

APPENDIX A

AIRFRAME FUEL-WETTED SYSTEM COMPONENTS

APPENDIX A TABLES

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TABLE A-1. AH-1 COBRA AIRFRAME (BELL HELICOPTER)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose		209-060-668-1	
	Aeroquip	(AE1007402J0264)	Innerliner Buna N (A5235).
	Stratoflex	(156672-10-0264)	Innerliner Buna N (ST 156).
Manifold Valve, Fuel Check (two poppets)		205-060-611-3	
	Circle Seal Controls	(P13-389)	O-ring Buna N (dynamic)
	Ronson Hydraulic Units	(42C42603)	A four port two poppet check valve. O-rings Buna N (static) by MS 29513 - Parker No. N602-70. Light spring force.
Self-sealing Valve,* Breakaway (two poppets)		205-063-601-15	
	Aeroquip	(AE96056M)	O-rings fluorosilicone. Boot - Buna N.
	Wiggins	(CW118/15)	
Defuel/Sump Drain Valve, Manual (poppet)		209-060-655-5	
	Auto-Valve	(96C-5)	O-ring Buna N (static).
	Shaw Aero Devices	(A-440-2)	O-ring Buna N (dynamic).
Filter Drain Valve (poppet)		209-060-656-1	
	Auto-Valve	(375C-62S)	O-ring Buna N (dynamic). Cup-seal Teflon (static).

\* Potential fuel-sensitive area

TABLE A-1. AH-1 COBRA AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Check Valve, Bleed (poppet)	Stellar Hydraulic	209-060-657-1 (69250)	
	Circle Seal Controls	(2632T-4TT-5)	O-ring Viton (static). O-ring Viton (dynamic).
Closed Circuit Receiver		209-060-694-3	
Hose, Inter-Tank Fuel Crossover	Hydraulic Research	(745000-3)	Diaphragm made of fluorosilicone on nylon fabric (dynamic). O-ring Buna N (static).
	Goodyear	209-060-653-1 (AFA8000362)	Innerliner.
	Uniroyal	(FCE-55262)	Innerliner.
	Firestone	(50051)	Innerliner.
Boost Pump, Electric		205-060-606	
	Lear-Siegler	(RG12240D2)	Centrifugal pump with dry motor. Shaft seal silicone (static). O-rings Buna N (static).
	Globe	(164A168-1)	Centrifugal pump impeller made of diallyl phthalate plastic (dynamic). Sealed motor-magnetic drive. Diaphragm stainless steel or diallyl phthalate plastic (static).

TABLE A-1. AH-1 COBRA AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MEG. P/N)	COMMENTS
Fuel Filter Assembly, With Pressure Differential Switch	Michigan Dynamic	204-040-760-5 (100103)	Diaphragm is Dacron fabric impregnated with fluorinated silicon (Dow Corning LS-53/63). Aluminum end caps with O-ring seals (static) Buna N.
	Fram	(165516)	ΔP switch has a 2¼" silicon impregnated diaphragm (dynamic). Cover seal O-ring (static).
Low Level Float Shut Off Switch	Revere Corporation of America	(F74356)	Torus type float made of Buna N with magnet impregnated Nylon guide bushing fixed to inside of torus. Float rides around a sealed aluminum tube.
Fuel Shut Off Valve, Motorized (gate)	ITT General Controls	(AV16BI748D)	Seals made of Thiokol for gate. O-rings Buna N.
Sump Drain Valve (poppet)	Auto-Valve	209-060-661-1 (96C-4)	O-ring Buna N (static).
	Shaw Aero Devices	(A-470)	O-ring Buna N (dynamic).

TABLE A-1. AH-1 COBRA AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Check Valve, Breakaway		205-063-601-11	
	Aeroquip	(AE963115)	
	Wiggins	(CW118/11)	
Fuel Gage, Tank		209-060-602	
Unit Transmitter	Simmonds	(393008-032)	Capacitance type gage.
	Gull	(200-040-005)	Sleeve at top Teflon.
Crashworthy/Self-sealing Fuel Tank	Uniroyal	209-060-652-1/3 (FCR-56293/4)	Innerliner.
Cap, CCR Filler*		206-062-660-1	
	Shaw Aero Devices	(416-635)	O-ring large size Buna N (static). O-ring small on rod Buna N (dynamic).
		(FC-3500-286)	O-ring Buna N (static). O-ring Buna N (dynamic).
Adapter		209-062-660-1	
	Shaw Aero Devices	(416-636)	No elastomers.
Pressure Switch		204-062-542-3	
	Custom Components	(7G44)	

