

**TECHNICAL BULLETIN**  
**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc.

No. 212-04-194

Date 01-28-04

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DATE
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**MODEL AFFECTED:** 212

**SUBJECT:** AFCS INDICATORS, REPLACEMENT FOR SPARES

**HELICOPTERS AFFECTED:** Model 212 helicopters serial number 30504 through 31294.

[Model 212 helicopters serial number 31295 and subsequent will have the intent of this bulletin accomplished prior to delivery]

**COMPLIANCE:** At Customer's Option

**DESCRIPTION:**

Bell Helicopter has become aware that indicator P/N 212-075-446-001 is no longer available. This indicator is used in the Automatic Flight Control System Kit. This bulletin introduces a new Indicator retrofit Kit 212-704-165-101.

**APPROVAL:**

The engineering design aspects of this bulletin are FAA/DER approved.

**MANPOWER:**

Approximately 2.0 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**MATERIALS:**

**Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
212-704-165-101	AFCS indicator	1

Note: If both, pilot and copilot indicators are to be replaced simultaneously, 2 kits 212-704-165-101 are required.

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-212-IPC Illustrated Parts Breakdown  
BHT-212-MM Maintenance Manual  
BHT-ELEC-SPM

**PUBLICATIONS AFFECTED:**

BHT-212-IPC Illustrated Parts Breakdown  
BHT-212-MM Maintenance Manual  
BHT SI 212-19  
BHT SI 212-47  
BHT SI 212-48  
BHT SI 212-53  
BHT SI 212-54  
BHT SI 212-65

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Disconnect battery.

-NOTE-

Following steps are common and applicable to pilot and copilot side.

2. Gain access to the back of AFCS indicators located on the instrument panel.

3. Disconnect wires from AFCS indicators, DS44 and DS45.
4. Using fig 2, delete wires as mentioned.
5. Remove and discard AFCS indicators from instrument panel.
6. Install new AFCS indicators in conjunction with doubler –111 as shown in fig 3 and fig. 6.

-NOTE-

212-704-165-101 kit supplies wires to support installation for pilot and copilot installation. Not used wire may be discard.

**Wire connection procedure for the pilot indicator:**

7. Using fig 4, connect supplied wire C977A20N to pilot indicator, DS44 pin G using procedure mentioned in BHT-ELEC-SPM, section 4-4.
8. Route wire C977A20N into the existing wire bundle to the local ground.
9. Crimp supplied terminal lug to other end of wire C977A20N using procedure mentioned in BHT-ELEC-SPM, section 4-9 and connect to the local ground.

**Wire connection procedure for copilot indicator:**

10. Using fig 4, connect supplied wire C978A20N to copilot indicator, DS45 pin G using procedure mentioned in BHT-ELEC-SPM, section 4-4.
11. Route wire C978A20N into the existing wire bundle to the local ground.
12. Crimp supplied terminal lug to other end of wire C978A20N using procedure mentioned in BHT-ELEC-SPM, section 4-9 and connect to the local ground.
13. Using fig 1 and 5 relocate and connect remainder of wires on previously installed indicator using procedure mentioned in BHT-ELEC-SPM, section 4-4.
14. Re-connect battery.
15. Apply appropriate power to AFCS system and perform system check. All light segments should be illuminated when AFCS system is in the ATTD mode with force trim "ON".
16. With force trim "ON" move cyclic in the longitudinal direction (Out Of Detent), the Pitch light should extinguish.

17. Return cyclic to center. Moving cyclic in the lateral direction (Out Of Detent), the Roll light should extinguish.
18. Return the cyclic to center. Moving pedals in either direction (Out Of Detent), the Yaw light should extinguish.
19. System check completed, turn power "OFF" on the system and aircraft.
20. Make an entry in the helicopter historical records indicating compliance with this Technical Bulletin.

