MWO effective date 1 October 1981 and completion date 31 December 1991.

#### **NORMAL**

#### DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

### Headquarters, Department of the Army, Washington, D.C. 1 February 1990

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

- Page 1. Change MWO effective date to read "MWO effective date 1 October 1981 and Completion date 31 December 1991.
- Page 2. Paragraph 6a is superseded as follows:
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion date 31 December 1991.

By Order of the Secretary of the Army:

Official:

CARL E. VUONO General, United States Army Chief of Staff

WILLIAM J. MEEHAN II Brigadier General, United States Army The Adjutant General

#### DISTRIBUTION:

To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58A and OH-58C Helicopter, Observation.

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### **DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

# Headquarters, Department of the Army, Washington, D. C. 19 April 1988

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

- Page 1. Change MWO effective date to read "MWO effective date 1 October 1981 and Completion date 31 December 1989."
- Page 2. Paragraph 6a is superseded as follows:
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion date 31 December 1989.

By Order of the Secretary of the Army:

CARL E. VUONO

General, United States Army

Chief of Staff

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

#### DISTRIBUTION:

To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58A and OH-58C Helicopter, Observation.

### **DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

# Headquarters, Department of the Army, Washington, D. C. 20 October 1986

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

- Page 1. Change MWO effective date to read "MWO effective date 1 October 1981 and Completion date 30 June 1987."
- Page 2. Paragraph 6a is superseded as follows:
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion date 30 June 1987.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR. General, United States Army Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58A and OH-58C Helicopter, Observation.

# **DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

# Headquarters, Department of the Army, Washington, D. C. 6 January 1986

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

- Page 1. Change MWO effective date to read "MWO effective date 1 October 1981 and Completion date 30 June 1986."
- Page 2. Paragraph 6a is superseded as follows:
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion late 30 June 1986.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR. General, United States Army Chief of Staff

Official:

MILDRED E. HEDBERG
Brigadier General, United States Army
The Adjutant General

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To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58A and OH-58C Helicopter, Observation.

U.S. GOVERNMENT PRINTING OFFICE: 1986-652-032/40000

#### **NORMAL**

### DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

Headquarters, Department of the Army, Washington, D. C. 20 August 1985

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

- Page 1. Change MWO effective date to read "MWO effective date 1 October 1981 and Completion date June 1986."
- Page 2. Paragraph 6a is superseded as follows:
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion date 30 September 1985.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR. General, United States Army Chief of Staff

Official:

DONALD J. DELANDRO Brigadier General, United States Army The Adjutant General

#### DISTRIBUTION:

To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58A and OH-58C Helicopter, Observation.

#### **URGENT**

### **DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

# Headquarters, Department of the Army, Washington, D. C. 11 April 1984

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

Page 2, paragraph 8a. The gasket is superseded as follows:

Delete: 5030-00-584-0570 204-060-604-1 Gasket 1

Add: 5330-01-053-7035 60-011-1 Gasket 1

Page 3. Add the following after paragraph 10B(1):

(1.1) Remove clamps on hose assembly, P/N 1566-71010-0290. Disconnect fuel pressure switch from top of valve (1).

Page 3, paragraph 10b. Add the following after paragraph (10).

#### **CAUTION**

Do not crimp or bend hose assembly P/N 1566-71-10-2090 when disconnecting or connecting the fuel pressure switch from valve (1).

- (11) Disconnect hose assembly P/N 1566-71-10-2090 from input side of fuel control. Turn on battery. Turn on fuel boost pump. Assure that a steady fuel flow will pass through the line.
  - (12) Turn off boost pump. Turn off battery. Reconnect hose assembly to fuel control.
  - (13) Pressurize system to assure there are not fuel leaks in disturbed areas.

#### NOTE

These procedures and checks should alleviate the possibility of the hose assembly being damaged causing fuel not to get to the fuel control.

