

SUBJECT: 2 RELAY MODIFICATION KIT

MODELS/S/N

AFFECTED: M20C, S/N 20-0010, 20-1147 THRU 20-1185  
M20E, S/N 21-0038, 21-1161 THRU 21-1180  
M20F, S/N 22-1179 THRU 22-1291, 22-1293 THRU 22-1305

TIME OF COMPLIANCE: AT OWNERS OPTION (AS MAINTENANCE OR RELAY  
REPLACEMENT DICTATES)

INTRODUCTION:

THE ORIGINAL RELAY IS NO LONGER AVAILABLE FOR SPARES REPLACEMENT SINCE ORIGINAL MANUFACTURE OF AIRCRAFT. THIS SERVICE INSTRUCTION IS TO DOCUMENT RETROFIT PROCEDURES FOR REPLACEMENT OF ORIGINAL RELAY WITH THE CURRENT IMPROVED TWO (2) RELAY SYSTEM.

INSTRUCTIONS:

1. Place aircraft on jacks and remove the following:
  - a. Large access plate on belly.
  - b. Left and right access panels forward of windshield.
  - c. Manifold/fuel pressure gauge.
  - d. Pilot's seat and left carpet.
2. Reference Schematic Figure SI M20-34B-1; cut the following wires at points indicated below. Reference Figure SI M20-34B-2 (Item 2) for physical area for wires to be cut.
  - a. 21EG08A16 @ [1]
  - b. 21EG18A16 @ [2]
  - c. 21EG19A16 @ [3]
  - d. \*\* 1-20 @ [4]
  - e. 21EG11A16 @ [5]
  - f. \*\*RED @ [9]
  - g. \*\*GREEN @ [10]
  - h. \*\*YELLOW @ [11]
  - i. \*\*BLACK @ [12]
  - j. \*\*2-20 @ [13]
3. Reference Figure SI M20-34B-1, [14], remove relay 21EG05A with attached wire ends and attaching hardware. Reference Figure SI M20-34B-2 for location of single relay 21EG05A and hardware to be removed.
4. Reference Figure SI M20-34B-3:
  - a. Cap wires 21EG28A16, 21EG09A16 and \*\*3-20 using AMP cap #324485 at [10].
  - b. Connect wires 21EG08A16 and 21EG19A16 with AMP window splice #320559 at [1]. This connects pins 1 and 4 of receptacle 21RC03A.
  - c. Connect wire \*\*1-20 (from pin 3 of receptacle 21RC03A) to wire 21EG18A16 (from C1 of switch 21EG03A) with AMP window splice #320559 at [2].
  - d. Connect wire 21EG11A16 (from pin 2 of receptacle 21RC03A) to wire \*\*1-20 (from 1 of switch 21EG07A) with AMP window splice #320559 at [3].
  - e. Install relay/bracket assembly, (relays 21EG05E and 21EG08E) (shown in Figure SI M20-34B-3 with attached wires [9]. Position new relays/brackets assembly on floorboard at approximate location of old single relay (reference Figure SI M20-34B-2). Install brackets to floorboard with 4 rivets as shown in Figure SI M20-34B-4. Relays may be removed from brackets for riveting if desired. Verify new relays are clear of any components. Route wires 21EG21C12 and 21EG20C12 [8] along main wire harness up to cockpit circuit breaker 21EG01A. Connect to same screw terminal as wire 21EG01A16. Ground wire 21EG29E12, as shown in Figure SIM20-34B-3.
  - f. Combine wires \*\*BLACK and \*\*GREEN in AMP knife disconnect #32448 and hook to wire 21EG33E12 at [6].
  - g. Combine wires \*\*RED and \*\*YELLOW in AMP knife disconnect #32448 and hook to wire 21EG37E12 at [7].
  - h. Place AMP knife disconnect #32448 on wire 21EG08A16 (from NC1 of switch 21EG03A) and hook to wire 21EG38E16 at [4].
  - i. Place AMP knife disconnect #32446 on wire \*\*2-20 and hook to wire 21EG40E16 at [5].

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5. Remove wire 21EG14A16 from terminal 5 of Landing Gear control switch mounted in instrument panel. Remove terminal from wire and cap with AMP #324485 cap. Gain access through instrument hole immediately below Landing Gear Switch.
6. Check landing gear rigging in accordance with appropriate Mooney Service and Maintenance Manual, 1975 issue.
7. Make the following Log Book entry:  
Complied with Service Instruction M20-34 which modified landing gear electrical system in accordance with Mooney drawing SCI-800269L-2 [E]; reference 1975 Service and Maintenance Manual.

