

CHAPTER 12**FUEL SYSTEM**

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CHAPTER 12

FUEL SYSTEM

12.000 Description

Fuel system maintenance is specific to either bladder or all-aluminum tank installations (current production aircraft have flexible bladders in aluminum enclosures while earlier aircraft use all-aluminum tanks). Mechanics are advised to identify fuel tank installation type, and to follow the appropriate maintenance procedures. Maintenance procedures for the carburetor or engine fuel system accessories may be found in the appropriate manufacturer's technical data.

The fuel system is gravity-flow (no fuel pumps) and includes a main tank, an auxiliary tank (optional for all-aluminum tanks), a shut-off valve control located behind the left seat, and a strainer (gascolator). Fuel tank air vents are located inside the mast fairing.

Plunger-style drain valves are provided for the gascolator and for each fuel tank sump. The gascolator is located on the lower left side of the firewall. The drain valves for the auxiliary tank and bladder-style main tank are located inside the cowl door below the auxiliary tank. Plastic tubes attached to the valves allow fuel to be drained overboard.

Fuel samples are taken by pushing on the plunger(s). For all-aluminum main tanks, the drain is located on the left side of the fuselage and is opened by pushing in on the plastic tube. On newer helicopters, a glass tube stowed inside the upper, aft cowl door is provided which may be used to catch the fuel samples. Fuel should be sampled from all three locations prior to the first flight of the day and after refueling to verify no contamination and correct grade.

The fuel gages are electrically operated by float-type transmitters in the tanks. When the gages read E the tanks are empty except for a small quantity of unusable fuel. The low fuel caution light is actuated by a separate electric sender located on the bottom of the main tank.

The auxiliary tank is interconnected with the main tank and is located somewhat higher so it will become empty first while fuel still remains in the main tank. The fuel shutoff valve controls flow from both tanks to the engine.

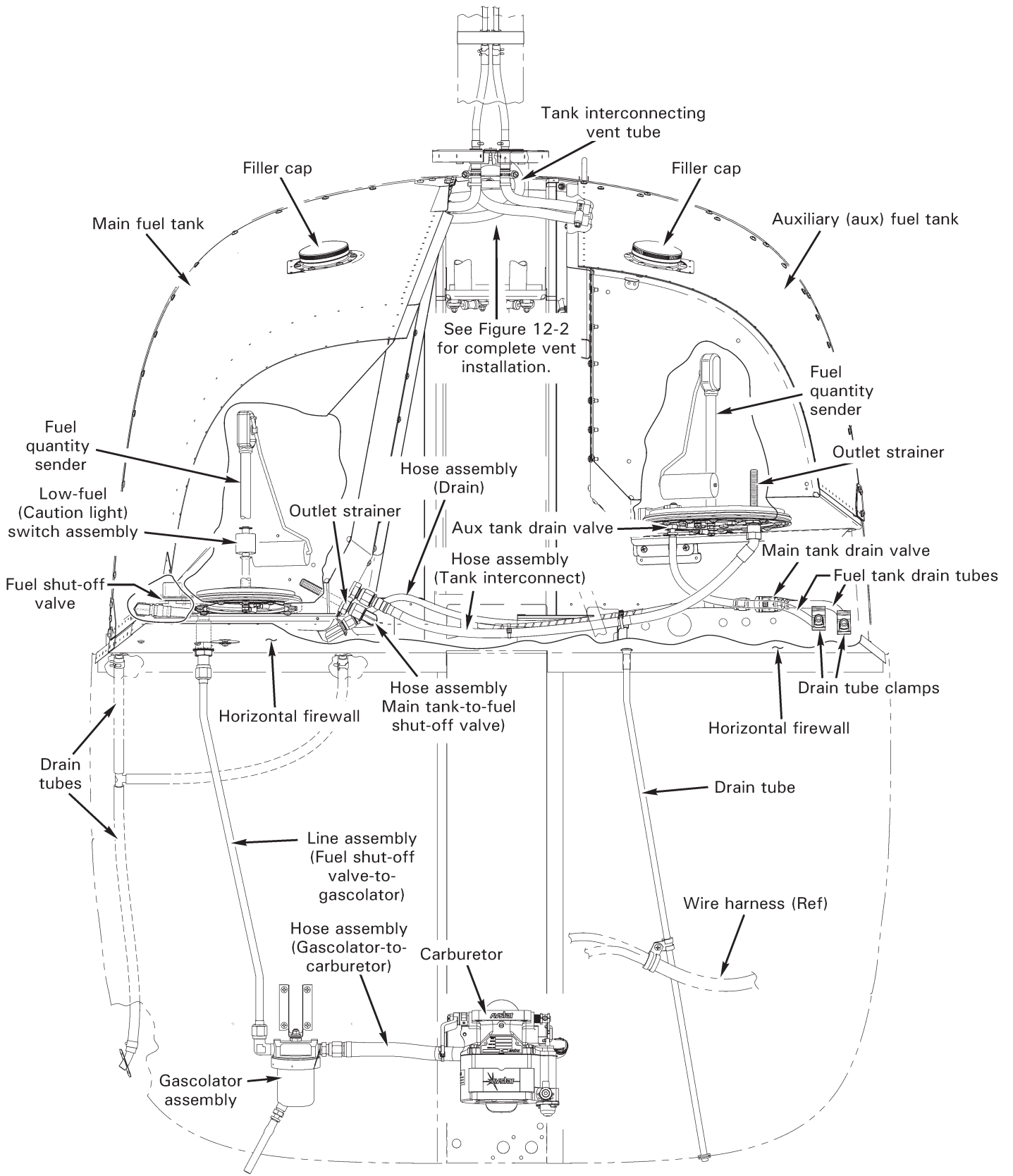


FIGURE 12-1 FUEL SYSTEM (BLADDER TANK INSTALLATION SHOWN)

12.100 Fuel Tanks

CAUTION

Flexible hoses kink easily; handle with care.

