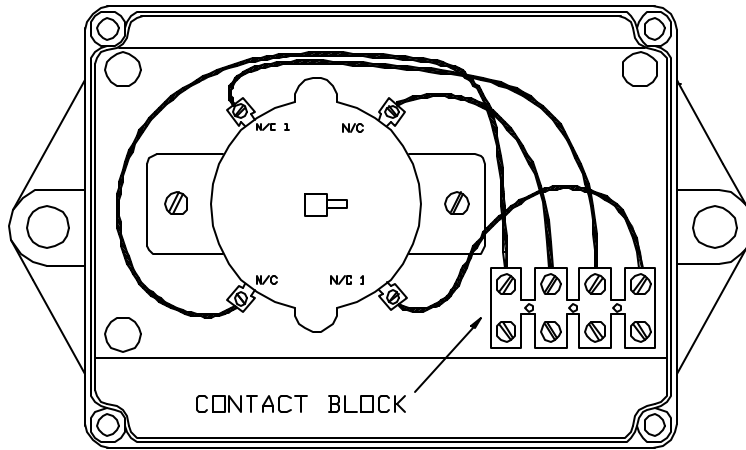


Figure (6)

REPLACEMENT OF CONTACT ARMS

To remove the contact arms loosen the jam nuts and unfasten the two set screws that connect the contact arm to the polycarbonate pin. Unfasten four 3/8" bolts on both sides of the contact arm beam assembly. Remove the beam before sliding the contact arms off of the polycarbonate pins.

To replace the contact arms first slide both contact arms onto the polycarbonate pins and then attach the connecting beam by means of four 3/8" bolts.

STRUCTURE

The whole unit is made from mild steel with enamel coating.

The bearings used are the "2RS" type, which are sealed on both sides.

All mechanical connections between the steel parts and the electronic system are completely isolated thus maintaining the galvanic isolation of the unit from the conveyor structure.

MAINTENANCE SCHEDULE

1. It is recommended that all nuts, bolts, screws and electrical connections be checked and tightened every six months.
2. The unit does not need any lubrication.