WARRANTY: N/A

REFERENCE  
DATA:

PARTS LIST:

## SERVICE INSTRUCTION KIT - SI M20-34B

ITEM	PART NUMBER	DESCRIPTION	QTY
1	# 324485	CAP, WIRE (AMP)	4
2	#320559	SPLICE, WINDOW(AMP)	3
3	#32446	DISCONNECT, KNIFE (AMP)	1
4	#32448	DISCONNECT, KNIFE (AMP)	3
5	RELAY , BRACKET & WIRING ASSEMBLY (14 VOLT) CONSISTING OF THE FOLLOWING COMPONENTS		1
	26.72.23	RELAY (14 VOLT)	2
	800375-1	BRACKET	2
	AN3-5A	BOLT	4
	AN363-1032	NUT	4
	AN960-10L	WASHER	8
	21EG41E16	WIRE	1
	21EG40E16	WIRE	1
	21EG39E16	WIRE	1
	21EG38E16	WIRE	1
	21EG37E12	WIRE	1
	21EG35E12	WIRE	1
	21EG33E12	WIRE	1
	21EG31E12	WIRE	1
	21EG29E12	WIRE	1
	21EG27E12	WIRE	1
	21EG24E12	WIRE	1
	21EG22E12	WIRE	1
6	MS20470AD3	RIVET	4
7	21EG21C12	WIRE	1
8	21EG20C12	WIRE	1

FIGURES/

TABLES: See Figures on following pages.

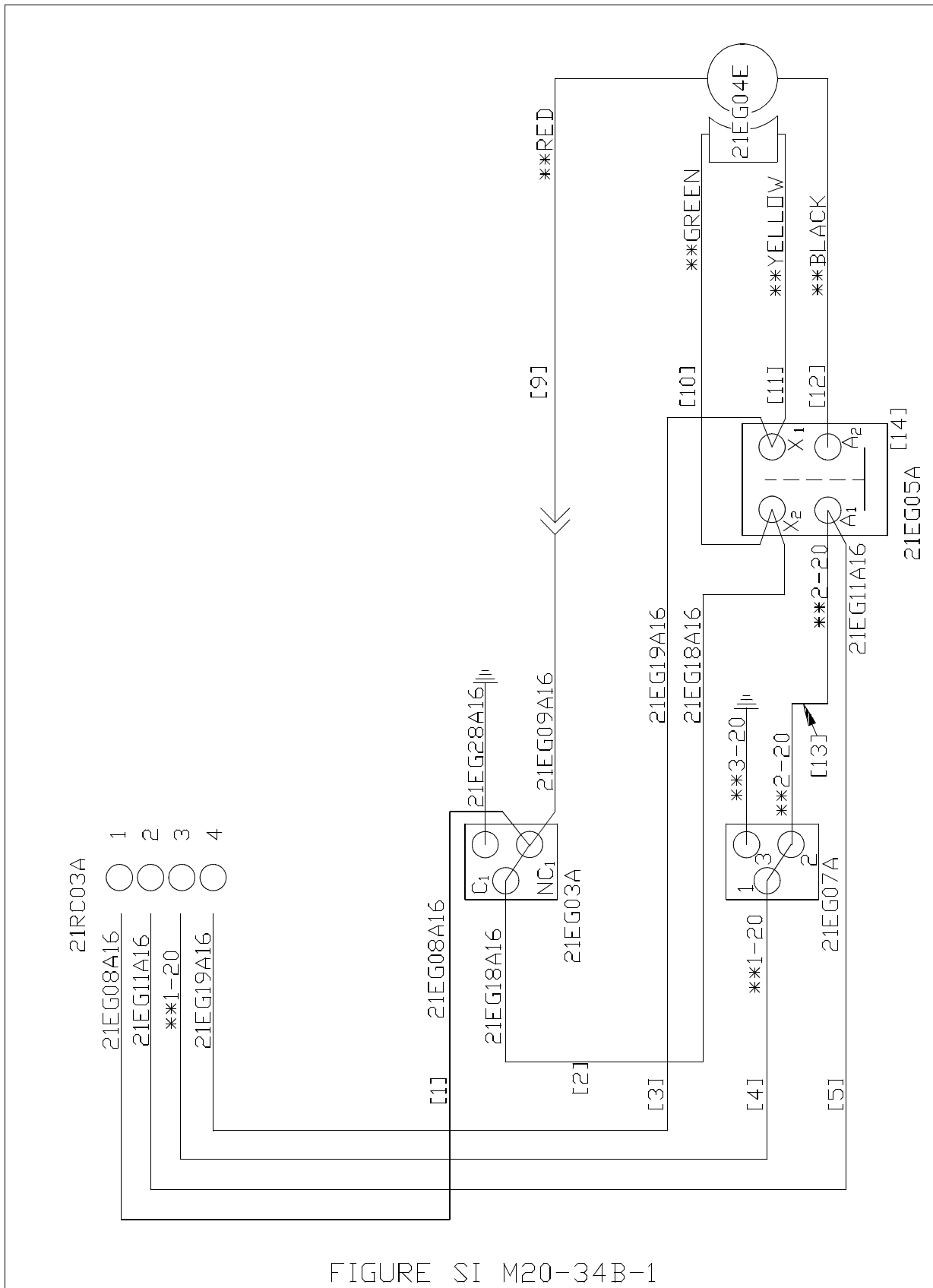


FIGURE SI M20-34B-1