CAUTION

Temporarily cap fuel fittings when opened.

WARNING

Fuel vapors are explosive. Do not use electric tools in vicinity of an opened fuel system.

12.110 Main Tank

A. Removal

1. Defuel helicopter per § 1.150.
2. Remove mast fairing. Open access doors, disconnect ELT antenna and ground wire at connectors if ELT is installed, and remove tailcone fairing. Remove B423-1 channel assembly and B429 skins (cowling between tanks).
3. Remove left backrest assembly.
4. Loosen clamps, or cut and discard safety wire, securing vent tubes to main tank assembly and pull tubes off of tank. Remove hardware securing A713-1 strap to tank.
5. Cut and discard ty-raps as required and disconnect fuel quantity sender and low-fuel switch assembly wiring from airframe harness at connectors. Remove nuts securing wiring to fuel quantity sender if connectors are not installed.
6. a. Bladder Tank: Disconnect D205-32 (tank-to-fuel shut-off valve) hose assembly from valve and D205-33 (tank interconnect) hose assembly from aux tank. Cut and discard ty-raps attaching D205-34 (drain) hose assembly and D205-33 hose assembly to support, then disconnect hose from drain valve connector. (Hose assemblies remain attached to main tank during tank removal.)
b. All-Aluminum Tank: Disconnect A726-2 (tank-to-fuel valve) and B141-1 (tank interconnect; aux tank option) line assemblies and remove line assemblies.
7. Remove hardware securing tank's A028-7 frame (panel) to B428-1 frame (panel) and A020-2 (steel tube) upper frame. Remove hardware securing tank outboard corners to horizontal firewall vertical flange. Remove hardware securing tank forward channel to underside of horizontal firewall (access from engine compartment).
8. Carefully remove tank assembly.

12.110 Main Tank (continued)**B. Installation****NOTE**

When positioning main tank in helicopter, verify vertical strip attached to horizontal firewall is between tank's D249-4 angle (attached to stiffener on bottom of tank) and tank's exterior skin.

NOTE

Electrically verify proper function of low-fuel warning switch and fuel quantity sender prior to main tank installation. Perform fuel quantity sender check per § 12.410 as required.

1. Bladder Tank: If not previously accomplished, connect D205-32 (tank-to-fuel shut-off valve) hose assembly to main tank strainer assembly, D205-33 (tank interconnect) hose assembly to main tank AN815-6D union, and D205-34 (drain) hose assembly to main tank AN815-4D union. Special torque hose nuts per § 1.330 and torque stripe per Figure 2-1.
2. Position main tank assembly in helicopter, carefully routing attached hose assemblies (bladder tanks) to appropriate locations.
3. Install hardware securing tank outboard corners to horizontal firewall vertical flange. Install hardware securing A713-1 strap to tank. Install hardware securing A028-7 frame (panel) to B428-1 frame (panel) and A020-2 (steel tube) upper frame. Install hardware securing tank forward channel to underside of horizontal firewall (access from engine compartment). Standard torque hardware per § 1.320 and torque stripe per Figure 2-1.
4. a. Bladder Tank: Connect D205-32 hose assembly to fuel valve elbow. Connect D205-33 hose assembly to aux tank strainer assembly. Connect D205-34 hose to drain valve connector. Special torque hose nuts per § 1.330 and torque stripe per Figure 2-1. Install two MS3367-5-9 ty-raps around D205-33 and D205-34 hose assemblies to stand-off ty-rap hoses to support, but do not tighten. Maintain 0.25 in. minimum clearance for D205-33 hose with frame assembly and firewall, and for D205-34 hose with firewall and support. Cinch ty-raps until snug without over-tightening, and trim tips flush with heads.
b. All-Aluminum Tank: Connect A726-2 (tank-to-fuel shut-off valve) line assembly to tank elbow or tee (aux tank option) and fuel valve elbow. Connect B141-1 line assembly (aux tank option) to aux tank nipple and tank tee. Special torque line nuts per § 1.330 and torque stripe per Figure 2-1.
5. Connect fuel quantity sender and low-fuel switch assembly wiring to airframe harness at connectors. Install nuts securing wiring to fuel quantity sender if connectors are not installed; special torque nuts per § 1.330 and torque stripe per Figure 2-1. Install ty-raps as required.
6. Connect vent tubes to tank and tighten clamps until snug, or wrap two turns 0.032-in. dia. lockwire and safety tubes tight to tank. Verify security.

12.110 Main Tank (continued)**B. Installation (continued)**

7. Check fuel quantity indication per § 12.420. Verify no leaks.
8. Inspect fuel cap alignment stripes per R22 Service Bulletin SB-107. Verify proper installation and legibility of D682-44 decals.
9. Install left backrest assembly.
10. Install B423-1 channel assembly, B429 skins (cowlings between tanks), and A706-1 tailcone fairing. Install mast fairing. Connect ELT antenna & ground wire at connectors if ELT is installed. Secure access doors.
11. Perform pitot-static leak check if system was disturbed.

