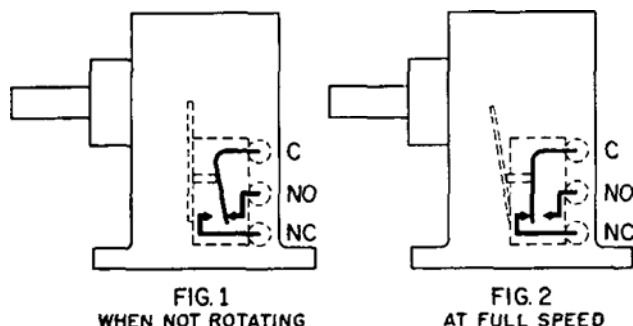


## INSTRUCTION MANUAL for

# Speed Drop Cutout



The Speed Drop Cutout is a general purpose centrifugally operated device. It may be used on numerous applications for operating electrical controls when the speed of a piece of equipment becomes less than a predetermined amount.

It may be run in either direction of rotation or in reversing rotation without affecting its operation. When a speed of approximately 950 RPM is reached, the switch is actuated to its engaged position, **Fig 2**. This position is maintained until the speed drops to approximately 520 RPM, whereupon the switch returns to its disengaged position, **Fig. 1**. Maximum allowable speed is 1800 RPM. In case of a power failure the cutout operates just as if the speed had dropped to below 520 RPM.

### INSTALLATION INSTRUCTIONS

1. Provide a drive from the equipment to the cutout. Usually it will be most convenient to drive the cutout by an FHP or Dodge Flexlink V-Belt. Use sheave diameters of a ratio giving the required speed to the cutout, namely: 1. cutout must run faster than 950 RPM to engage the switch, 2. when cutout speed falls below approximately 520 RPM, the switch will disengage. These speeds are approximate and some leeway should be allowed.

Where the speed is low, a speed-up drive to the cutout is required. In some such cases, a very flexible flat belt running directly on the cutout shaft may be convenient.

Driving the cutout by using a rubber friction wheel on the cutout shaft bearing against a revolving surface on the equipment may be found convenient. Here, the cutout may be mounted on a pivoted support and the weight of the cutout used to provide contact pressure on the friction wheel.

The cutout requires only enough power from the drive to overcome the slight friction in the ball bearings. Power can be taken from any convenient shaft on the equipment.

In some cases it will not even be necessary to use a sheave on the equipment and the belt may run directly on the shaft provided the shaft diameter is great enough that it does not flex the belt so sharply as to injure the belt.

2. Bolt the cutout in place, using ¼" bolts.

3. Connect the electrical wiring. See the circuit diagram of the switch above and typical schematic circuit diagrams on the reverse side. The switch is listed by Under-writers' Laboratories for 15 amperes; 125, 250 or 460 volts a-c. The single-pole double-throw switch may be used in normally closed or normally open circuits. It is intended for use only in control circuits and is not recommended for use directly in the line to the motor. This switch is not recommended for d-c circuits.

The circuit should be arranged to cut off the power and also, if desired, to give an alarm. The cutout must be wired to be bypassed when starting until the cutout speed has exceeded 950 RPM—see reverse side.

Pass the wire through the ½"-14 straight pipe tap in the top of the cutout housing. A conduit connector may be used to secure the conduit to the housing.

### MAINTENANCE

No maintenance, lubrication or adjustment is required. Do not lubricate the centrifugal mechanism. The ball bearings require no lubrication, being factory lubricated and sealed for life.

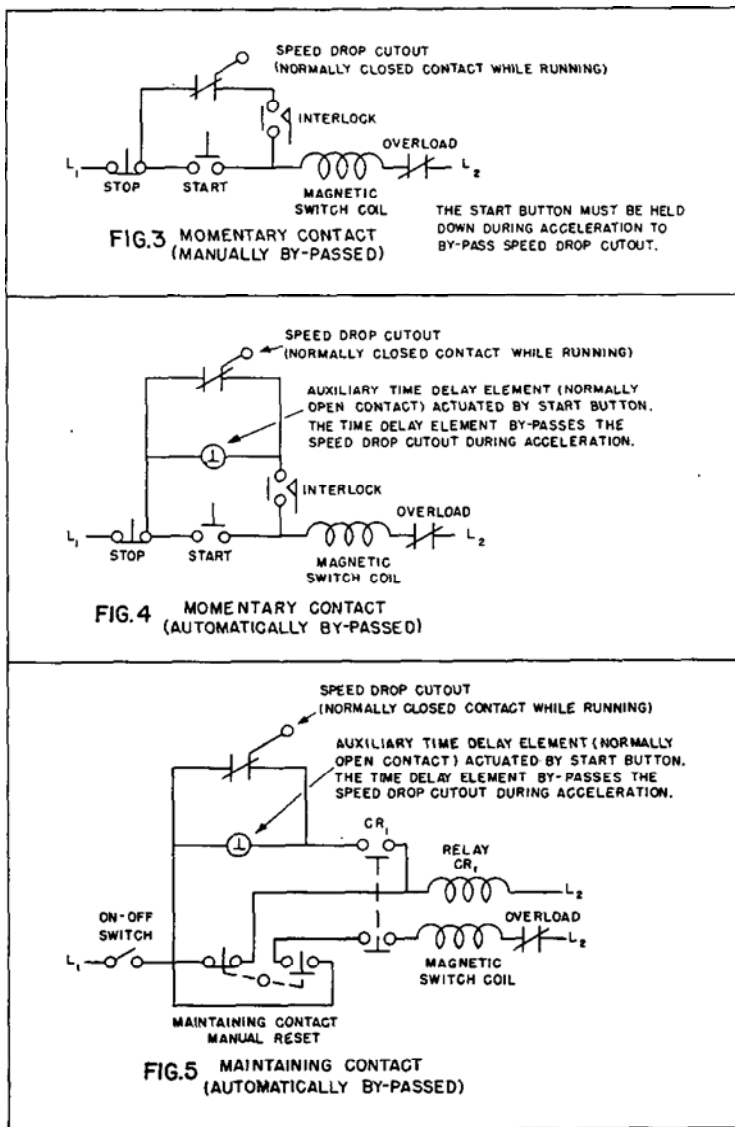
### USE ON FLEXIDYNE APPLICATIONS

This cutout is especially convenient for use with Flexidyne installations, because the Flexidyne is intended to slip so as to protect machinery subject to difficult starts and overloads. However, this slipping will overheat the Flexidyne if prolonged, and the cutout protects the Flexidyne by promptly switching off the motor. No resetting is required. Simply start the machine again after removing source of overload. In Flexidyne applications it is necessary that the cutout be connected to the driven machine—not to the motor.

If a load should not accelerate properly and the operator holds the starting button (see Fig. 3) down too long, the Flexidyne might overheat. To eliminate this possibility a timing device (see Fig. 4 and Fig. 5) can be connected to the starter which will automatically turn off the power if the load has not reached speed within a predetermined time. This timer protects against overheating of the Flexidyne at start.

**WARNING:** Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

## Typical Schematic Circuit Diagrams for Speed Drop Cutout Used with Magnetic Switches



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This material is not intended to provide operational instructions. Appropriate instruction manuals and precautions should be studied prior to installation, operation or maintenance of equipment.