\* Potential fuel-sensitive area

TABLE A-2. UH-1 HUEY AIRFRAME (BELL HELICOPTER) \*

COMPONENT	MANUFACTURER	AIRFRAME P/N (MEG. P/N)	COMMENTS
Self-sealing Hose		205-062-650-9	
	Stratoflex	(B6671-10-0336)	Innerliner Buna N (Stratoflex 156).
	Aeroquip	(AE1007399J0336)	Innerliner Buna N (Aeroquip 235).
Check Valve, Self-** sealing (dual poppets)	Aeroquip	205-063-601-11 (AE 96311J)	O-ring fluorosilicone.
	Wiggins	(CW 118/11)	Boot - Buna N (dynamic).
Sump Drain Valve, Manual (poppet)	Auto-Valve	(967B12)	O-ring Buna N (static).
Drain Valve, Manual (poppet)	Auto-Valve	205-062-651-1 (967B-5)	O-ring Buna N (static).
	Shaw Aero Devices	(A-470-1)	O-ring Buna N (dynamic).
Fuel Shutoff Valve, Motorized (gate)	ITT General Controls	205-060-612-3 (AV 16B1667D)	Thiokol seal for gate. O-rings Buna N.
Siphon Breaker Valve	Circle Seal	204-061-689-1 (P13-262-1)	
	Ronson Hydraulic Units Corp	(42C42604)	

\* Not all breakaway couplings are included  
\* Potential fuel-sensitive area

TABLE A-2. UH-1 HUEY AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Quantity Gage, Capacitance		204-060-683-3	
	Simmonds Precision	(39 3004-01699)	Capacitance type gage. Sleeve at top Teflon.
Gravity/CCR Receptacle		209-060-651-5	
	Wiggins	(CCR101/5)	
	Hydraulic Research	(744000-5)	Diaphragm made of fluorosilicone or nylon (dynamic). O-ring Buna N (static).
Crashworthy Self- sealing, Fuel Cell		205-062-635-7	
	Goodyear	(2F1637014)	Innerliner, nitrite rubber.
Boost Pump, Electrical		205-060-606	
	Lear-Siegler	(RG 12240D2)	Centrifugal pump with dry motor. Shaft seal is silicone (static). O-rings are Buna N (static).
	Globe	(164A168-2)	Centrifugal pump impeller made of dyallyl phthalate (dynamic). Sealed motor-magnetic drive diaphragm is stainless steel or dyallyl phthalate plastic.
Boost Pump, Air Motor		205-060-607-5	
	Hydro-Aire	(60-3515)	
	Lear-Siegler	(RG 12470)	Carbon face seal on shaft. O-rings Buna N (static).

TABLE A-2. UH-1 HU-1 HU-1 AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Jet Pump (ejector pump)	Arkwin Industries	205-061-634 (13A006-1)	No elastomers inside.
	Allen Aircraft	(610E100)	No elastomers inside. O-ring Buna N (static) / Connects jet pump to plumbing.
Quick Disconnect Coupling, Self- sealing	Aeroquip	205-062-651-1 (AE 956 27N)	O-ring MS29512-20.
Filler Cap, Gravity CCR	Shaw Aero Devices	(FC 3500-30) (PC 3500-159)	O-ring Buna N (static). O-ring Buna N (dynamic). O-ring Buna N (static). O-ring Buna N (dynamic).
Fuel Filter Assembly With Pressure Differential Switch	Michigan Dynamics	204-040-760 (100103)	Epoxy resin impregnated pleated filter element. Aluminum end caps with O-ring seals (static) material. Cover seal O-ring (static) material. AP switch 2 1/4" silicon impregnated diaphragm (dynamic).
Crashworthy Fuel** Cells	Uniroyal	205-061-621-3/4 (FCB-55121)	Innerliner, fabric.

\*\* Components are used on the auxiliary fuel system

TABLE A-2. UH-1 HOUEY AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Vent Valve** (poppet)	Ronson Hydraulic Unit	204-061-689-1 (42C42604)	A spring loaded ball vent valve. Ball (dynamic) made of nylon (Zytel 101 MIL-P-17091).
Transfer Pump,** Electric	Circle Seal Controls	(P13-262-1)	Should be OK for increased aromatics.
	Lear-Siegler	205-061-626-3 (RG 125802)	Centrifugal pump with dry motor. Shaft seal is silicone (static). O-rings are Buna N (static).
	Globe Industries	(164A166)	Centrifugal pump impeller made of dyallyl phthalate (dynamic). Sealed motor-magnetic drive. Diaphragm is stainless steel or dyallyl phthalate plastic (static).
Float Switch,** Shutoff (dual level reed switch)	Revere Corporation Of America	204-062-613 (F-74070-2)	Torus type float made of Buna N with magnet impregnated in float. Nylon guide bushing fixed to inside of torus. Float rides around a sealed aluminum tube (dynamic).