C. Bladder Replacement**NOTE**

During disassembly, progressively tape bladder openings to protect interior from foreign object contamination. During assembly, progressively remove protective tape.

CAUTION

B028-1 bladder assembly temperature should be above 65°F before removing, installing, or flexing bladder.

1. Remove main fuel tank per Part A.
2. Remove fuel quantity sender per § 12.410.
3. Remove screws securing D250-6 cover assembly to B028-1 bladder assembly and tank. Carefully remove cover, with low-fuel switch assembly attached. Remove o-ring, and discard if condition warrants.
4. At vents, remove screw securing bladder to tank.
5. At fuel filler neck, remove fuel cap and screws securing bladder to tank.
6. At forward inboard corner, remove B254-3 strainer assembly, AN815-4D union, & AN815-6D union and discard o-rings. Remove screws securing bladder to tank.
7. Remove hardware securing B578-1 bulkhead assembly, B575-4 channel, and B575-5 stiffener to tank. Detach hook-and-loop tape and remove bulkhead.
8. Detach hook and loop tape and carefully remove bladder.
9. Carefully insert new B028-1 bladder assembly inside main tank assembly. Align bladder and tank fastener holes and press hook-and-loop tape together.
10. Install hardware securing B578-1 bulkhead assembly, B575-4 channel, and B575-5 stiffener to tank. Verify security.

12.110 Main Tank (continued)**C. Bladder Replacement (continued)**

11. At forward inboard corner, apply A257-9 anti-seize to screw threads and install screws securing bladder to tank. Lubricate new o-rings with A257-6 grease and install o-rings on B254-3 strainer assembly, AN815-4D union, and AN815-6D union. Install strainer and unions; special torque per § 1.330 and torque stripe per Figure 2-1.
12. At fuel filler neck, apply A257-9 anti-seize to screw threads and install screws securing bladder to tank. Install fuel cap.
13. At vents, apply A257-9 anti-seize to screw threads and install screw securing bladder to tank.
14. On bottom, lubricate (new) o-ring with A257-6 grease and install o-ring in bladder ring groove. Carefully insert D250-6 cover into bladder, with attached low-fuel switch assembly. Apply A257-9 anti-seize to threads and install screws securing cover to bladder and tank.
15. Install fuel quantity sender per § 12.410.
16. Pressure check assembled fuel tank by plugging vents and fittings and pressurizing bladder to no more than 1 psi. Check for leaks with a mild soap and water solution applied to all seams.
17. Install main fuel tank per Part B.

12.120 Auxiliary Tank**A. Removal**

1. Defuel helicopter per § 1.150.
2. Open right side of mast fairing. Open access doors, disconnect ELT antenna & ground wire at connectors if ELT is installed, and remove tailcone fairing. Remove B423-1 channel assembly and B429 skins. Remove B430 door and skin.
3. Remove right backrest assembly.
4. Loosen clamps, or cut & discard safety wire, securing vent tubes to aux tank assembly and pull tubes off tank. Remove hardware securing pitot-static line clamp to tank channel.
5. Cut & discard ty-raps as required and disconnect fuel quantity sender wiring from airframe harness at connectors. Remove nuts securing wiring to sender if connectors are not installed.
6. Remove hardware securing rotor brake cable assembly to B112-1 lever. Cut & discard heat shrink and disconnect bead chain from cable at connector.
7. Cut & discard ty-rap securing drain tube to angle (bladder tank), or remove hardware securing drain tube clamp to firewall clip.
8. Disconnect hose or line assembly from tank fitting.
9. Bladder Tank: Above right seat, gently lift foam from bulkhead and remove fasteners securing tank to bulkhead.
10. Remove screws securing tank channel to frames.
11. Remove perimeter screws securing tank to bulkhead. Remove tank.

12.120 Auxiliary Tank (continued)**B. Installation**

1. Position aux tank assembly in helicopter. Install perimeter screws securing tank to bulkhead.
2. Install screws securing tank channel to frames.
3. Bladder Tank: Above right seat, gently lift foam from bulkhead and install fasteners securing tank to bulkhead.
4. a. Bladder Tank: Connect D205-33 hose assembly to aux tank fitting, special torque hose nut per § 1.330, and torque stripe per Figure 2-1. Verify 0.25 in. minimum clearance with frame assembly and firewall (reposition hose assembly angle as required).
b. All-Aluminum Tank: Connect B141-1 line assembly to aux tank fitting, special torque line nut per § 1.330, and torque stripe per Figure 2-1.
5. a. Bladder Tank: Install MS3367-5-9 ty-rap securing drain tube to angle. Cinch ty-rap until snug without over-tightening, and trim tip flush with head.
b. All-Aluminum Tank: Install hardware securing drain tube clamp to firewall clip.
6. Install hardware securing rotor brake cable assembly to B112-1 lever. Slip length of B158-6 heat shrink over rotor brake chain, connect chain and cable, and activate heat shrink over connector. Verify security.
7. Connect fuel quantity sender wiring at connectors. Install nuts securing wiring to fuel quantity sender if connectors are not installed. Install ty-raps as required.
8. a. Bladder Tank: Connect vent tubes to tank and tighten clamps until snug. Verify security.
b. All-Aluminum Tank: Connect vent tubes to tank, wrap two turns 0.032-in. dia. lockwire and safety tubes tight to tank. Verify security.
9. Install hardware securing pitot-static line clamp to tank channel.
10. Check fuel quantity indication per § 12.420. Verify no leaks.
11. Inspect fuel cap alignment stripes per R22 Service Bulletin SB-107. Verify proper installation and legibility of D682-44 decals.
12. Install right backrest assembly.
13. Install B430 door and skin. Install B423-1 channel assembly and B429 skins. Install tailcone fairing, connect ELT antenna ground wire at connector if ELT is installed, and close access doors. Close right side of mast fairing.

