



A Textron Company

TECHNICAL BULLETIN

TB 412CF-17-110

24 May 2017

**MODEL AFFECTED:** 412CF

**SUBJECT:** HYDRAULIC SYSTEM #1 AND #2 ACCUMULATOR  
P/N 212-076-007-003, REMOVAL OF

**HELICOPTERS AFFECTED:** Serial numbers 46400 through 46499.

**COMPLIANCE:** At customer's option.

**DESCRIPTION:**

This bulletin provides the instruction for the removal of both hydraulic accumulators. When completed, this improvement will save approximately 5 lbs (2.2 kgs) and cancel the requirement to inspect the hydraulic accumulators every 1000 hours (C-12-146-000/MF-001).

**APPROVAL:**

The engineering design aspects of this bulletin are FAA approved.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Helicopter Product Support Engineering - Medium Helicopters  
Tel: 450-437-6201 / 1-800-363-8028 / psemedium@bh.com

**MANPOWER:**

Approximately 5.0 man-hours are required to complete this bulletin. This estimate is based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

There is no warranty credit applicable for parts or labor associated with this bulletin.

**MATERIAL:**

**Required Material:**

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

<b>Part Number</b>	<b>Nomenclature</b>	<b>Quantity</b>	<b>Figure</b>
90-002-3	Nutplate	1	3
MS20470AD4-6	Rivet	2	3
AS5192W06	Tee Fitting	1	4
412-076-100-101	Reducer	1	4
MS28778-6	Packing	3	4
AS5230W0606	Union	2	4
MS21919WDG4	Clamp	1	5
MS27039-1-10	Screw	1	5
NAS1149D0316J	Washer	1	5
NAS43DD3-12N	Spacer	1	5
AS1004W0404	Fitting, Elbow 90°	1	5

**Consumable Material:**

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<b><u>Part Number</u></b>	<b><u>Nomenclature</u></b>	<b><u>Qty</u></b>	<b><u>Reference *</u></b>	<b><u>Note</u></b>
2400-00036-00	Hydraulic fluid, petroleum base	AR	C-002	1
2400-00066-00	Hydraulic fluid, synthetic	AR	C-072	1
2230-00425-00	Primer, Epoxy Polyamide	AR	C-204	

\* C-XXX numbers refer to the consumables list in BHT-ALL-SPM Standard Practices Manual

NOTE:

1. Refer to helicopter records for type of hydraulic fluid used.

**SPECIAL TOOLS:**

None required.

## WEIGHT AND BALANCE:

<u>Weight</u>	<u>Longitudinal</u>		<u>Lateral*</u>	
	<u>Arm</u>	<u>Moment</u>	<u>Arm</u>	<u>Moment</u>
-4.9 pounds	139.7 inches	-685 in-pounds	2.0 inches	-10 in-pounds
-2.2 kgs	3548 mm	-78.8 kg x mm/100	51 mm	-1.1 kg x mm/100

\* In lateral calculations, - is left and + is right.

## ELECTRICAL LOAD DATA:

Not affected.

## REFERENCES:

C-12-146-000/MY-001 Illustrated Parts Breakdown  
C-12-146-000/MF-001 Maintenance Manual  
C-12-146-000/MS-002 Standard Practices Manual  
BHT-412CF-IPB  
BHT-ALL-SPM