\*\* Components are used on the auxiliary fuel system

TABLE A-2. UH-1 HUEY AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Check Valve** (poppet)	Vinson	205-061-623 (A-62083)	
Pressure Switch**	Circle Seal Controls	(869A-12BB-54)	O-ring Buna N (dynamic).  Diaphragm 11 ml. thick Teflon impregnated glass, 1 1/4" diameter.
	Consolidated Controls	(R6607-1-46)	

\*\* Components are used on the auxiliary fuel system

TABLE A-3. OH-6A CAYUSE AIRFRAME (HUGHES HELICOPTERS)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose		369A8486	
	Aeroquip	(AE1008247J0132)	Innerliner Buna N (AE 235).
	Stratoflex	(156755EEF0132)	
Fuel Valve, In-line Breakaway (dual poppet)		369A8468 (CW108/01)	
	Wiggins		
	Aeroquip	(AE 97124H)	O-rings fluorosilicone. Seat fluorosilicone.
Fuel Cell Vent Valve, Breakaway (dual poppet)		369A8467 (CW 107/01)	
	Wiggins		
	Aeroquip	(AE 97122J)	O-rings fluorosilicone. Seat fluorosilicone.
Emergency Fuel Vent Line Shutoff Valve		369A8420 (701100-1)	
	Hydraulic Research		O-ring Buna N (static). Poppet valve metal to metal.
Fuel Shutoff Valve Assembly (ball valve, manual)		369A8469 (8D146)	
	Allen Aircraft		Ball seal Teflon. O-rings Buna N.
	ITT General Controls	(AV24D1128)	Ball Seal Teflon. O-rings Buna N.

TABLE A-3. OH-6A CAYUSE AIRFRAME (HUGHES HELICOPTERS) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Quantity-Transmitter *	Hughes Aircraft AC Spark Plug Div.	369A4245 GG-6427515	Not a capacitance type.
Fuel Drain Valve-Crashworthy *	Wiggins Hydraulic Research	369A8482 (H56F) (773100-3)	Problem with sealing.
Gravity Valve, Breakaway	Wiggins	369A8470 (CWH57F)	
Closed Circuit Receiver Assembly, Single Point Refueling	Hydraulic Research	369A8471 (744100-1)	
Fuel Cell, Self-sealing	Goodyear	369A8465 (AJA8000758)	Innerliner Buna N.
Electric Boost Pump	TRW Globe	369A8143 (1C3-40) (164A-134)	Centrifugal pump impeller made of dyallyl phthalate plastic (dynamic). Sealed motor-magnetic drive. Diaphragm stainless steel or dyallyl phthalate plastic (static).

\* Potential fuel-sensitive area

TABLE A-3. OH-6A CAYUSE AIRFRAME (HUGHES HELICOPTERS) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Gravity Filler Cap Assy.	Shaw Aero Devices	(35001-2)	O-ring Buna N (static).
CCR Filler Cap*	Shaw Aero Devices	(416-50)	O-ring (big) Buna N (static). O-ring (small) Buna N (static).

\* Potential fuel-sensitive area

TABLE A-4. CH-47C CHINOOK AIRFRAME NON-PRESSURIZED FUELING (BOEING VERTOL)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose	Aeroquip	114PS466 (AE 502)	Innerliner Buna N.
Check Valve, Thermal Relief * (swing/flapper)	Hydraulic Research	114PS456 (314400-1)	Nylon piston with Dynamic O-ring. Bonded seal in thermal relief Buna N (dynamic). O-ring seal Buna N (static).
Drain Valve (poppet)	Hydraulic Research	114PS465 (772500-1)	O-ring seal fluorosilicone (dynamic).
Check Valve (swing/flapper)	Wiggins Hydraulic Research	(B7V) 114PS462-4 (220400-1)	Bonded seal on disc Viton A (dynamic) O-ring seal Buna N (static)
Fuel Probe, Tank Unit	Gull Airborne Simmonds Precision	114PS471 (012-003-004) (391057-148)	Capacitance type. Sleeve at top Teflon.

\*Potential fuel-sensitive area

TABLE A-4. CH-47C CHINOOK AIRFRAME NON-PRESSURIZED FUELING (BOEING VERTOL) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Cells, Main Self-sealing	Goodyear	114PS458-1	
	Uniroyal	(AJA8000705) (FCR56562)	Innerliner Buna N. Innerliner fabric.
Fuel Cells, Auxiliary Self-sealing	Goodyear	114PS459-1	
	Uniroyal	(AJA8000704) (FCR56563)	Innerliner Buna N. Innerliner fabric.
Boost Pump, Electric *	Lear-Siegler	114P4111 (RG12200B)	Centrifugal pump with wet A.C. motor. Seals Buna N. Potting compound Shell Epon 828. Activator General Mills Versamid 125.
Gravity Filler Cap	Shaw Aero Devices	(416-50)	O-ring Buna N.
Auxiliary Power Pump, Motor Driven	Lear-Siegler	114P4010 (RG 15150G)	Vane pump with dry D.C. motor. Carbon face seal on shaft. Seals Buna N. Diaphragm DuPont Fairprene.
	ITT General Controls	114PS401-2 (AVI6BI568D)	Gate seals Thiokol. O-rings Buna N.