12.120 Auxiliary Tank (continued)**C. Bladder Replacement****NOTE**

During disassembly, progressively tape bladder openings to protect interior from foreign object contamination. During assembly, progressively remove protective tape.

CAUTION

B028-2 bladder assembly temperature should be above 65°F before removing, installing, or flexing bladder.

1. Remove aux fuel tank per Part A.
2. Remove fuel quantity sender per § 12.410.
3. Remove screws securing D250-8 cover assembly to B028-2 bladder assembly and tank. Carefully remove cover, with strainer, siphon, and union attached. Remove and discard o-ring.
4. At vents, remove screw securing bladder to tank.
5. At fuel filler neck, remove fuel cap and screws securing bladder to tank.
6. Remove hardware securing B579-1 bulkhead assembly and B577-2 stiffener to tank. Detach hook-and-loop tape and remove bulkhead.
7. Detach hook-and-loop tape and carefully remove bladder.
8. Carefully insert new B028-2 bladder assembly inside aux tank assembly. Align bladder and tank fastener holes and press hook and loop tape together.
9. Install hardware securing B579-1 bulkhead assembly and B577-2 stiffener to tank. Verify security.
10. At fuel filler neck, apply A257-9 anti-seize to screw threads and install screws securing bladder to tank. Install fuel cap.
11. At vents, apply A257-9 anti-seize to screw threads and install screw securing bladder to tank.
12. Lubricate new o-ring with A257-6 grease and install o-ring in bladder ring groove. Carefully insert cover into bladder, with strainer, siphon, and union attached. Apply A257-9 anti-seize to threads and install screws securing cover to bladder and tank.
13. Install fuel quantity sender per § 12.410.
14. Pressure check assembled fuel tank by plugging vents and fittings and pressurizing bladder to no more than 1 psi. Check for leaks with a mild soap and water solution applied to all seams.
15. Install aux fuel tank per Part B.