By Order of the Secretary of the Arm	By	Order	of the	Secretary	of	the	Army
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JOHN A. WICKHAM, JR. General, United State Army Chief of Staff

Official:

ROBERT M. JOYCE Major General, United States Army The Adjutant General

### **DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58 and OH-58C aircraft.

### **NORMAL**

### **DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER**

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

Headquarters, Department of the Army, Washington, D. C. 27 August 1982

MWO 55-1520-228-30-32, 27 October 1981, is changed as follows:

Page 2, paragraph 3 is superseded as follows:

Nomenclature	Model	National Stock Number	Serial Number
Helicopter	OH-58A/C	1520-00-169-7137	68-16687 - 68-16986
		1520-00-020-4216	69-16080 - 69-16379
			70-15050 - 70-15649
			71-20340 - 71-20939
			72-21061 - 73-21934

**NOTE** 

Helicopter, Model OH-58C, Serial Number 71-20481 has been modified.

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE Brigadier General, United States Army The Adjutant General

### **DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31, MWO Requirements for OH-58 and OH-58C aircraft.

☆U.S. GOVERNMENT PRINTING OFFICE: 1982-564-029/1257

#### NORMAL

MWO Effective Date 1 October 1981 and Completion Date 31 December 1991.

### DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER

# INSTALLATION OF IMPROVED FUEL SUPPLY OH-58A/C HELICOPTERS

Headquarters, Department of the Army, Washington, D. C. 27 October 1981

#### REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U. S. Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD, 4300 Goodfellow Boulevard, St. Louis, MO 63120. A reply will be furnished directly to you.

- 1. Purpose of Modification. The purpose of this modification is to improve fuel supply system.
- 2. Priority Classification. This modification is in the NORMAL category. Equipment in use will be modified as soon as practicable, but not later than the scheduled completion date. Equipment not modified after expiration of MWO completion date will be reported as Not Mission Capable (NMC) in accordance with applicable Army regulations.

#### NOTE

- If, for any reason, this MWO cannot be applied within the specified time compliance period, the owning organization will advise, in writing, the Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-WO, 4300 Goodfellow Blvd., St. Louis, Missouri 63120. Indicate the reason for the delay and the anticipated completion date.
- 3. End Item to be Modified.

Nomenclature	Model	National Stock Number	Serial Number
Helicopter	OH-58A/C	1520-00-169-7137 1520-01-020-4216	68-16687 thru 68-16986 69-16080 thru 69-16379 70-15050 thru 70-15649 71-20340 thru 71-20939 72-21061 thru 73-21934
			71-20340 thru 71-2093

#### NOTE

### Helicopter, Model OH-58C, Serial Number 71-20481 has been modified.

- 4. Assembly or Component to be Modified. Not applicable.
- 5. Parts to be Modified. Fuel boost pump NSN 2915-00-131-6467, Part Number 206-062-628-1.
- 6. Application.
  - a. Compliance Schedule. MWO effective date 1 October 1981 and Completion date 31 December 1991.
  - b. Category of Maintenance. Aviation intermediate activities.
  - c. Applied by. Helicopter Repairer, MOS 67V.
  - d. Time Required.
    - (1) Total of 16 hours using a crew of two.
    - (2) Downtime for one end item is 8 hours.
  - e. MWO to be Applied Prior to or Concurrently with this MWO. MWO 55-1520-228-50-2.
- 7. Technical Publications Affected/Changed as a Result of this MWO.

TM 55-1520-228-23 TM 55-1520-228-23P TM 55-1520-228-PM

- 8. Supply Kits/Parts and Disposition.
  - a. Kits/Parts Required to Accomplish MWO.

National Stock Number	Part Number	Nomenclature	Quantity
1560-01-098-4512	206-704-702-101	Kit-Retrofit Improved Fuel Supply consisting of:	1
5330-01-053-7035	60-011-1	Gasket	1
1560-00-066-9542	204-061-634-1	Fitting	1

National Stock Number	Part Number	Nomenclature	Quantity	
	206-062-604-101	Valve	1	
5306-00-558-9467	AN4H32A	Bolt	1	
5330-00-263-8032	MS29512-10	Packing	1	
5330-00-263-8033	MS29512-12	Packing	1	
5330-00-248-3835	MS29513-010	Packing	1	
5330-00-248-3844	MS29513-113	Packing	1	
	70-061K000V390	Hose	1	
	MS29513-243	Packing	1	
	MS29513-255	Packing	1	

b. Size and Weight of Kit.