\*Potential fuel-sensitive area

TABLE A-4. CH-47C CHINOOK AIRFRAME NON-PRESSURIZED FUELING (BOEING VERTOL) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Selector Valve (solenoid operated poppet)	Valcor Engineering	114PS402-2 (V36100-05)	Poppet disc material Buna N (dynamic). O-rings Buna N (static).
Vent Valve (poppet)	Hydraulic Research Purolator	114PS457-1 (760300-1) (7542049)	O-ring fluorosilicone.
Pressure Switch	Hydra-Electric	114PS407-1 (1129-1) (1129-2) (1129-3) (1129-4)	Diaphragm actuated switch of Teflon, Mylar, or H-film (DuPont). Interlaced glass fiber for strength. O-ring silicone or Buna N (static).

TABLE A-5. CH-47 C/D CHINOOK AIRFRAME WITH PRESSURE REFUELING (BOEING VERTOL)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Tank Sump And Vent Condensate Drain Valve	Hydraulic Research	114PS509 (777300)	O-rings Buna N on poppet drain valve (static).
Self-sealing Hose	Aeroquip	114PS466 (AE502)	Innerliner Buna N.
Fuel Probe, Tank Unit	Gull Airborne Simmonds Precision	114PS471 (012-003-004) (391057-148)	Sleeve at top Teflon. Capacitance type gage.
Fuel Cells (Main) Self-sealing	Goodyear Uniroyal	114PS458-1 (AJA800705) (FCR56562)	Goodyear cell has nitrile liner. Uniroyal cell has fabric liner.
Fuel Cells (Auxiliary) Self-sealing	Goodyear Uniroyal	114PS459-1 (AJA800704) (FCR-56563)	Goodyear cell has nitrile liner. Uniroyal cell has fabric liner.

TABLE A-5. CH-47 C/D CHINOOK AIRFRAME WITH PRESSURE REFUELING (BOEING VERTOL) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Boost Pump, Electric *	Lear-Siegler	114P411 (RG12200B)	Centrifugal pump with wet A.C. motor. Seals Buna N. Potting compound Shell Edon 828 (activator general Versamid 125.)
Gravity Filler Cap	Shaw Aero Devices	(MS 416-50)	O-ring Buna N.
Breakaway Fitting, 2" Poppet Valve	Hydraulic Research	114PS408 (711800)	O-rings fluorosilicone (static). O-ring poppet fluorosilicone (static).
Pressure Refueling Shutoff Valve	Hydraulic Research	114PS409-1 (787800)	O-ring fluorosilicone (static). Lip seal Teflon impregnated glass fiber (dynamic). O-ring Viton in poppet check valve (dynamic).
Pressure Refueling Adapter	Hydraulic Research	114PS412 (714300-1)	O-ring Buna N in adapter (static). O-ring fluorosilicone for poppet vent valve (dynamic).

\*Potential fuel-sensitive area

TABLE A-5. CH-47 C/D CHINOOK AIRFRAME WITH PRESSURE REFUELLING (BOEING VERTOL) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Manifold Scavenge Ejector Pump	Hydraulic Research	114PS413 (710800-1)	O-ring fluorosilicone seal on breakaway poppet valve (static).
Breakaway Fitting Poppet Valve (some with swing check)	Hydraulic Research	114PS414 (711900)	O-ring on poppet fluorosilicone (static). O-ring fluorosilicone (static). Disc seal on swing check valve is fluorosilicone on nylon fabric (dynamic).
Manifold Assembly (check refuel transfer)	Hydraulic Research	114PS415 (320800)	Disc seal on swing check valve is fluorosilicone on Dacron fabric (dynamic). O-ring fluorosilicone (static).
Fuel Level Control Assy. (float type valve)	Hydraulic Research	114PS478 (776600)	Gasket is Buna N on nylon fabric.
Pressure Switch	Hydra-Electric	144PS407-1 (1129)	

TABLE A-5. CH-47 C/D CHINOOK AIRFRAME WITH PRESSURE REFUELING (BOEING VERTOL) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Gate Valve, Motor Operated *	Whittaker Controls	114PS494 (233454/233455)	O-rings Buna N (static). Seals unk.
Float Valve (condensate drain)	Derogene	114PS419-2 (79001601-101)	O-rings Buna N (static). Seat is of nylon (static). Ball is of steel.
Thermistor (tank empty - pump shutoff)	Simmons	(473344)	Housing - glass filled nylon.
Couplings (quick disconnect)	Symetrics	114PS491 (BV15016-3)	O-ring Buna N (static). O-ring backup Teflon (static).