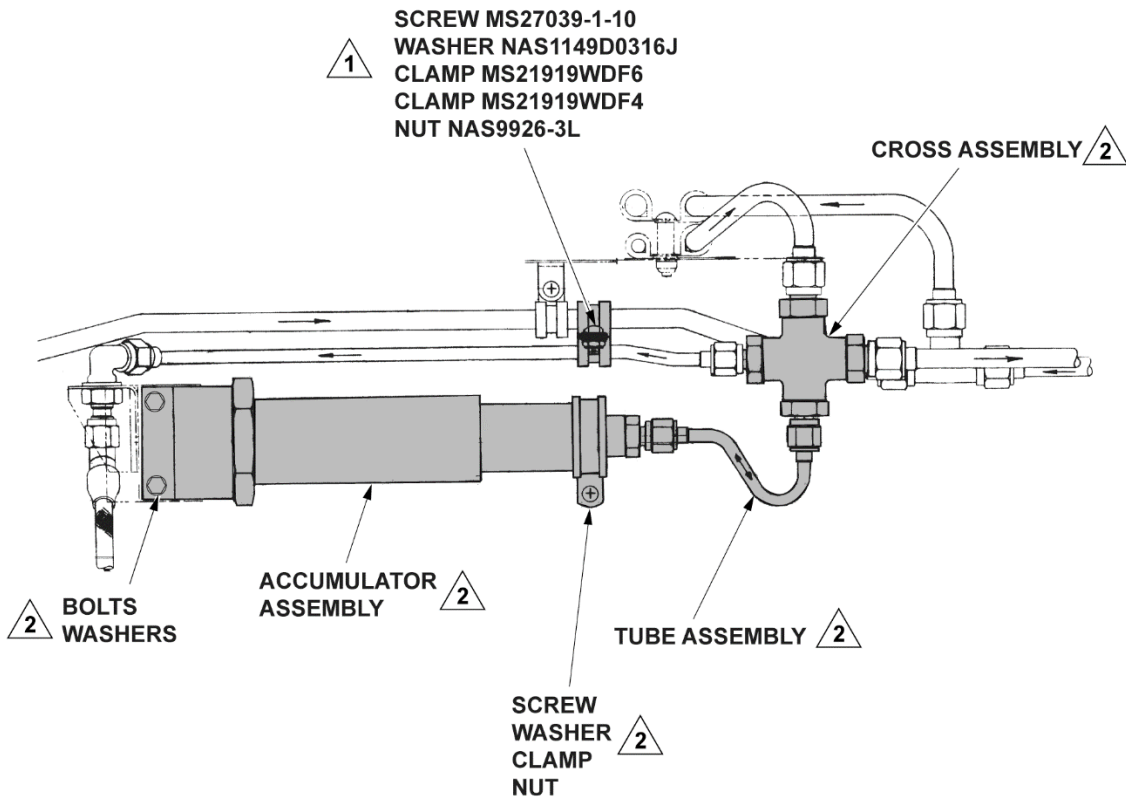
## PUBLICATIONS AFFECTED:

C-12-146-000/MY-001 Illustrated Parts Breakdown  
C-12-146-000/MF-001 Maintenance Manual  
BHT-412CF-IPB

## ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare helicopter for maintenance.
2. Gain access to both hydraulic accumulators (C-12-146-000/MF-001).
3. Remove all parts shown in grey on Figure 1 and 2 (C-12-146-000/MF-001).
4. Install Nut plate 90-002-3 shown on Figure 3 as follow:
  - a. Install clamp MS21919WDG4, screw MS27039-1-10, washer NAS1149DO316J with spacer NAS43DD3-12N and nutplate on tube assembly P/N 212-076-571-001. Do not tighten screw at this time to allow proper positioning of nutplate.
  - b. To prevent tube and stiffener preload, temporary install tube to fit and locate the nutplate on stiffener P/N 205-030-845-376 (Detail B) mark position of the nutplate and remove tube assembly.
  - c. Install the nutplate 90-002-3 using rivets MS20470AD4-6 (of the proper length), to the lower left hand stiffener P/N 205-030-845-376.

- d. Touch up the area, as required, with primer C-204 (BHT-ALL-SPM).
5. Install new hardware shown in grey on Figure 4 and 5.
6. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.