Kit	Weight (Pounds)	Dimensions (Inches)	Displacement (Feet Cubed)
206-704-702-101	4	14 x 12 x 4	0.4 cu ft

- c. Requisitioning and Issuing Instructions. US Forces: Do not requisition kits. They will be shipped automatically as detailed in the Memorandum of Understanding (MOU). US Army Depots: Requisition required kits through supply channels. Multi-service: Special instructions shall be included for multi-service MWOs.
  - d. Bulk and Consumable Material. Not applicable.
  - e. Parts Disposition.

Valve, P/N 206-062-604-1 Scrap Fitting, P/N 206-062-609-1 Scrap

- 9. Special Tools, Jigs, and Fixtures Required. Tubing Crows Foot 1-3/8 inch.
- 10. Modification Procedures (Authority ECP OH-58A/C 213).
  - a. Preparation of helicopter for modification.
    - (1) Disconnect battery.

# **WARNING**

All defueling operations will be performed in an area where fire hazards are reduced to a minimum with adequate ventilation.

- (2) Defuel helicopter.
- (3) Remove aft passenger seat back cushions.
- (4) Remove access door located on back part of aft passenger seat.
- (5) Remove fuel cell access door (6, figure 1).

- (6) Remove fuel sump access cover (4, figure 1).
- (7) Disconnect electrical wiring from fuel boost pump.
- (8) Remove fuel filler support and pressure refueling unit.
- (9) Remove access panel above fuel filler cap, located on right side of helicopter.
- b. Replace valve and two packings (1) as follows (figure 2):
- (1) Disconnect electrical adapter (8) to fuel pressure switch (11), remove two clamps (3), disconnect hose (3) from valve (1) located at top of fuel cell (2) and from fitting in bottom of fuel cell (4).
- (1.1) Remove clamps on hose assembly, P/N 1566-71010-0290. Disconnect fuel pressure switch from top of valve (1).
  - (2) Remove valve (1) from top of fuel cell (2).
- (3) Attach electrical adapter (8) to valve (1) and install valve (1) and two packings (1) on top of fuel cell (2); secure with existing nut (1) and washer (1). Tighten 1/6 to 1/3 turn after contact.

#### NOTE

On underside of fuselage, mark position of fuel boost pump flange to sump plate before removal to aid in reassembly. Place container below boost pump area to catch residual fuel.

- (4) Remove 12 bolts and washers (6) securing fuel pump to bottom of fuel cell and remove fuel pump (7), gasket (12), and hose (3).
  - (5) Disconnect hose (3) from fitting (4) on fuel pump.
- (6) Remove lockwire, bolt (5), washer, packing, plug, and packing from bottom of fuel pump and remove fitting (4) from fuel pump.
- (7) Install fitting (4) into fuel pump and secure with packing, plug, packing, washer, and bolt (5). Torque 65 to 75 inch-pounds and lockwire.
  - (8) Attach hose (3) to fitting (4) fingertight.
- (9) Install fuel pump and gasket (12) through opening in bottom of fuel cell, aligning fuel pump to sump plate and secure with 12 existing bolts and washers (6, figure 2). Torque 65 to 75 inch-pounds.

# **CAUTION**

When tightening hose to valve (1), position tubing crows foot wrench on flats of valve (10, figure 2). Ensure hose is not twisted and does not contact fuel cell.

(10) Install hose (3) into valve (1) and torque both ends of hose. Torque 190 to 210 inch-pounds.