\*Potential fuel-sensitive area

TABLE A-6. UH-54 SKYCRANE AIRFRAME (SIKORSKY AIRCRAFT)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
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ITEMIZED LISTING OF UH-54 AIRFRAME FUEL WETTED COMPONENTS WAS NOT AVAILABLE FROM SIKORSKY AIRCRAFT. THE MAJORITY OF THE COMPONENTS ARE THE SAME AS THE ONES USED ON THE UH-60A BLACK HAWK, ALSO MANUFACTURED BY SIKORSKY AIRCRAFT.

TABLE A-7. OH-58C KIOWA AIRFRAME (BELL HELICOPTER)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose, Breakaway	Stratoflex	206-062-610 (161-10)	Innerliner Buna N (ST 156).
Fuel Check Valve (poppet)	Wiggins	206-062-6041 (CW 101/01)	
	Hydraulic Research	(780300-1)	Poppet type. O-ring Fluorosilicone (dynamic).
Shutoff Valve, Manual	Shaw Aero Devices	206-062-603 (A-870-1)	O-ring Buna N (static).
Quantity Transmitter (capacitance)	Simmonds Precision	206-062-605 (391089-001)	Capacitance type gage. Sleeve at top Teflon.
Quantity Transmitter, Low Fuel (capacitance)	Simmonds Precision	206-062-605 (391057-129)	Housing - glass filled nylon.
Fuel Tank, Crashworthy	Firestone	206-062-602 (37945)	Innerliner fabric.
	Goodyear	(AJA8000566)	Innerliner Buna N.

TABLE A-7. OH-58C KIOWA AIRFRAME (BELL HELICOPTER) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Closed Circuit/Gravity Fuel Receptacle	Wiggins	206-060-651-9 (CCR 101/09)	
	Hydraulic Research	(744000-9)	Diaphragm made of fluorosilicone on nylon (dynamic). O-ring Buna N (static) seals.
Sump Drain Valve (poppet)	Auto-Valve	206-062-640-1 (96C-16)	O-ring Buna N (dynamic).
Boost Pump, Electric	Lear-Siegler	206-062-628-1 (RR-12240L)	Centrifugal pump with dry D.C. motor. O-rings Buna N (static). Shaft seal silicon (static).
	Globe Industries	(164A137)	
Low Level Float Switch	Revere Corporation of America	206-062- (F-74070-2)	Torus type float made of Buna N with magnet impregnated in float. Guide bushing nylon. Float rides around a sealed aluminum tube.

TABLE A-8. UH-60A BLACK HAWK AIRFRAME (SIKORSKY AIRCRAFT)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose	Aeroquip	(AE502)	Innerliner Buna N.
Inlet Check Valve,* Nonbreakaway (1¼" swing)	Allen	65307-08007-101 (8C157)	Seal on flapper Buna N (dynamic). O-ring Buna N (static). O-ring fluorocarbon (static).
Manual Valve, Fuel Selector (ball crossfeed)	Allen	65317-03006-112 (16BS106-11/-12)	Ball seals against a vulcanized Buna N housing (static). O-rings Buna N (static). Ball sleeve is Teflon.
Self-sealing Breakaway Valves (flapper)	Aeroquip	70307-03002-103 (AE80606G)	Piston covered with nitrile rubber (dyanmic). Buna N seal (static).
Vent Valve* (poppet)	Parker-Hannifin	70307-03007-104 (2750088-102)	O-ring seal Teflon (dynamic). O-ring seal Buna N (static). Constantly opening and closing.
Prime Shutoff Valve (sol. operated gate valve)	Valcor	70307-03024-101 (V5000-114)	Gate valve seal is bonded carbon (static). O-rings fluorosilicone (static).

\* Potential fuel-sensitive area

TABLE A-8. UH-60A BLACK HAWK AIRFRAME (SIKORSKY AIRCRAFT)(CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Low Level Shutoff Valve	Parker-Hannifin	70307-03025-101 (1323-585285)	Float is rigid urethane foam. Needle seat - no elastomers.
Fuel/Defuel Valve (poppet)	Parker-Hannifin	70307-03026-101 (2770052-101)	Poppet has bonded Buna N seal O-ring Buna N. Diaphragm uses a nylon fabric coated with Buna N.
High Level Pilot Shutoff Valve	Parker-Hannifin	70307-03012-103 (2770076-106)	Float is synthetic foam. Needle seat - no elastomers.
Check Valve, Crossfeed (swing check)	Parker-Hannifin	70307-03043-101 (2770057-101)	Retainer assembly has bonded Buna N seal. Insert nylon, ball Buna N. O-ring Buna N.
Fuel Inlet Valve, Main (swing check)	Parker-Hannifin	70307-03045-101 (2770006-101)	Retainer assembly has a Buna N seal. Insert nylon, ball Buna N. O-ring Buna N.
Level Sensor (capacitance)	Simmonds Precision	70307-03004-108 (391057-289)	Capacitance type gage. Sleeve at top teflon.
Low Level Warning Gage (capacitance)	Simmonds Precision	70307-03004-110 (472580-010)	Housing - glass filled nylon.