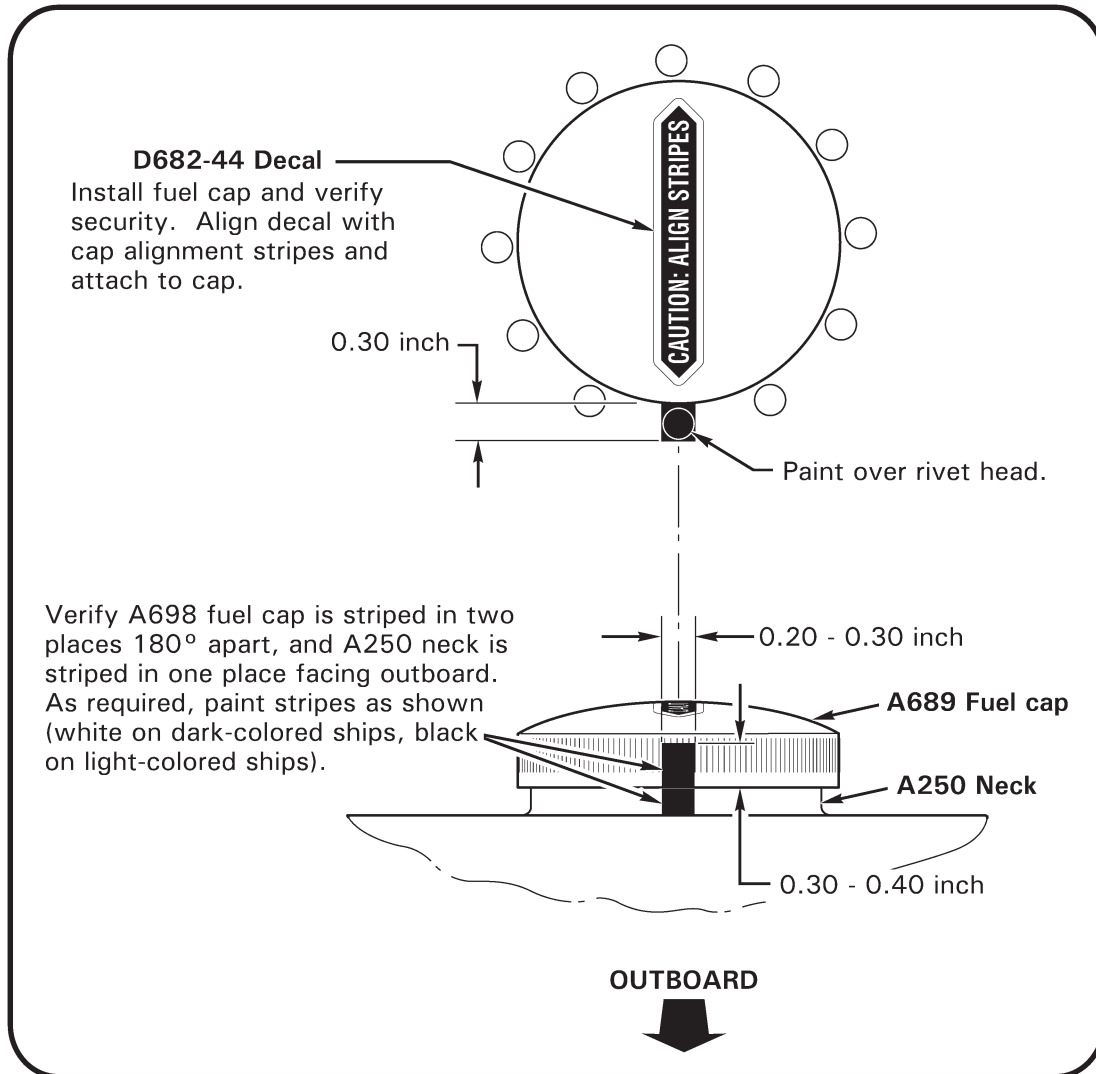


FIGURE 12-1A FUEL CAP ALIGNMENT STRIPES

12.130 Fuel Cap(s)**WARNING**

Fuel cap alignment stripes are required by regulation and necessary for the pilot to verify fuel caps are properly secured. An improperly secured cap may come off in flight.

1. Refer to Figure 12-1A. Paint fuel cap stripes (in two places 180° apart) and A250 neck if stripes have deteriorated (in one place facing outboard) per the following:
 - a. Clean surfaces to be painted using a lint-free, clean cloth dampened with acetone. Allow surfaces to dry.
 - b. Apply D257-7 black (Imron AF400/AF700) for light-colored ships or D257-5 white (Imron AF400/AF700) for dark-colored ships, mixed in accordance with paint manufacturer's recommendations, to surfaces.
2. Attach D682-44 decal to A689 fuel cap as shown.

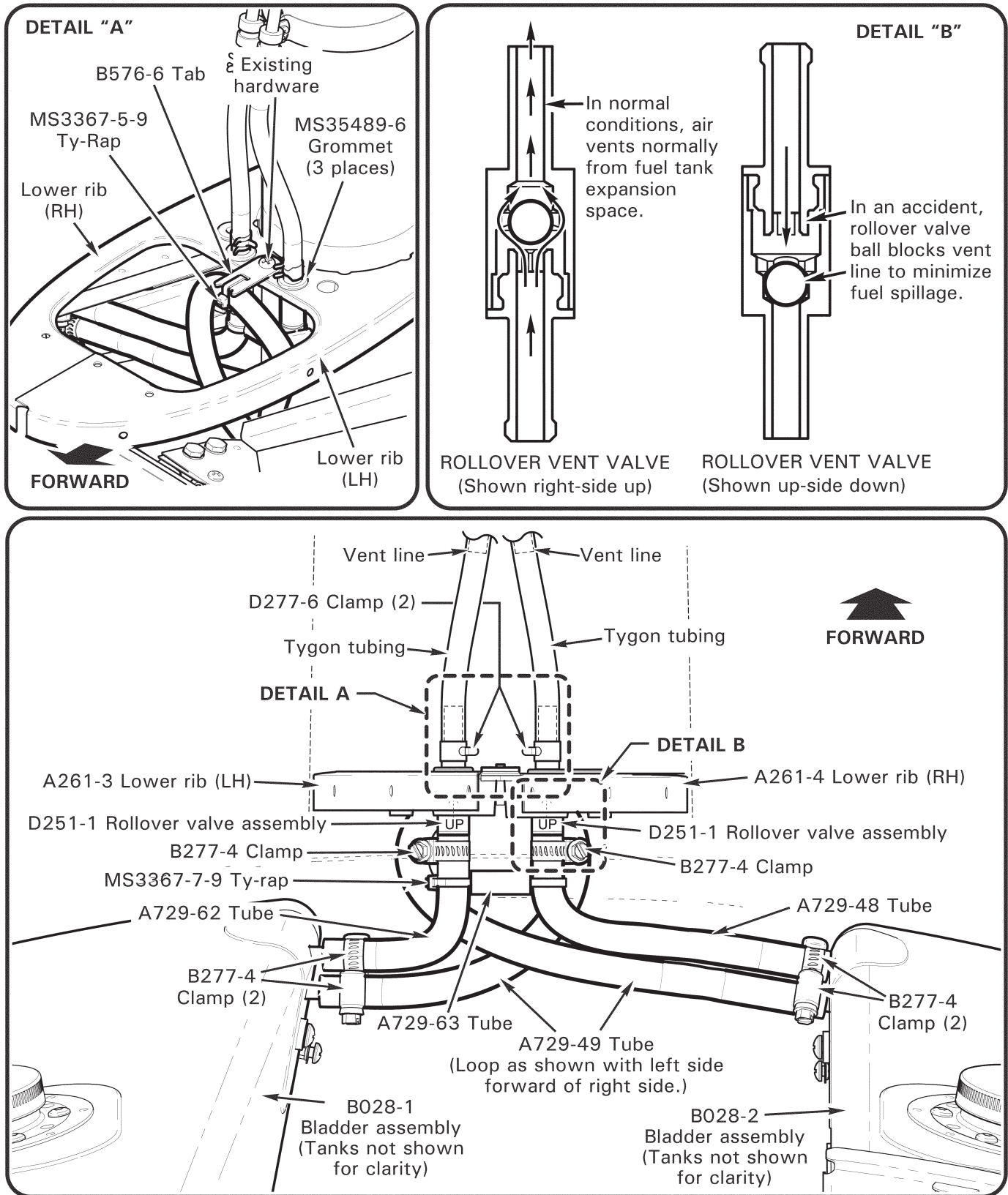


FIGURE 12-2 FUEL VENTS

12.200 Fuel Vents

12.210 (Vent Line) Rollover Valve Assemblies

R22 rollover valves contain one brass ball. In normal conditions, air flows around the vent ball from the bladder expansion spaces. In the event of inadvertent over-filling or in-flight fuel sloshing, the ball will float and seal the vent. If the aircraft is inverted, the ball seals the vent to minimize fuel spillage. There are no internal packings.