#### **CAUTION**

# Do not crimp or bend hose assembly P/N 1566-71-10-2090 when disconnecting or connecting the fuel pressure switch from valve (1)

- (11) Disconnect hose assembly P/N 1566-71-10-2090 from input side of fuel control. Turn on battery. Turn on fuel boost pump. Assure that a steady fuel flow will pass through the line.
  - (12) Turn off boost pump. Turn off battery. Reconnect hose assembly to fuel control.
  - (13) Pressurize system to assure there are not fuel leaks in disturbed areas.

#### NOTE

These procedures and checks should eleviate the possibility of the hose assembly being damaged causing fuel not to get to the fuel control.

- c. Return helicopter to flight configuration.
  - (1) Connect electrical wiring to fuel pump.
  - (2) Install fuel sump cover.
  - (3) Install fuel cell access door (6, figure 1). Torque 65 to 75 inch-pounds.
  - (4) Install access door located on back part of aft passenger seat.
  - (5) Connect electrical wiring to fuel pressure switch (11) and safety wire connector.
- (6) Install support and pressure refueling unit. Torque screws 65 to 75 inch-pounds. Install access door on right side of helicopter. (Refer to Note, figure 1.)
  - (7) Install aft passenger seat.
  - (8) Fuel helicopter.
  - (9) Connect battery.
- 11. Calibration Requirements. Not applicable.
- 12. Weight and Balance Data.
  - a. Change in Basic Weight: -0.6 pounds.
  - b. Moment Arm: +119.5 inches.
  - c. Change in Basic Moment/100: Longitudinal -0.73 inch-pounds Lateral -0.09 inch-pounds
  - d. Chart "C" Entry (DD Form 365-C, Basic Weight and Balance Record):

# Longitudinal Change

Weight Change	Moment Arm	Moment Change/100
-0.6 pounds	+119.5 inches	-0.73 inch-pounds
	Lateral Change	
Weight Change	Moment Arm	Moment Change/100
-0.6 pounds	+14.5 inches	0.09 inch-pounds