TABLE A-8. UH-60A BLACK HAWK AIRFRAME (SIKORSKY AIRCRAFT) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Sump Drain Valve,* Manual (poppet)	Auto-Valve	70307-03018-103 (971D-22)	Leaks, push to drain. O-ring fluorosilicone (in a contaminant environment) sand.
Refueling Receptacle (CCR & SPR) (poppet)	Parker-Hannifin	70307-03011-101 (2730535)	Poppet assembly has fluorosilicone seal. Packing and poppet both use Buna N seals. Seals fluorosilicone and Buna N.
Nozzle Assembly	Wiggins	(CCN101/01)	
Receiver Assembly	Wiggins	(CCR101/03)	
Self-sealing Crashworthy Fuel Tank	Goodyear	70307-03003-102 (2F1-6-42416)	Innerliner Buna N.
Prime Pump for APU	Lear-Siegler	70307-03005-102 (RR36680B)	Vane pump with wet D.C. motor. Seal Viton (static). Potting compound 3M Scott Cast 9.

\* Potential fuel-sensitive area

TABLE A-8. UH-60A BLACK HAWK AIRFRAME (SIKORSKY AIRCRAFT)(CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Shutoff Valve,** Motorized	ITT General Controls	65307-03065-103 (AV 16B2067D)	O-ring silicon (static). Seals are Teflon (static). O-ring Buna N (static).
Self-sealing Breakaway Valves ** (flapper type)	Aeroquip	70070-30103-104 (AE8061GP)	All valves have the following:  Round seal is Buna N. O-rings fluorosilicone.
	Aeroquip	70070-30103-103 (AE80615P)	Aluminum piston is covered with nitrile rubber.
	Aeroquip	70070-30802-102 (AE80614M)	
Pressure Relief Valve **	Wiggins	70070-30901-102 (RVS21K)	
Fuel Quantity Gage** (capacitance)	Simmonds Precision	70070-30102-10/102 (391057-246/247)	Sleeve at top Teflon.
Nonself-sealing Crashworthy Tank **	Goodyear	70070-30101 (2F1-6-42523)	Innerliner Buna N.

\*\* Components listed here are used on the auxiliary tank range extension kit.

TABLE A-8. UH-60A BLACK HAWK AIRFRAME (SIKORSKY AIRCRAFT) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Pressure Switch			
	Consolidated Controls	(R6607-1-46)	Diaphragm 11 ml. thick Teflon impregnated glass (dynamic).
Transfer Pump, ** Electric	Lear-Siegler	61300-63188-101 (RR 36260)	Vane type pump. Carbon face seal on shaft. Buna N elastomers. Lip seal of Sirvine (Chicago Rawhide).

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\*\* Components listed here are used on the auxiliary tank range extension kit.

TABLE A-9. YAH-64 APACHE AIRFRAME (HUGHES HELICOPTERS)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Hose, Self-sealing		7-211642021-22/23	
	Aeroquip	(AE705219-3)	Innerliner Buna N.
Breakaway Valve (flapper type)		7-211642041 Typical	
	Aeroquip	(AE81358K)	Round seal Buna N. O-rings Buna N. Aluminum piston is covered with nitrile rubber (dynamic).
Level Control Shutoff		7-211642002	
	Hydraulic Research	(736300)	Diaphragm activated valve Material Buna N on nylon fabric. Buna N O-ring (static).
Fuel Pilot Valve		7-211642003	
	Hydraulic Research	(743900)	Diaphragm activated valve Material Buna N on nylon fabric. Poppet check valve. Viton O-ring. Other O-rings Buna N.
Firewall Shutoff Valve (cylindrical plug)		7-211642045	
	ITT General Controls	(AV16E1291)	Seal Teflon (dynamic).

TABLE A-9. YAH-64 APACHE AIRFRAME (HUGHES HELICOPTERS) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
APU Shutoff Valve (ball valve)	ITT General Controls	7-211642059 (AV24B1291AR)	Seal Teflon (dynamic).
Check Valve, Fwd Cell	Parker-Hannifin	7-211642032 (2770103)	Molded Buna N seal on flapper. O-rings Buna N (static).
Check Valve, Aft Cell	Parker-Hannifin	7-211642033 (2770104)	Molded Buna N seal on flapper. O-rings Buna N (static).
Auxiliary Fuel Check Valve	Lord Industries	7-117420063 (L81400-8CC)	
Shutoff Transfer Valve (ball valve)	ITT General Controls	7-211642004 (AV24B1293)	Seal is Teflon (dynamic).
Fuel Quantity Sensor	Simmonds Precision	7-211642075 Typical (391001-372)	Capacitance type gage. Sleeve at top Teflon.
Fuel Tank, Fwd	Firestone	7-211641001 (37832)	Innerliner fabric.

