

# SERVICE Kit

SK177-12  
FEBRUARY 12, 1971

**Title** INSTALLATION OF IMPROVED LANDING GEAR POSITION INDICATOR SWITCHES



MODELS AFFECTED

177RG

SERIALS AFFECTED

177RG0001 thru 177RG0064

**PURPOSE:**

To provide parts and instructions for replacing three existing leaf type switches with plunger type switches and modifying the landing gear position indicator light circuitry.

**PARTS LIST:**

QUANTITY	PART NUMBER	NOMENCLATURE
3	S-1377-1	Switch
1	2043048-1	Actuator
1	2043045-1	Actuator
1	2043049-1	Bracket
1	2051005-1	Bracket
1	2041026-3	Bracket
4	NAS220-6	Screw
4	AN960-8	Washer
4	MS21042-08	Nut
2	AN4-6A	Bolt
2	AN960-416L	Washer
2	NAS679-A4	Nut
4	S-1370-1	Splice
13	S-1693-1	Stay Strap
8 ft	S-292-6	Sleeving
1	S-1367-2-8	Terminal
1		Installation Instructions

# CANCELLED

CHANGE IN WEIGHT AND BALANCE: NEGLIGIBLE

**1. DESCRIPTION OF INSTALLATION.**

a. Installation of Service Kit 177-12 consists of:

- (1) Removal of three leaf type switches in the landing gear position indicator circuit and replacing them with three plunger type switches.
- (2) Electrical circuit modification.
- (3) Rigging the new switch installations.

**2. INSTALLATION INSTRUCTIONS.**

- a. Gain access to the working area by rolling up the carpet, removing the cover plate forward of the main gear actuator and removing the engine cowling.
- b. Jack the airplane in accordance with Figure 2-1 of the Cardinal RG Service Manual.

SK177-12

- c. (Refer to figure 1.) Install new switch on the main gear actuator support as follows:
- (1) Remove the existing switch and bracket from support (4) and install bracket (2) using the existing screws and washers.
  - (2) Check that the gear is in the full up position and install switch (3) in the bracket (2).

NOTES

Clip the leads on the switch to about six inches, install sleeving to cover lead wires, install splice fittings (Reference figure 3) and rig the switch so the plunger is depressed .03 to .06 inches after the switch is actuated.

Prior to installing switches press the plunger till the switch just actuates and mark the plunger with a band .06 inches wide at the edge of the switch cylinder to facilitate visual rigging of the switch. When installing the switch adjust the stop nut nearest the switch so the edge of the mark on the plunger is just visible when the switch is inserted in and held firmly against the key washer and mounting bracket with the actuator in position.

- (3) (Refer to figure 3.) Clip wires GE2 and GE6 attached to the switch previously removed and install splice fittings as shown.
- d. (Refer to figure 2.) Replace nose gear sense switch and nose gear lock switch with nose gear up switch (3) and nose gear down switch (6) as follows:
- (1) Place the landing gear in the full down position.
  - (2) Remove existing bracket and switch from the position to be occupied by bracket (7) and switch (6).
  - (3) Remove bolt (9) and slide the rod end out of the way for the drilling operation which follows.
  - (4) Using actuator (5) as a guide locate and drill two holes as shown.
  - (5) Attach actuator (5) to link with screws, washers and nuts shown.

CAUTION

In order to provide clearance for rod end the screws must be installed with the heads inboard. A screwdriver may be wedged into the slots in the heads of the screws to prevent them from turning while tightening.

- (6) Reinstall rod end with bolt (9).
- (7) Install bracket (7) and switch (6) as shown.

NOTE

Check that the gear is in the full down position and rig the switch so the plunger is depressed .03 to .06 inches after the switch is actuated.

- (8) Pull down on the front of link to break the over center lock and push the nose wheel aft to provide better access to the front of the link.
- (9) Remove the leaf type switch from the forward end of the link.
- (10) Install actuator (4) as shown, using the existing screwdriver access holes in the outboard side of the link. Adjust the actuator so the top actuator surface is parallel with the upper surface "A" of the link.
- (11) Install bracket (2) and switch (3) as shown.