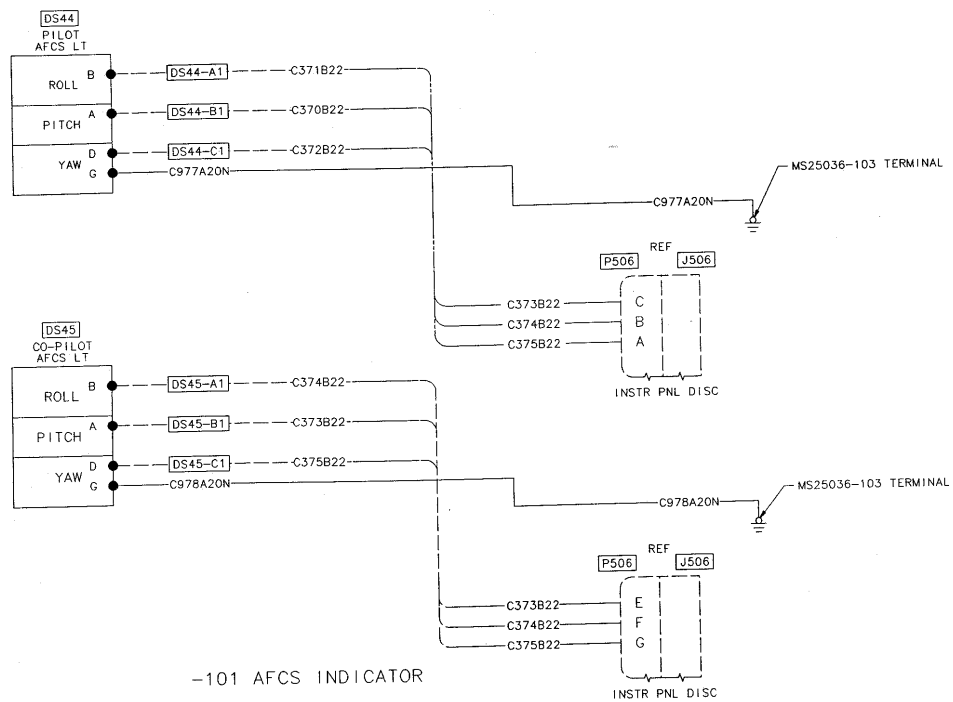


Fig 1

DELETE WIRE TABLE -101		
WIRE NUMBER	FROM	TO
	PILOT	
C377F22	DS44 (A2)	SPLICE
C377E22	DS44 (B2)	SPLICE
C377D22	DS44 (C2)	SPLICE
C377A20N	LOCAL GND	SPLICE
	CO-PILOT	
C378F22	DS45 (A2)	SPLICE
C378E22	DS45 (B2)	SPLICE
C378D22	DS45 (C2)	SPLICE
C378A20N	LOCAL GND	SPLICE

Fig 2

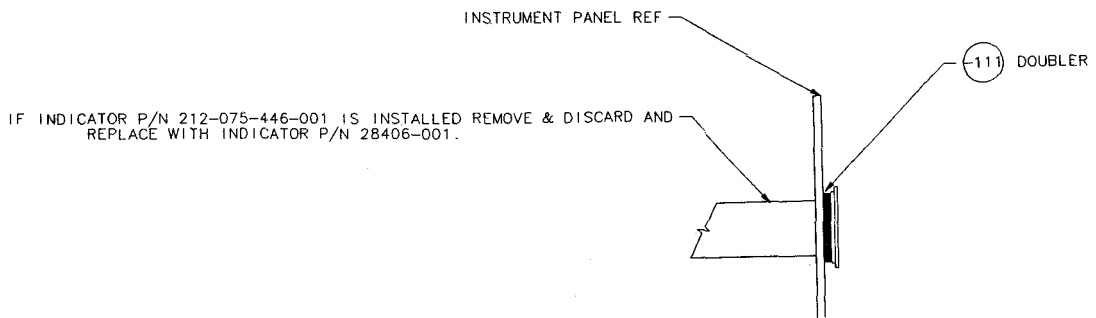


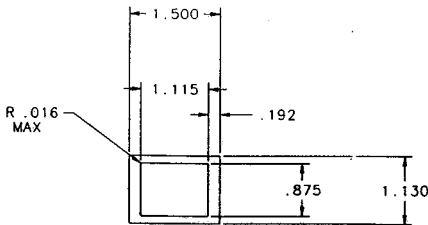
Fig 3

NEW WIRE TABLE -101			
WIRE NUMBER	FROM	TO	LENGTH
PILOT C977A20N	DS44 (G)	LOCAL GND	70"
COPILLOT C978A20N	DS45 (G)	LOCAL GND	30"

Fig 4

RELOCATE WIRE TABLE -101		
WIRE NUMBER	FROM OLD SWT P/N 212-075-446-001	TO NEW SWT P/N 28406-001
	PILOT	
C371B22	DS44 (A1)	DS44 (B)
C370B22	DS44 (B1)	DS44 (A)
C372B22	DS44 (C1)	DS44 (D)
C377D22	DS44 (C2)	DS44 (G)
	CO-PILOT	
C374B22	DS45 (A1)	DS45 (B)
C373B22	DS45 (B1)	DS45 (A)
C375B22	DS45 (C1)	DS45 (D)
C378D22	DS45 (C2)	DS45 (G)

Fig 5



-111 DOUBLER

Fig 6