TABLE A-9. YAH-64 APACHE AIRFRAME (HUGHES HELICOPTERS) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Tank, Aft	Firestone	7-211641002 (37833)	Innerliner fabric.
Boost Pump, Air Driven	Pnu-Devices	7-211642078 (2307)	Gear (geroter) pump with carbon seal. Vespel vanes on air side not in fuel. O-rings fluorocarbon per MS3248.
Boost Pump For APU, Electric	Lear-Siegler	7-211642062 (RG36810)	Vane pump with dry D.C. motor. Carbon face seal for shaft. Seals Buna N. Diaphragm of DuPont Fairprene.
Transfer Pump, Air Motor	Pnu-Devices	7-211642052 (2284)	Gear (geroter) pump with carbon seal. Vespel vanes on air side not in fuel. O-rings fluorocarbon per MS3248.
Pressure Switch	Hydra-Electric	7-211642074 (9111)	Diaphragm actuated switch. Seal outside edge fluorosilicone. Basically static, but some small movement.
Breakaway Coupling (two poppets)	Aeroquip	7-117420069 (AE98102H)	Boot Buna N (static).
Pullaway Coupling (two poppets)	Aeroquip	7-267100011 (XAE80861H)	Boot Buna N (static).

TABLE A-9. YAH-64 APACHE AIRFRAME (HUGHES HELICOPTERS) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Drop Tank, Metal	Seargent Fletcher	(7-211642081)	
Check Valve, Controllable Filter (swing type)	Shaw Aero	7-117420021 (457-780)	O-ring on flapper Buna N (dynamic).

TABLE A-10. C-12 HURON AIRFRAME (BEECH AIRCRAFT)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
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ITEMIZED LISTING OF THE C-12 AIRFRAME FUEL-WETTED COMPONENTS WAS NOT AVAILABLE FROM BEECH AIRCRAFT. THE MAJORITY OF THE COMPONENTS ARE THE SAME AS THE ONES USED ON THE RU/U-21 UTE, ALSO MANUFACTURED BY BEECH AIRCRAFT.

TABLE A-11. OV-1B/C MOJAWK AIRFRAME (GRUMMAN AEROSPACE)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Self-sealing Hose	Aeroquip	134SCP804 (AE502-12)	Innerliner of Buna N with two polyester reinforced braids.
Check Valve (poppet)	Brunswick	(8869A4TTS6)	O-ring Buna N (dynamic). No problem sealing. High cracking force.
Float Valve, Pilot	Parker-Hannifin	134SCP119 (1323-585905)	Pilot valve main tank.
Motorized Gate* Valve (for pressure fueling)	ITT General Controls	GV500BG18960 (AV16BI296D)	Seals are of Thiokol for gate. O-rings are Buna N.
Valve, Solenoid Actuated (part of drop tank system)	Parker-Hannifin	134SCP112-3 (19-758-51)	Shutoff valve drop tank transfer.
Check Valve, Cylinder	Parker-Hannifin	(1111-548189-1)	Main tank aft vent outlet.

\* Potential fuel-sensitive area

TABLE A-11. OV-1B/C MOHAWK AIRFRAME (GRUMMAN AEROSPACE) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Gage, Quantity	Honeywell	134SCP114-3 (FG200A-50)	Probes, capacitance type.
Adapter & Cap, CCR	Carter	134SCP125-1 (6450)	Moulded rubber seal on cap is synthetic rubber per MIL-R-6855, class 1, grade 60. Dust cap gasket is Fareprene 5029A.
Fuel Tank, Fuselage (self-sealing)	Uniroyal	134SCP103-7 (FCR-46312)	Innerliner fabric.
Shutoff Valve*	45681	1321-517310	Pilot valve operated by main tank fuel valve.
Motorized Gate Valve*	ITT Aerospace Controls	(GV500BG12990) (CAVI6BI29401)	Main fuel tank to engine.
Check Valve		(MS28885)	

\* Potential fuel-sensitive area

TABLE A-11. OV-1B/C MOHAWK AIRFRAME (GRUMMAN AEROSPACE) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Ejector Pump	Allen Aircraft	(612E501)	No elastomers - all metal.
Boost Pump, Electric (2 ea.)	Lear-Siegler	134SCP115 (RR11970A)	Centrifugal pump with dry motor. O-rings Buna N. Shaft seals silicone.
Pressure Switch	Consolidated Controls	134SCP108-7 (R6607-1-46)	11 mil thick - glass woven Teflon impregnated diaphragm (dynamic) 1 1/4" diameter.
Gravity Fueling Filler Cap	Several	(15600V1-156-1) (MS2952611)	Hardly ever used.
Sump Drain Valve (poppet)	Auto-Valve	(1100B52Z-G)	O-ring Buna N on shaft per MIL-R-6855 (dynamic).
Drop Tank, ** Aluminum	Sargent-Fletcher	(134P10150-1)	No elastomers.