A. Removal

1. Open right side of mast fairing.
2. Above lower rib, remove D277-6 (spring) clamp securing A729-61 tube to D251-1 rollover valve assembly and pull tube off of valve. Pull valve downward, through rib grommet.
3. Loosen B277-4 (worm gear) clamp securing A729-48 or A729-62 tube to rollover valve and pull tube off of valve.

B. Installation

1. Observe orientation markings and push A729-48 or A729-62 tube onto D251-1 rollover valve assembly and tighten B277-4 (worm gear) clamp. Push valve upward, through lower rib grommet.
2. Above rib, push A729-61 tube onto rollover valve and install D277-6 (spring) clamp. Verify security.
3. Perform vent system check per Part C.

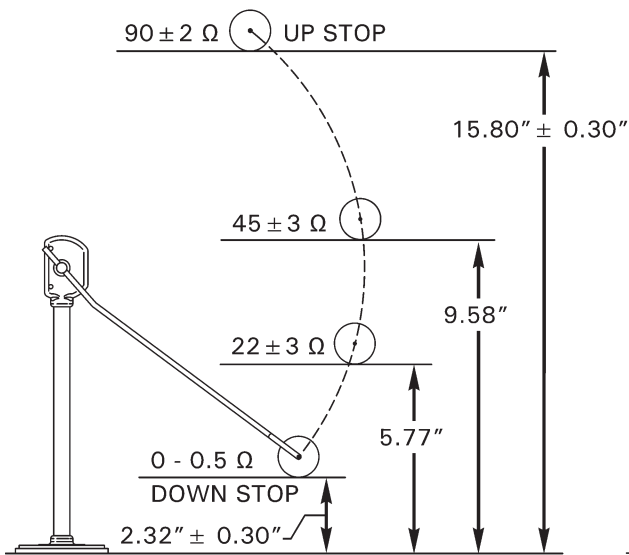
C. Vent System Check

1. Open right side of mast fairing. Verify main and aux fuel tank caps are installed.
2. Attach temporary hose to one A731-4 (vent) tube.
3. Blow into the temporary hose (do not use compressed air) and verify air blows out the other vent tube. If air does not blow out the other vent, remove obstruction(s) and repeat check.
4. Close mast fairing.

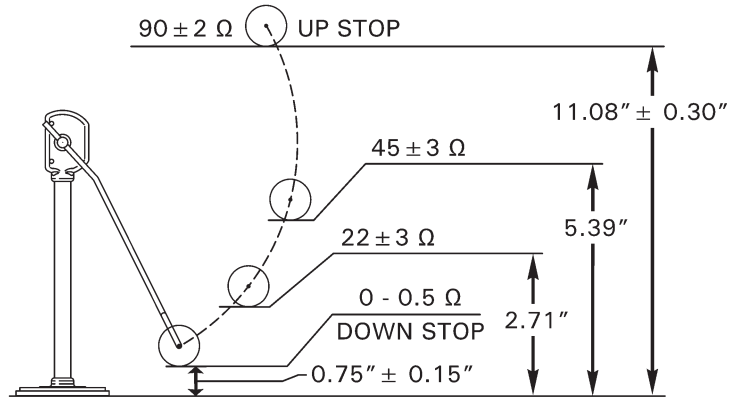
12.300 Drain Valves

A. Removal

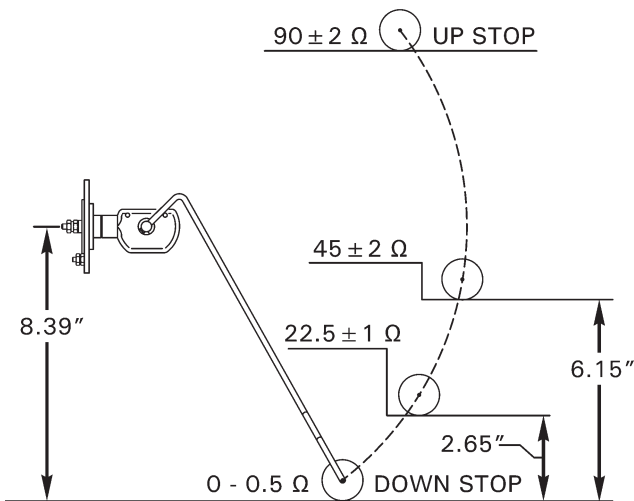
1. Defuel helicopter per § 1.150. Remove engine right cowling, as required.
2. Cut & discard safety wire securing A729 tube to A761-1 drain valve, if installed, and pull tube off of valve.
3. Remove valve from connector, tank, or gascolator assembly. Tape fuel system opening.
4. Actuate valve to expose stem, then remove & discard o-ring.