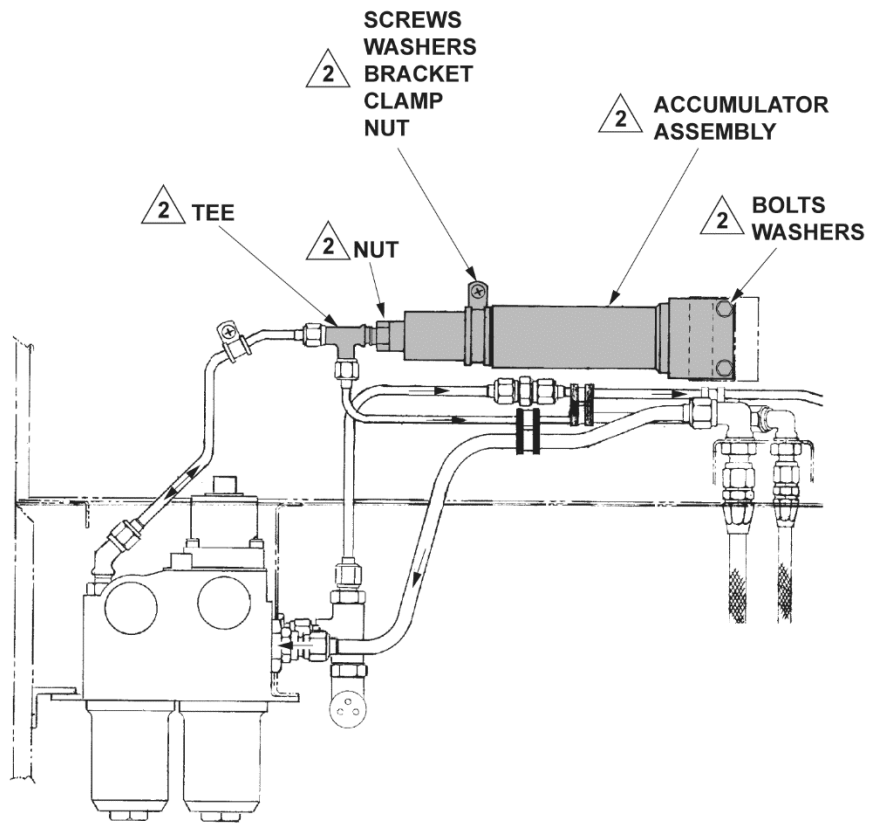


**NOTES**

- 1 Retain parts for relocation.
- 2 Parts no longer required.

13516\_001a

**Figure 1**  
Hydraulic System I Pre TB 412CF-17-110 Configuration

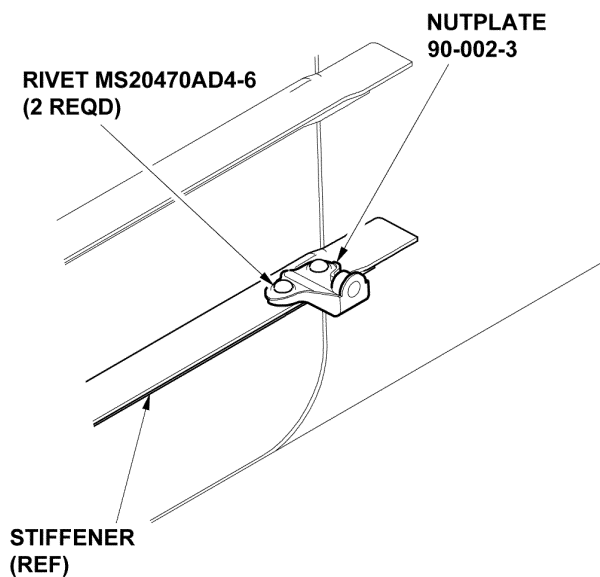
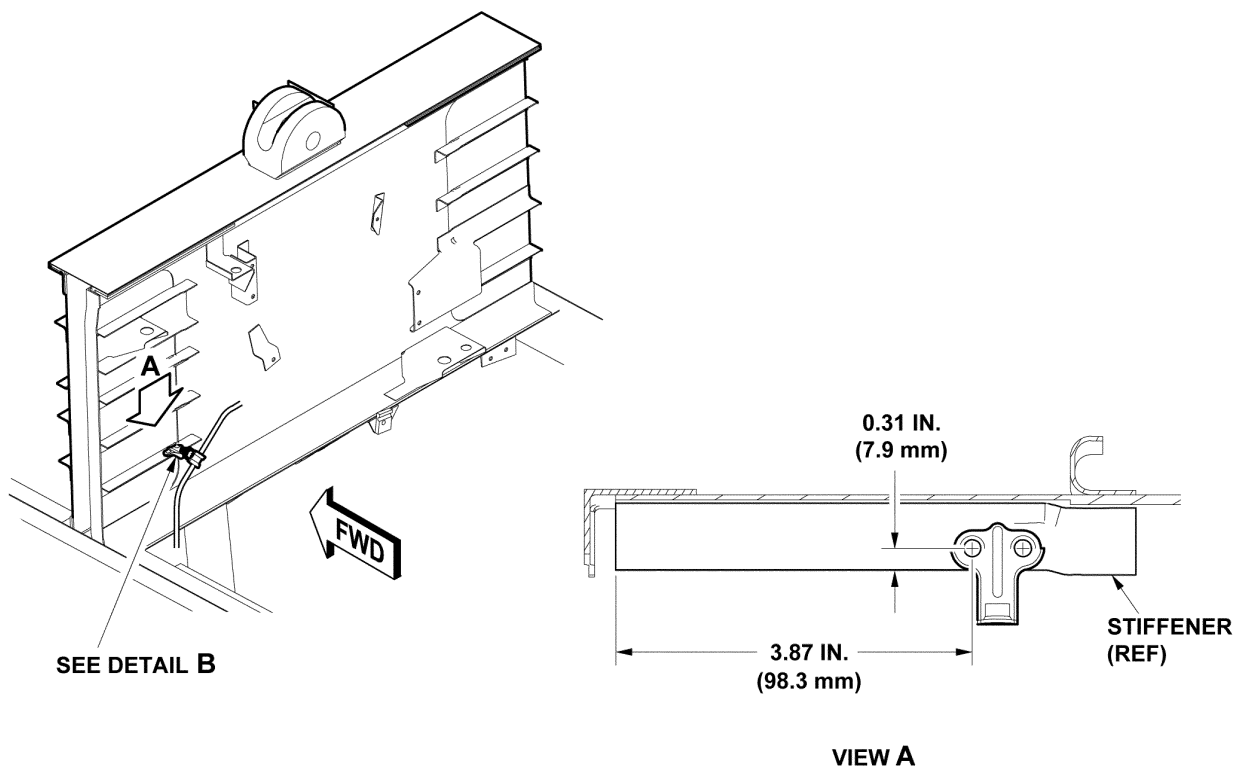