**CANCELLED**

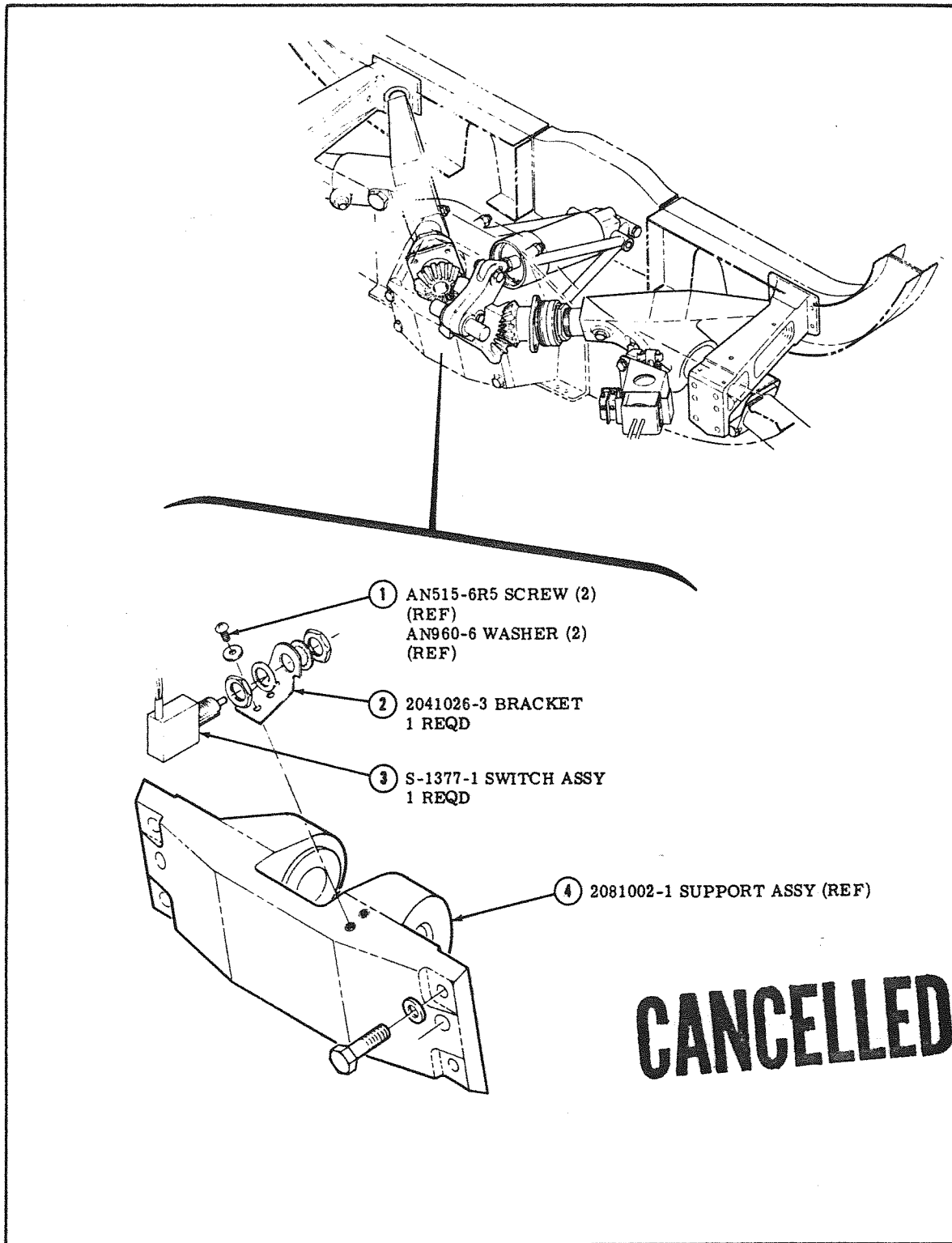


Figure 1. Main Gear Up Position Indicator Switch Installation

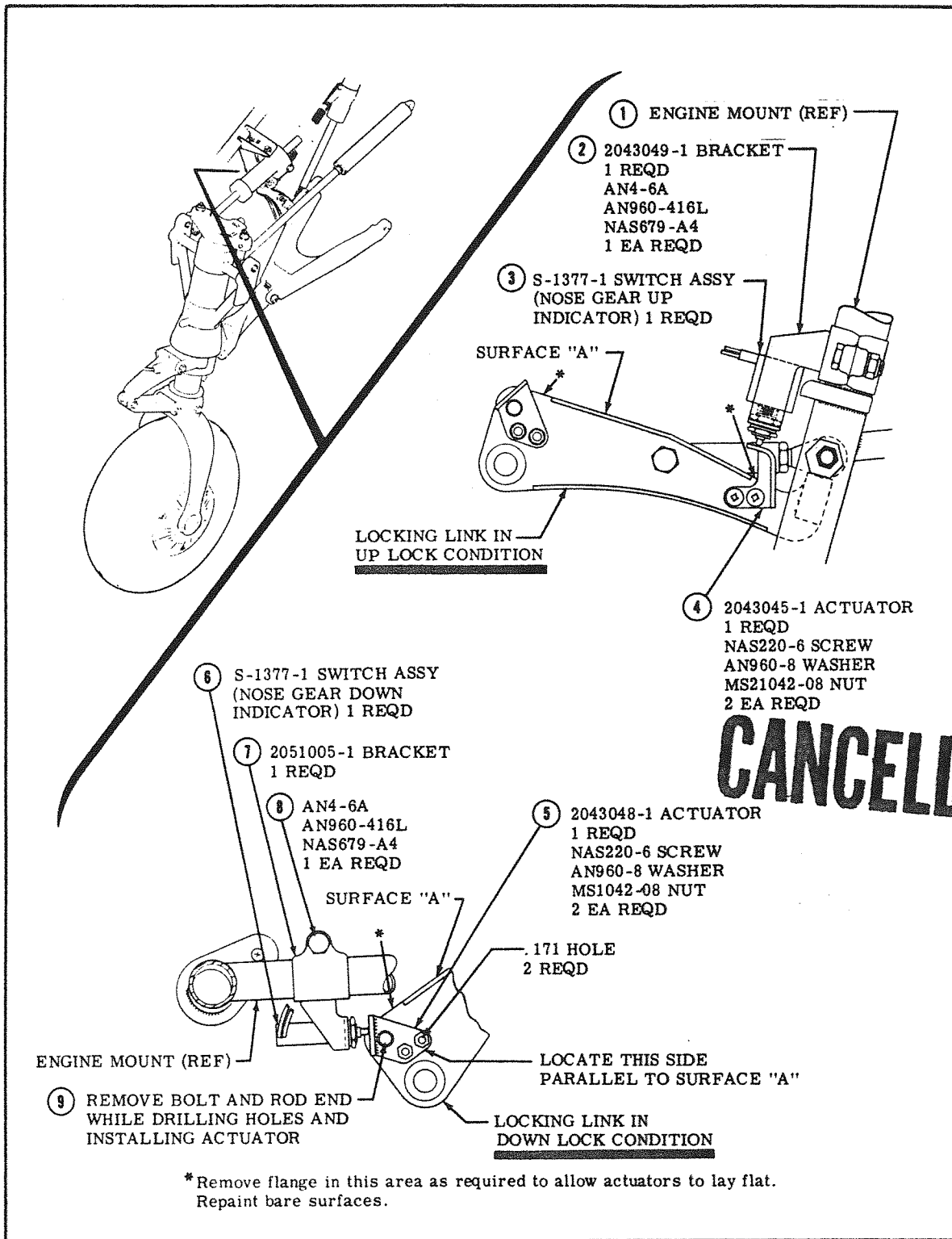


Figure 2. Nose Gear Up & Nose Gear Down Indicator Switches Installation

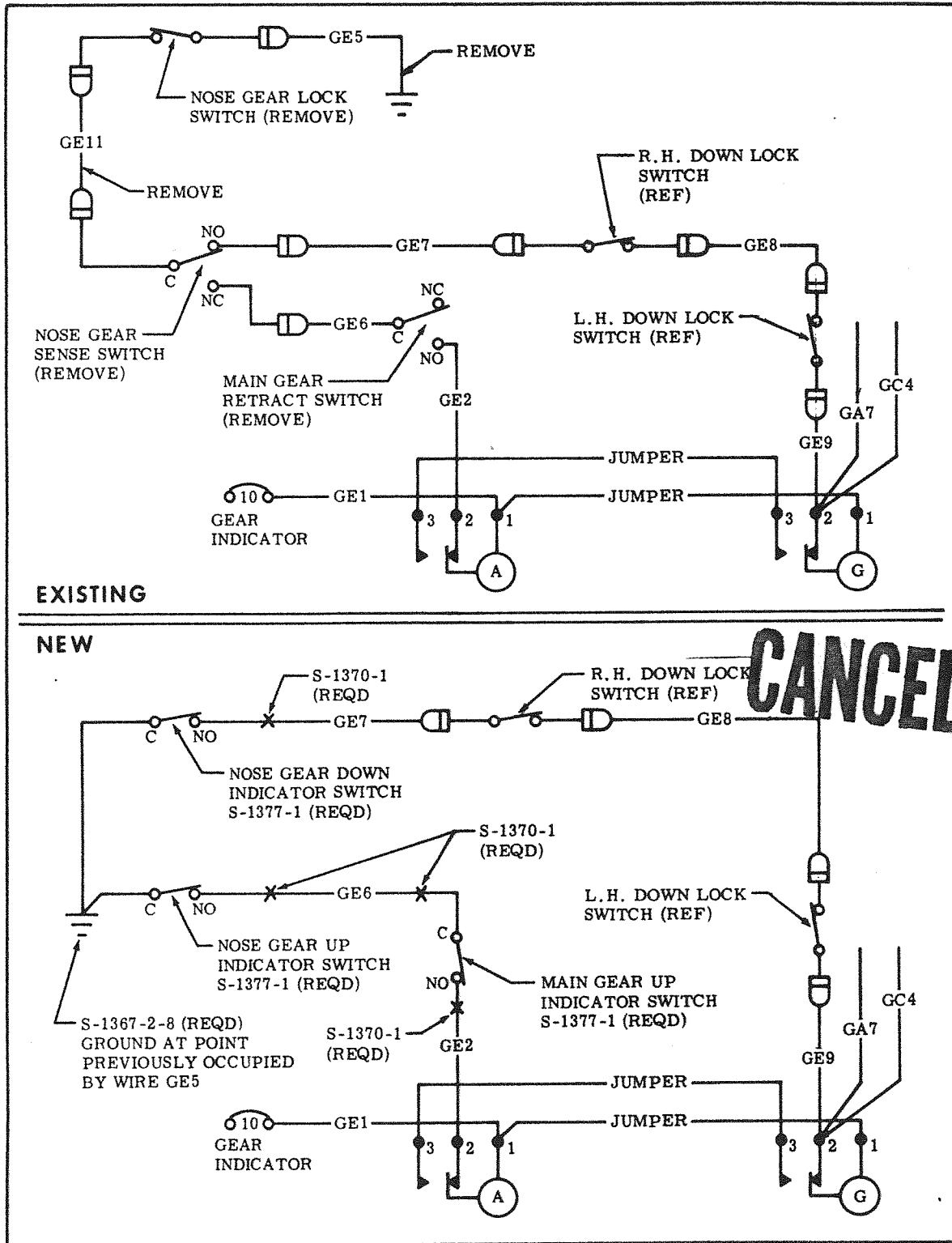


Figure 3. Landing Gear Position Indicator Circuit Diagrams

---

SK177-12

NOTE

Place the gear in the full up position and rig the bracket and switch so the plunger is depressed .03 to .06 inches after the switch is actuated.

- e. (Refer to figure 3.) Disconnect existing switch wires, make splices to connect the new switches in accordance with the schematic shown.

NOTE

Install sleeving over all new switch leads.

- (1) Re-dress all wires neatly to keep them free of moving parts.
- f. Turn on master switch and cycle the gear to the full up and full down positions and check the indicator lights for proper operation. Turn the master switch OFF.
- g. Remove the airplane from jacks in accordance with Service Manual.
- h. Reinstall all items removed for access.

**CANCELLED**