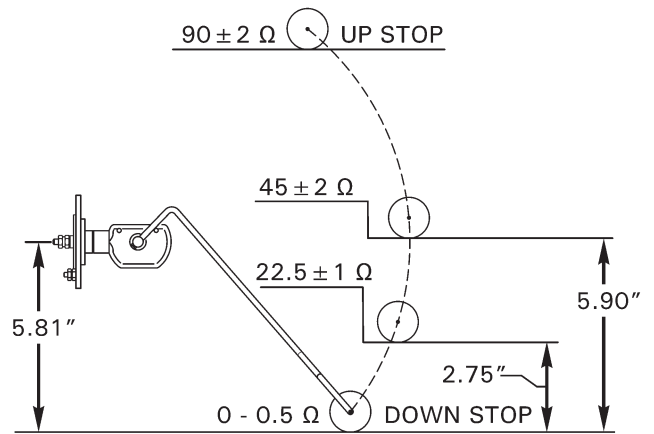
D252-3 FUEL QUANTITY SENDER
Main Tank (Bladder Tank)



D252-4 FUEL QUANTITY SENDER
Aux Tank (Bladder Tank)



A550-1 FUEL QUANTITY SENDER
Main Tank (All-Aluminum Tank)



B122-1 FUEL QUANTITY SENDER
Aux Tank (All-Aluminum Tank)

FIGURE 12-3 FUEL QUANTITY SENDER CHECK

12.300 Drain Valves (continued)

B. Installation

1. Actuate A761-1 drain valve to expose stem, and install new o-ring in stem seat.
2. Lightly coat valve threads using B270-6 sealant. Remove tape and install valve in connector, tank, or gascolator assembly. Standard torque valve per § 23-32 and torque stripe per Figure 2-1.
3. Push A729 tube onto valve. Wrap tube with two turns 0.032-inch diameter lockwire and safety tube to valve, as required.
4. Fuel helicopter per R22 Pilot's Operating Handbook Section 2 and inspect fuel system for leaks. Install engine right cowling, if removed.

12.400 Fuel Quantity

12.410 Fuel Quantity Senders

CAUTION

Rotation of fuel sender center stud or base nut is not permitted.

WARNING

Do NOT apply system voltage to installed fuel quantity senders.

A. Removal

1. a. Bladder Tanks: If removing D252-3 fuel quantity sender, remove main fuel tank per § 12.110. If removing D252-4 fuel quantity sender, defuel helicopter per § 22-52.
b. All-Aluminum Tanks: Defuel helicopter per § 22-52 until level is below fuel quantity sender mounting hole. Cut & discard ty-raps as required and disconnect sender wiring from airframe harness at connectors. Remove nuts securing wiring to sender if connectors are not installed.
2. Remove hardware securing fuel quantity sender to cover assembly or tank. Carefully pull sender lever through opening, then tape opening.

B. Installation

1. Perform fuel quantity sender check per Part C.
2. Inspect condition of sender gasket and replace as required. Remove tape from opening, position gasket on sender, and carefully insert sender lever through opening. Install hardware, special torque bolts in criss-cross pattern per § 23-33, and torque stripe per Figure 2-1.
3. Bladder Tanks: If removed, install main fuel tank per § 12.110.
4. Connect sender wiring to airframe harness at connectors. Install nuts securing wiring to sender if connectors are not installed. Install ty-raps as required.
5. Check fuel quantity indication per § 12.420. Verify no leaks.

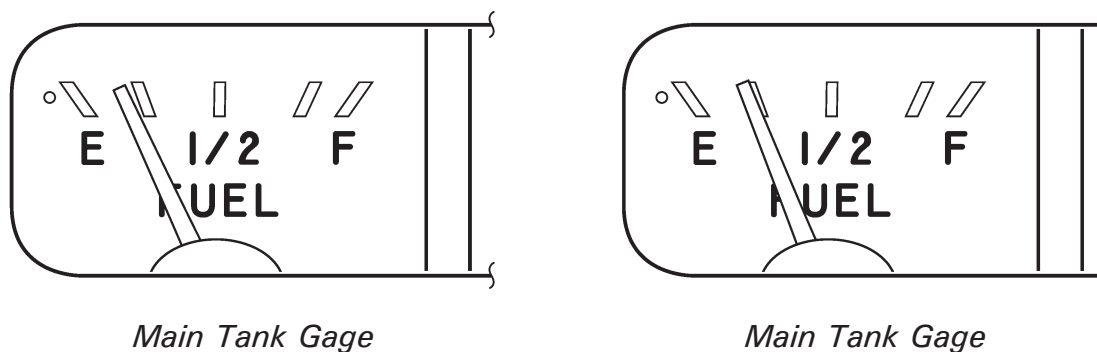
12.410 Fuel Quantity Senders (continued)

C. Check

1. Remove fuel quantity sender per Part A.
2. Simulate mounting position of appropriate sender per Figure 12-3. Position float arm as shown and measure the resistance with a multimeter. Verify resistance is within tolerance in the four positions given.
3. If resistance is out of tolerance at any of the four positions given, bend the float arm up for a sender with excessive resistance, or bend the float arm down for a sender with too little resistance. Repeat steps until sender resistance is within tolerance.
4. Install fuel quantity sender per Part B.

