UNITED STATES ARMY AVIATION SCHOOL
Department of Maintenance Training
Fort Rucker, Alabama

File No. 5/69-1759-B

PERFORMANCE OBJECTIVES

FUEL AND OIL SYSTEMS, UH-1

1. KNOWLEDGES:

   a. Given a schematic of the fuel system, the student, with the use of TM 55-1520-210-10, should be able to match the numbered components to the proper nomenclature with 100 percent accuracy.

   b. Given a worksheet consisting of a list of cockpit indications on the fuel systems and a list of cautions to be observed, the student should be able to match the cockpit indications to the cautions to be observed with an accuracy of at least 80 percent.

   c. Given a worksheet consisting of two columns of statements on the engine oil system, the student should be able to match the statements with at least five of the six correct.

2. SKILLS: None.

UNITED STATES ARMY AVIATION SCHOOL
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File No. 5/69-1759-2

STUDENT OUTLINE

FUEL AND OIL SYSTEMS, UH-1

1. Main fuel system.

   a. Purpose.

   b. Location.

   c. Description.

   d. Components.

      (1) Main fuel cells.

         (a) Purpose.

         (b) Location.

         (c) Description.

      (2) Boost pumps.

         (a) UH-1 B and C series.

         (b) UH-1 D and H series.

      (3) Fuel shutoff valve.

         (a) Purpose.

         (b) Location.

         (c) Operation.

(4) Quick disconnects. ring should show check for fit

(a) Purpose.

(b) Location.

(c) Description.

(5) Fuel filter. red flag in dome indicates clogged filter land in 30 min if light comes on

(a) Purpose.

(b) Location.

(c) Operation.

(6) Fuel control. supplies metered fuel to combustor section of engine

(a) Purpose.

(b) Location.

(c) Description.

(d) Components.

1. Engine drive fuel pump. hydro mechanical operation

2 modes of operation - Automatic - Manual & Emergency

2. Changeover solenoid and valve.

3. Overspeed governor.

Diff Press Sw. - monitor EPT and N_2 gas produce if there is a big change, switch over to emergency

N_2 overspeed gov. on top of fuel control

e. Inspections. 7 drains

(1) Preflight.

(a) Fuel drains.

1. UH-1 B and C. 7 drains

2. UH-1 D and H. 6 drains

(b) Quick disconnects.

(2) Inflight.

(a) Fuel quantity gage.

1. Purpose. in 100 lbs.

2. Location. push button, depress to 200 lbs. less

3. Description.

4. Inspection.

(b) Fuel pressure gage.

1. Purpose. 5-20 B

2. Location. 5-30 D

3. Description.

(c) Caution lights. B model

1. Purpose. 5 minutes flt. time on Fuel light and [illegible] a lft. boost pump

2. Location. 20 Minutes if lights only

Fuel filter 30 min.

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3. Description.

a. Left boost pump and right boost pump.

b. 20-minute fuel.

c. Fuel filter.

d. Engine fuel pump.

e. Emergency governor.

(3) DA Form 2408-13 entries.

2. Auxiliary fuel system. provides extra fuel for extended flights

a. Purpose.

b. Location.

c. Description.

d. Components.

(1) Internal auxiliary fuel system. high level cuts fuel off from transfer

(a) Fuel tanks.

(b) Transfer pumps. low level flow switches

(c) Segment warning light.

(2) External auxiliary fuel system.

(a) Fuel tanks.

(b) Transfer pump.

3. Engine oil system. MIL-L-23699

a. Purpose. pillow blocks & blade grips

dampers have hydraulic fluid

b. Description.

c. Components.

(1) Oil tanks. dual element

1 side pressure

1 side scavenger

oil pump press

wafer type screen filter

clogged, have bypass 20-30 psi

(2) Oil pump.

(3) Oil filter.

(4) Oil distribution.

(a) Internal passages.

(b) External oil lines.

(5) Scavenge oil.

(a) Internal.

(b) External.

(6) Oil cooler.

(7) Torquemeter system. oil press 60 psi boosts to 160 psi

(a) Location. driven by N_2

(b) Purpose.

(c) Description.

1. Construction.

2. Operation.

d. Inspections.

(1) Preflight.

(a) Oil tank.

(b) Quick disconnects.

(c) Oil leakage.

(2) Inflight.