### NOTE

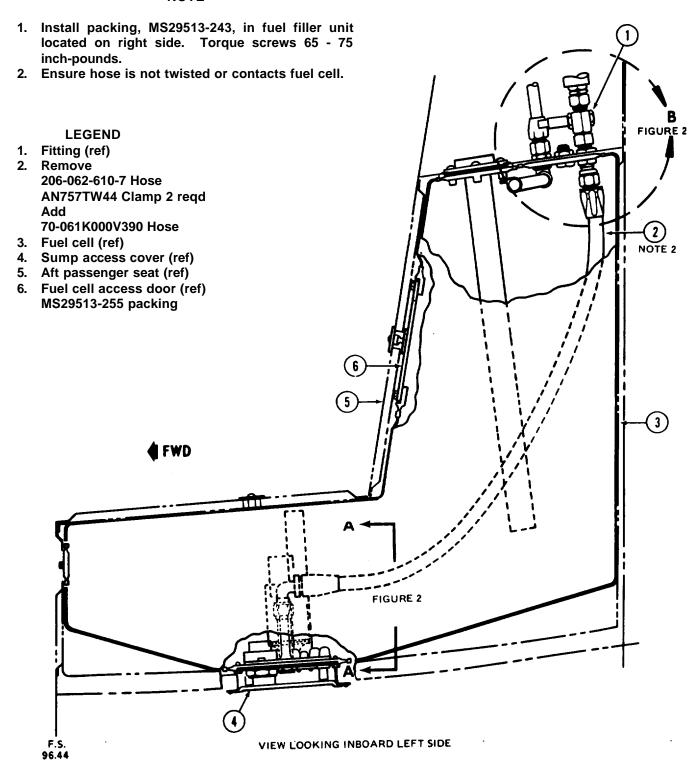


Figure 1. Fuel supply system installation

# NOTE: TORQUE BOLTS 66-75 INCH POUNDS LEGEND

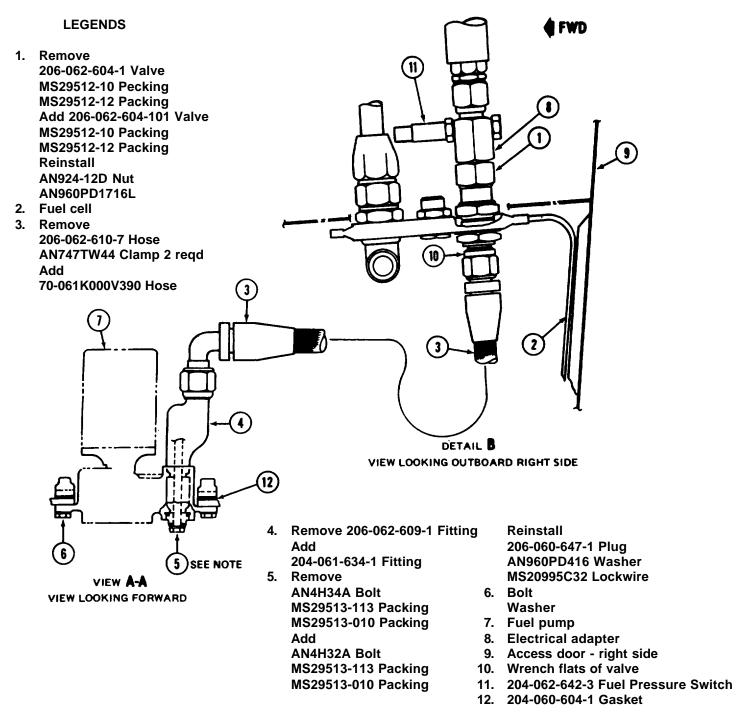


Figure 2. Valve and fitting installation

- 13. Quality Assurance Requirements. Inspection of completed MWO application for full compliance with the technical requirements of the instructions will be accomplished by qualified personnel in accordance with an approved prescribed inspection system. The inspection system in effect will be determined on the basis of instructions issued at the site of work, i.e., Army Unit/Intermediate, Army Depot, contractor, etc.
- 14. Recording and Reporting of the Modification.
- a. Record accomplishment of the modification in accordance with the procedures prescribed in TM 38-750. The following forms are applicable: DA Form 2407 (Maintenance Request), DA Form 2408-5 (Equipment Modification Record Aircraft), and DA Form 2408-13 (Aircraft Inspection and Maintenance Record).
- b. Report the application of the MWO using DA Form 2407. After completing the DA Form 2407, mail the NMP Copy (Copy 2) to Commander, US Army Troop Support and Aviation Materiel Readiness Command (TSARCOM), ATTN: DRSTS-MPD, 4300 Goodfellow Blvd., St. Louis, Missouri 63120. If the application is accomplished by field personnel under negotiated MOU and requires reimbursement, mail the Control Copy (Copy 3) to Commander, US Army Depot System Command (DESCOM), ATTN: DRSDS-PM, Chambersburg, Pennsylvania 17201. Procurement Request Number (PRON), Memorandum of Understanding (MOU) Number and fiscal station code will be annotated in Block 16a. If application is accomplished by depot or contractor teams, Copy 3 will not be submitted to DESCOM and may be disposed of in accordance with TM 38-750.
- 15. Complete Product Improvement Proposal Number. The product improvement proposal number is 1-81-01-0217.

By Order of the Secretary of the Army:

E. C. MEYER

General, United States Army

Chief of Staff

ROBERT M. JOYCE Brigadier General, United States Army The Adjutant General

#### DISTRIBUTION:

Official:

To be distributed in accordance with DA Form 12-31, MWO requirements for OH-58 and OH-58C aircraft.

**☆U.S. GOVERNMENT PRINTING OFFICE: 1981-564-029/515** 

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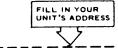
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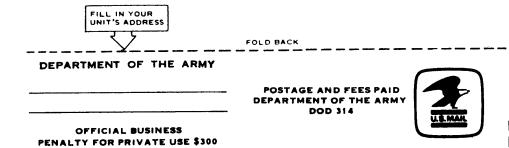
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