**NOTE**

**2** Parts no longer required.

13516\_001b

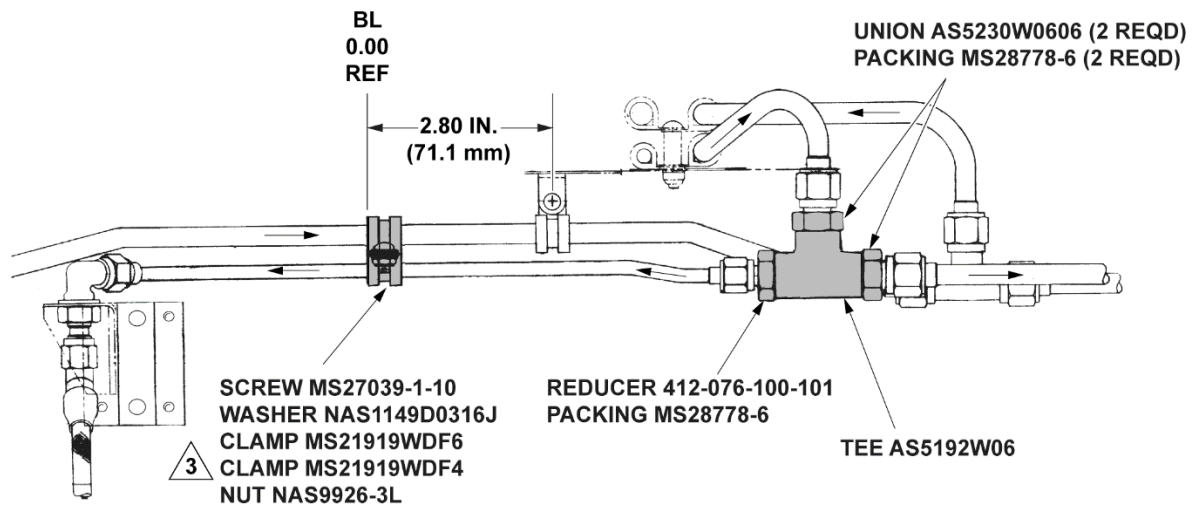
**Figure 2**  
Hydraulic System II Pre TB 412CF-17-110 Configuration



DETAIL B

13516\_001c

**Figure 3**  
Modification



**NOTE**

3 Relocate clamps and hardware 2.80 inches (71.1 mm) away from center of bracket.

13516\_001d

**Figure 4**  
Hydraulic System I Post TB 412CF-17-110 Configuration