12.420 Fuel Quantity Indication

1. Defuel helicopter per § 22-52. Turn fuel shut-off valve off.
2. Fuel main tank with exactly 6.2 gallons (if equipped with main and aux bladder tanks), 5.6 gallons (if equipped with main bladder tank only), 6.3 gallons (if equipped with main and aux all-aluminum tanks), or 5.4 gallons (if equipped with main all-aluminum tank only) of fuel per R22 Pilot’s Operating Handbook Section 2. Wait five minutes for fuel levels to equalize. Inspect for leaks.
3. Turn battery switch on and read fuel quantity gage. Verify fuel gage indicates one half to one and one half needle-widths below a quarter of a tank, as shown in Figure 12-4.
4. If indication is beyond allowable limit, perform fuel quantity sender check per § 12.410. If sender resistance is within tolerance, adjust fuel gage per § 14.440, or replace fuel gage as required and repeat check.



MINIMUM ALLOWABLE INDICATION
 1 ½ Needle-widths below ¼ of a tank

MAXIMUM ALLOWABLE INDICATION
 ½ Needle-width below ¼ of a tank

FIGURE 12-4 FUEL QUANTITY INDICATION CHECK

12.430 Low-Fuel Switch Assembly

CAUTION

Avoid contaminating fuel bladder or tank interior. Cover arms with sleeves and use lint-free gloves when working inside interior.

A. Removal

1. Remove main fuel tank per § 12.110.
2. Remove A521 low-fuel switch assembly wiring pins from connector housing.
3. Remove fuel cap. Carefully capture switch assembly body with clean mechanical fingers (avoid capturing movable float). Remove AN924-5D nut securing switch assembly to cover or tank.
4. Carefully pull switch assembly through fuel cap opening, avoiding fuel quantity sender. Install fuel cap, and tape fuel bladder or tank opening.

B. Installation

1. Lubricate new o-ring with A257-6 grease, and install o-ring over A521 low-fuel switch assembly threads.
2. Tape switch assembly wiring to 30-inch length of lockwire.
3. Remove fuel cap and tape. Position tank upside down. Thread lockwire through fuel cap opening and switch assembly mounting hole. Pull switch assembly wires and threads through mounting plate and retaining nut.
4. Apply light coat B270-1 sealant to mating face of AN924-5D nut and install nut securing switch assembly to cover or tank. Special torque nut per § 1.330 and torque stripe per Figure 2-1.
5. Install main fuel tank per § 12.110.
6. Perform operation check per Part C.

C. Operation Check

1. Turn battery switch on. Fuel helicopter per R22 Pilot's Operating Handbook Section 2 as required and inspect fuel system for leaks.
2. With a clean wooden dowel, gently depress low-fuel switch assembly float and verify low fuel warning light illuminates after approximately 1 second delay.
3. If warning light does not illuminate when float is depressed, but does illuminate when activating push-to-test switch, replace switch assembly.

12.500 Gascolator Assembly**A. Cleaning Sediment Bowl**

1. Turn battery switch off. Turn fuel shut-off valve off. Remove left side skirts. Electrically ground helicopter. Drain fuel into an approved, electrically-grounded container using A666-1 gascolator assembly drain valve.
2. Cut & discard safety wire securing gascolator collar to outlet fitting. Unscrew collar, and remove collar, ring, and sediment bowl.
3. Remove gasket and screen from gascolator top. Inspect, then clean, sediment bowl and screen.
4. Install screen and gasket in gascolator top. Apply light coat A257-6 grease to collar threads and collar inner flange. Verify large diameter of ring contacts collar inner flange. Slide ring and collar over bottom of sediment bowl so small diameter of ring engages groove in bowl flange. Position sediment bowl drain valve thru hole in belly panel, and hand-tighten collar, ring, and bowl onto gascolator top until snug. Verify no threads exposed in gascolator top. Safety collar to outlet adapter using 0.032-inch diameter lockwire.
5. Turn fuel shut-off valve on. Perform ground check and run up per §§ 2.205 & 2.210. Verify no leaks; repair as required. Install left side skirts.

12.600 Minimum Fuel Flow Check

1. Turn battery switch off. Turn fuel shut-off valve off. Electrically ground helicopter. Remove right side skirts. Verify fuel tank cap(s) are installed.
2. Fuel main tank with exactly 3.0 gallons (bladder tanks) or 1.7 gallons (all-aluminum tanks) fuel per R22 Pilot's Operating Handbook Section 2.
3. Disconnect B283 hose assembly from carburetor, turn battery switch and fuel shut-off valve on, and defuel helicopter into an approved, electrically-grounded container until low fuel light illuminates. Turn battery switch and fuel shut-off valve off.
4. Place electrically-grounded, calibrated container beneath hose, turn fuel shut-off valve on, and record time required to fill container. Verify filling time does not exceed maximum time listed below:

ALLOWABLE FUEL FLOW RATE	
<i>QUANTITY</i>	<i>MAXIMUM TIME</i>
1 U.S. Gallon	2 minutes 25 seconds
4 Liters	2 minutes 33 seconds
1 Imperial Gallon	2 minutes 54 seconds

5. If filling time is exceeded, perform vent system check per § 12.210. Inspect fuel tank outlet strainer, line assembly, and hose assemblies for obstructions. Remove obstructions and repeat check.
6. Connect B283 hose assembly to carburetor, special torque nut per § 1.330, and torque stripe per Figure 2-1.
7. Perform ground check and run up per §§ 2.205 & 2.210. Verify no leaks. Install right side skirts.

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