

IC5181-C106 AND IC5181-D106 A-C CONTACTORS SIZE 6

Before any adjustments, servicing, parts replacement or any other act is performed requiring physical contact with the electrical working components or wiring of this equipment, the POWER SUPPLY MUST BE DISCONNECTED.

The C106 and D106 forms of the IC5181 contactor are identical except that the D106 form has had an extra machine finishing operation applied to the mating surfaces of the magnet and requires special maintenance. (See "Maintenance of IC5181-D106 Magnet Surfaces" section.)

DESCRIPTION

This a-c contactor has three main line contacts. The main poles are rated 540 amperes enclosed at 440 volts. It is suitable for use in motor starters to control the operation of motors up to 400 hp, 440 volts. A different magnet coil is used for different voltages or for different frequencies.

The contactor is operated by a shunt-coil magnet. The magnet plunger is connected to a lever, so that when the coil is energized, the movable tip structure is brought forward, thus closing the main and auxiliary contacts.

Two auxiliary contact units are normally provided, one on each side of the contactor. Each auxiliary contact unit has two double break contacts. Each set of stationary contacts in the auxiliary contact unit can be assembled to be either normally open or normally closed.

MAINTENANCE

NOTE: Before working on the contactor make sure that all power is removed from the controller.

FREQUENCY

Annually or more frequently if operation cycle is above normal.

CHECK - Main contacts for excessive arcing or wear. See "Contact Wear" paragraph.

- Wipe and return springs for fractures or fatigue. Replace as required.
- Magnet faces for accumulation of dirt. Wipe clean with a cloth.

- Hardware for proper tightness.
- Freedom of operation.
- For excessive noise when contactor is energized. Probable causes are excessive main tip wipe, damaged or dirty magnet faces or binding of moving parts.

REPLACEMENT OF COIL

Remove the wiring to the coil. Remove the screws (1). This allows removal of the key (2). Mark the right end of both the armature (3) and the stationary magnet (4) so that they can be replaced in the correct position. Remove the armature. Now remove the four screws (5) holding the coil and remove the coil. Although the stationary magnet can now be removed from the armature post (6), there is no need to do so. Replace the coil and fasten with four screws (5). Replace the armature (3) on the armature post (6). Slide the key (2) through the armature and the armature post. Replace the screws (1). After tightening the screws (1), the armature should have some freedom in all directions, so that the armature can "float" and find its own seat to assure quiet operation. Check to see that the contactor works freely.

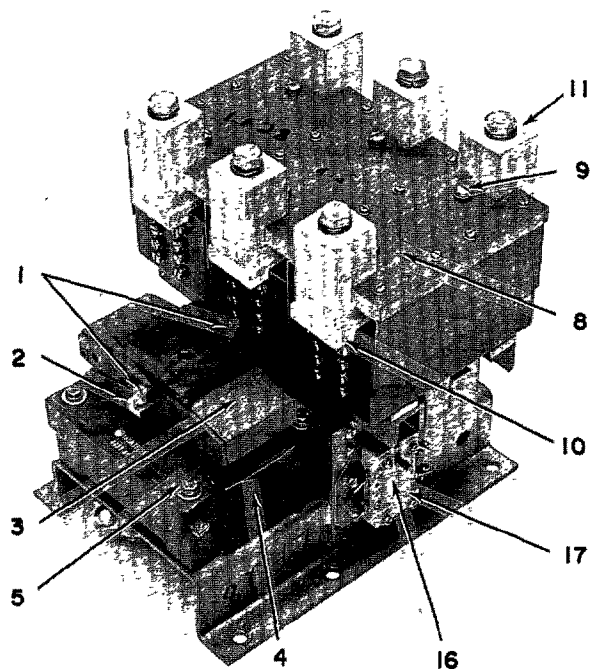


Fig. 1. IC5181-C106 a-c contactor, size 6

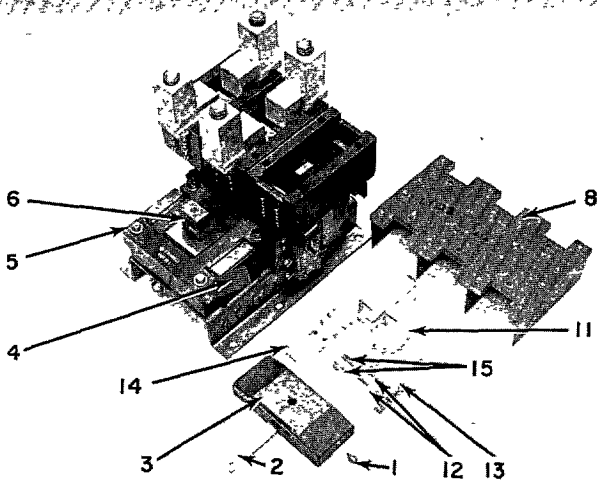


Fig. 2. IC5181-C106 a-c contactor, size 6, with coil and contacts removed

REPLACEMENT OF RETURN SPRINGS

To change the return springs, unhook the spring ends with the aid of needle-nose pliers. Hook the new springs in same position.