(a) Oil pressure gage. 25-90 PSI below - liter M/C & Lt. on console

(b) Oil temperature. 2 gauges 93°C. maximum

(c) Oil pressure segment caution light.

(3) DA Form 2408-13 entries.

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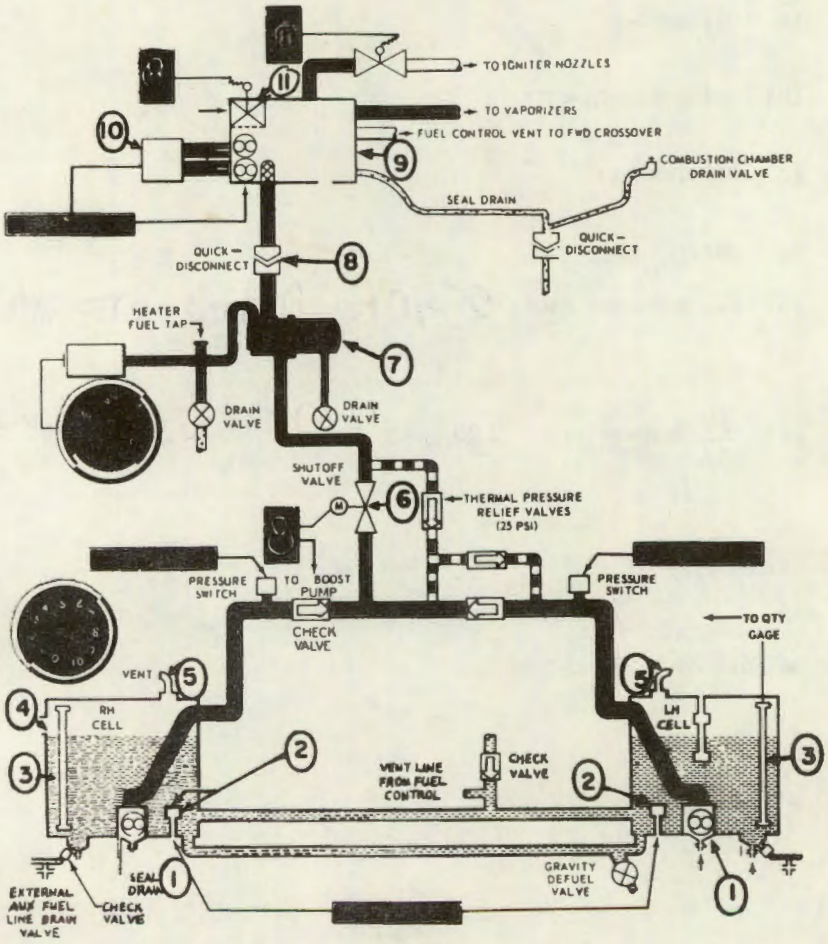
PERFORMANCE CHECK

FUEL AND OIL SYSTEM, UH-1

1. From the schematic of the UH-1B fuel system match the numbered components to their nomenclature by placing the numbers in the space provided.



6 Shutoff valve

11 Changeover solenoid

7 Main filter

2 Float switch (20 min)

9 Engine fuel control

4 Filler

10 Differential presssure switch

1 Fuel boost pumps

8 Quick disconnect

3 Fuel quantity probe

5 Vent

2. Match the cockpit indication to the proper caution to be observed by placing the letter in the space provided.

Indication		
a. Left boost pump light ON and 20 min fuel light ON (UH-1B)	B	Land within 30 minutes
b. Fuel filter light ON	A	5 minutes of flight at cruise
c. Engine fuel pump light ON	D	Descend to pressure altitude of 4600 feet or less
d. Both boost pumps inoperative	E	20 minutes of flight at cruise power
e. 20 minute fuel light ON	C	Monitor EGT and gas producer tachometer for noted change. If drop in N_1 is noted, place GOV switch to EMER position.

3. Match the following statements on the engine oil system by placing the numbers in the spaces provided.

a. Torquemeter indicates	6 F	1. External oil lines
b. Torquemeter receives oil for operation from	C	2. Turbine fan
c. Engine oil is cooled by	D	3. Bleed air from engine
d. Turbine fan operated by	E	4. Power turbine
e. Power for operation of torquemeter boost pump	B	5. Engine oil system
f. Pressure oil is delivered to #3 and #4 main engine bearing by	A	6. Output shaft torque