\*\* Components are used on the range extension kit with aluminum drop tanks

TABLE A-11. OV-10B/C MOHAWK AIRFRAME (GRUMMAN AEROSPACE) (CONT'D)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Rotary Pump, ** Electric	Lear-Siegler	134SCP123-3 (RG16550A)	Vane pump line mounted. Buna N elastomers. Diaphragm of DuPont Fairprene.
Fuel Quantity Probe**	Sargent-Fletcher	(50179) 72429	Capacitance type.
Fuel Cap And Adapter** (gravity fueling)	Sargent-Fletcher	(50251)	Flat gasket in cap.
Relief Valve, ** Pressure/Vacuum	Sargent-Fletcher	(50233)	Vents overboard for drop tank.
Gasket, Cover** Assembly (under 39099)	Grumman	(39018)	Neoprene oval gasket.
Fuel Hose, ** Medium Pressure	Aeroquip	(AE601)	Fuel system hose.

\*\*Components used on the range extension kit with aluminum drop tanks

TABLE A-12. RU/U-21 UTE AIRFRAME (BEECH AIRCRAFT)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Nonself-sealing Hose	Aeroquip	(701012-12D0170)	Innerliner of Buna N with single stainless steel wire braid reinforcement.
Check Valve* (poppet)	Circle Seal Controls	(8869A-12BT-2)	O-ring Buna N (dynamic).
Transfer Feed Valve, Solenoid Actuated	ITT General Controls	50-389095 (AV1B1602)	Two crossfeed valves.
Shutoff Valve, Solenoid Actuated	Dukes	(3153-00-9)	One crossfeed valve. Poppet type. Molded Buna N. O-rings Buna N (static).
Gate Valve, Motorized*	ITT General Controls	(AV16B170B)	Buna N O-rings (static). Thiokol gate seals (static).
Check Valve (swing/flapper)	Parker-Hannifin	(1111-595272)	
Check Valve (swing/flapper)	Dukes	(3298-00)	O-rings Buna N (static). Seal molded Buna N.

\* Potential fuel-sensitive area

TABLE A-12. RU/U-21 UTE AIRFRAME (BEECH AIRCRAFT) CONT'D

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Check Valve, Safety Relief (poppet)	Circle Seal Controls	(5132A-4TT-55)	O-ring Viton (dynamic).
Fuel Quantity Transmitter	Simmonds Precision	(B1239-3636)	Capacitance type gage. Sleeve at top Teflon.
Fuel Flow Transmitter	Bendix Corporation	(9133-25B1)	Probably turbine meter.
Boost Pump, Electric*	Airborne	(1D2-12)	Boost pump with wet electric motor.
Pressure Switch	Aircraft Controls	50-389055-2 (GP-8000-50-1)	Seals (static), old design. Diaphragm seal stainless steel, new design.
Fuel Filter With Pressure Relief Valve	Air-Maze	(02W05847)	Filter made of stainless steel screen cloth with aluminum end caps. O-rings AMS 7270. Poppet relief valve is metal to metal.

\* Potential fuel-sensitive area

TABLE A-12. RU/U-21 UTE AIRFRAME (BEECH AIRCRAFT) CONT'D

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Gravity Filler Cap	Koehler-Dayton, Inc.	(37810-1)	O-ring in cap Buna N (static).
Sump Drain	Curtis Dyna-Products	(CCA3400)	4 valves.
Ferry Fuel Pump,** Electric	Dukes	(1132-00-1)	Centrifugal pump with dry electric motor. Vane-type pump with vanes of Vespel. Poppet check valve O-ring fluorosilicone. Shaft seal has Buna N O-ring Plug seal Buna N.
Ferry Fuel Pump,** Manual	Christen	(30264)	Stainless steel center shaft and screws. Series of 4 poppets of Delrin. Wobble pump. O-ring Buna N.
Manual Selector Valve** (ball valve)	Auto-Valve	(73C-8-B1)	Ball seals are MIL-S-6855 (Buna N) and Teflon per AMS3651. O-ring Buna N (dynamic and static).
Aluminum Ferry Tank**	Beech		No liners. All aluminum.

\*\* Components are used on the range extension kit

TABLE A-12. RU/U-21 UTE AIRFRAME (BEECH AIRCRAFT) CONT'D

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
Fuel Cells,** Nonself-sealing	Goodyear Uniroyal		Innerliner Buna N.
Vent Float Valve **	Beech	50-380135-1/2 (2F1-6-34055)	Float lifts up to close the check valve.

\*\* Components are used on the range extension kit

TABLE A-13. UV-18 TWIN OTTER AIRFRAME (DEHAVILLAND AIRCRAFT)

COMPONENT	MANUFACTURER	AIRFRAME P/N (MFG. P/N)	COMMENTS
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ITEMIZED LISTING OF THE UV-18 AIRFRAME FUEL-WETTED COMPONENTS  
 WAS NOT OBTAINED FROM DEHAVILLAND AIRCRAFT.