REPLACEMENT OF MOVABLE AND STATIONARY CONTACT TIPS AND WIPE SPRINGS

Remove the cover (8) by removing the screws (9). Remove the screws (10) and remove the stationary contacts (11). Now loosen the screws (12). Grasp the plastic clamp (13) between thumb and forefinger and remove the screws (12), clamp (13), movable contact (14) and the tip springs (15). With the device in normal operation position, the above parts can be removed and replaced as a unit. Reassemble with the new tip and two new springs. Make sure that the movable contact silver-alloy contact faces are assembled toward the clamp as shown in the illustration, and that the clamp is aligned so that the projections on the movable tip carrier will mate with the slots on the sides of the clamp. Slide the assembly of the screws, clamp, movable contact and tip springs into place (Do Not Force) and tighten the screws (12). Manually depress both sides of movable contact (14) simultaneously, to check for freedom of operation. Fasten the new stationary tip (11) with the screws (10).

CAUTION: IT IS POSSIBLE TO ASSEMBLE THE MOVABLE CONTACT (14) UPSIDE DOWN, THEREFORE, IT IS IMPORTANT TO CHECK AND SEE THAT THE SILVER-ALLOY CONTACT FACES OF THE MOVABLE TIP (14) MEET THE

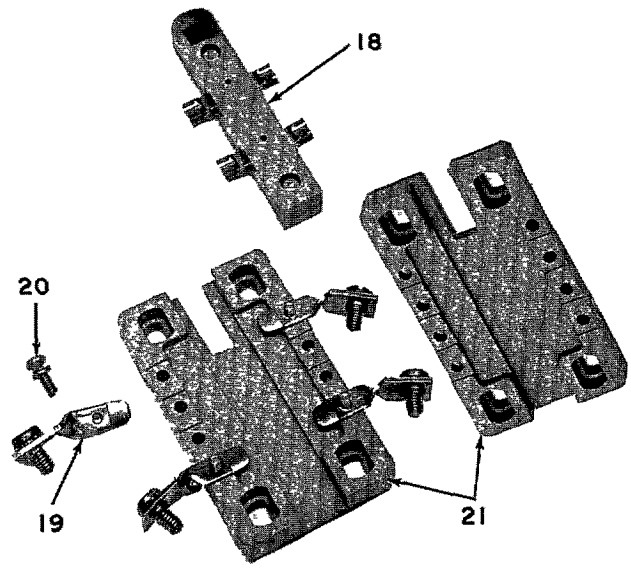


Fig. 3. IC5181-C106 a-c contactor, size 6, auxiliary contacts

SILVER-ALLOY CONTACT FACES OF THE STATIONARY CONTACTS WHEN THE CONTACTOR IS CLOSED. CHECK FOR PROPER WIPE (SEE CONTACT WEAR SECTION) AND CHECK THE CONTACTOR FOR FREEDOM OF OPERATION. REPLACE THE TOP (8) WITH THE SCREWS (9).

CONTACT WEAR

The wear allowance or contact wiper should be maintained at 3/16 inch, plus or minus 1/64 inch, as indicated by the travel of the movable contact support after the contacts touch. To check contact wear, remove the top (8) by removing the screws (9). Connect the light or bell set across a set of stationary contacts. Move the magnet towards the closed position until the tips just touch. Measure the position of the movable contact carrier with reference to a fixed point on the contactor. Now move the magnet to the fully-closed position. Measure the new dimension and subtract. This is the contact wiper. Ordinarily, changing tips will bring the contact wiper back into the correct range. If it is necessary to readjust the contact wiper, remove the contactor from the case. Loosen the screws holding the three movable contact carriers (plastic) to the mechanism. Move the movable contact carrier up or down until the correct contact wiper is obtained. Check to see that all tips have the same contact wiper within the plus or minus 1/64-inch tolerance. Tighten the screws and replace the top. Check for freedom of operation.

**REPLACEMENT OR RELOCATION OF
AUXILIARY CONTACTS**

To remove the auxiliary contact unit (16), remove the four screws (17). The two identical housing halves (21) are readily separated. The movable auxiliary contact assembly (18) is replaced as a unit. To change the stationary tips (19), remove the screw (20) and replace the tip. To relocate the contacts (i.e. Change N.O. to N.C.), move a set of stationary tips to the indicated location (see markings on the outside of the auxiliary contact unit housing). Reassemble the movable auxiliary contact (18) and the two housing halves (21) so that the rectangular opening in the movable auxiliary contact (18) and the slots in the housing halves (21) are at the top of the assembly. Make sure that the insulation piece (22) is in place, and when two auxiliary contact units are used per side, that there is an in-

sulation piece between the units. Reassemble the auxiliary contact unit to the contactor with the four screws (17). Adjust the housing (21) on its oblong mounting holes so that the square end of the plunger (18) is flush with the bottom of the housing (21) when the contactor is in the fully de-energized position. Tighten screws. Check for freedom of operation.

**MAINTENANCE OF IC5181-D106
MAGNET SURFACES**

Inspect the mating surfaces of the armature and stationary magnet at frequent intervals by removing the armature (3). Steps for removal and reassembly are given under the "Replacement of Coil" section. If necessary, clean the surfaces of the armature and stationary magnet with a cloth.

REPAIR PARTS

Description	GE Cat. No.	Fed. Stock No.
Contact, Main Movable	206A2725G1	
Contact, Main Stationary	157B9712G1	
Spring, Wipe-Main Movable Contact	193A9473	6110-891-7660
Spring, Return	193A9474	6110-054-2166
Coil	193A9636G - As Furnished	
Contact, Stationary-Auxiliary Interlock	174A7137P1	5930-725-5838
Contact Assembly, Movable-Auxiliary Interlock	129B6882G1	5930-725-8539

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