# C-170 SPECIAL ATTENTION ITEMS

**Internal wing attach blocks.** (These blocks are inside the carry-through spars, and the bolts that hold the wings to the fuselage pass through these blocks.) They suffer from 50 years of age in a high water collection spot. They should be carefully checked for integrity, corrosion, etc. and treated with a corrosion preventative.

**Front and rear carry-through spars** (upside down "hat" channels). These can be water collection spots and should be carefully checked for corrosion and debris and treated with a corrosion preventative.

**Upper cabin area above the headliner**, especially toward the rear. Moisture can collect in this area, so it should be carefully inspected for corrosion and treated with a corrosion preventative. Also, any of the original insulation in this area should be removed as it collects moisture.

**Aileron and flap control cables in the areas at the tops of the rear doorposts**. These parts of the control cables are difficult to inspect and are especially susceptible to corrosion due to the wing root fairing allowing water to drip onto the cables. Rotate the control wheel fully to present the maximum length of cable for inspection. Rotate the wheel to the right for the left side, and left for the right side. If working alone, it may be necessary to use a seat belt to hold the control wheel at full deflection. Corrosion will be indicated by broken wires or powdered, oxidized metal on the surface of the cable. Examine the cable by rubbing it with a soft white cotton cloth. If the cloth snags, broken wires are present. The cloth will also wipe away some of the powdered, oxidized metal, producing a change in the surface color of the cable and of the cloth. Examine the opposite side of the airframe, with the control wheel rotated the opposite direction. Apply the same inspection technique to the flap cables in these areas. See the "Service Alert: Aileron Cable Corrosion" (2002) TIC170A thread for more details.

**Inside the wing trailing edge fillet fairings** (see Fig 17 of the IPC, items 9 and 10, p/n 0512153-1 and -2, or -7 and -8). These can be water/debris collection areas. To the extent possible, inspect inside them for corrosion, debris, etc. and treat with a corrosion preventative. You can attempt to clean them out with soft tygon tubing attached to a shop vac.

**Front and rear doorposts.** These provide the main strength of the cabin/fuselage, and hard landings and high-speed flap extension/abuse will deform them. The front doorposts are often overlooked by tricycle-gear mechanics, but that is where landing shock-loads are absorbed by the 170.

**Control yoke.** Some Cessna 172's, 180's and 185's have suffered internal corrosion of their control yoke "tees." These tubular steel control columns pivot about a bolt a few inches above their lower ends where they connect to a push-pull rod to control the elevator (pitch). Internal corrosion/rust below the pivot attach point, if sufficiently advanced, will cause failure of the control tee at that location, resulting in a loss of pitch control and possible accident/death. Cessna has issued a Service Bulletin (SEB01-3R1) and the FAA has issued an Airworthiness Concern Sheet (ACS) (August 4, 2008) and a Special Airworthiness Information Bulletin (SAIB CE04-03), which identify the affected aircraft models. Although the C-170 is not listed in them, the control yoke tees of the C170 models are sufficiently similar to those of the models listed that they should be periodically inspected (including internally through the drain hole just above the lower end bolt hole) for the same corrosion problem. See the "Airworthiness Concern - Control Yoke Tees" (2008) TIC170A thread, and the Cessna Service Bulletin, ACS and SAIB identified above, for more information.

**The longeron/bulkhead below the pedal bar hold downs** where the brackets for the brake master cylinders attach. It is not uncommon to find a crack at a bracket bolt hole, especially on the pilot side. If any are cracked, a doubler should be riveted on. (Some take a preventative approach and rivet on a doubler to prevent cracks from developing.)

**Landing gear legs.** Check for any paint chipping and/or corrosion spots. Because the gear legs are made of high strength steel and are shot peened on the bottom surface to increase fatigue life, surface integrity is very important. Only a small amount of corrosion can be tolerated and must be promptly corrected to a specification. If the corrosion is too deep even in a small area, the gear legs must be reconditioned or replaced. See the Cessna Models 120/140/170/190/195 Supplemental Inspection Document ("SID"), Supplemental Inspection Number: 32-13-01, at 5-14-05, pp. 1-4. (Note: as set forth in the SID, never use any acidic substances on the gear legs, such as chemical rust removers or paint strippers, as they can produce hydrogen and lead to hydrogen embrittlement and eventual failure of the legs.) Remove rust by hand sanding using a fine grained (180 grit or finer) sandpaper or abrasive cloth. Again, see the SID for more details. (A Scotch-Brite pad or 320 grit sandpaper or emery cloth are popular choices for removing small areas of rust.)

**Vertical stabilizer attach hardware**, especially the rear attach bolts. The rear attach bolts used here are special high strength NAS145 (supersedes to MS200005) bolts with a distinctive head shape used with a special MS2002C5 washer under the head (chamfer toward the head). But they are occasionally replaced with more common hex head bolts, which can damage the attach bracket. If hex head bolts have been used, they must be replaced with the proper bolts, washers and nuts, and the attached bracket must be carefully inspected for ANY damage, as it is a high stress part. Similarly, the other vertical attach hardware are sometimes replaced with incorrect hardware. See the various threads of the TIC170A forum (Cessna170.org) on this issue for more details, especially Del Lehmann's ("wingnut's") instructions in his 6/10/2010 post in the "NAS145 Bolts – Again" thread..

**Rudder cables at the aft bulkhead and back to the rudder** (inside the tail cone.) These areas are really hard to get at to service and inspect the rudder cables, and so the cables tend to be neglected in these areas. Check for chafed/broken/corroded cables.

**Tail spring box**. Cracks and/or corrosion have been reported in the tail spring box. Check for cracking and/or corrosion.

**The tail area horizontal bulkhead** (see fig. 25 of the C170B IPC, item 18, p/n 0512118-7). This area can collect water, especially if the weather seals in the area are old and cracked. Check the integrity of the weather seals, and to the extent possible, inspect the horizontal bulkhead for corrosion, debris, etc., and treat with a corrosion preventative.

**Inside the elevator ribs where the control tube attaches.** This area is exposed, so it should be checked for corrosion, and treated with a corrosion preventative as necessary.

**Engine oil sump.** Check for corrosion, cracks and general condition, particularly the interior of the sump. It is made of magnesium and prone to corrosion caused by trapped water and/or other contaminants, resulting in porosity in the metal, and because the sump is structural, cracks in severe cases. There are two types of the sumps, 3-hole and 5-hole, defined by the number of holes connecting the sump to the accessory case. (Both types are made of magnesium.) New sumps are not available and used replacements (particularly of the 5 hole type) are very hard to find, and expensive. If not cracked, they can be epoxy repaired and re-conditioned in certain cases, so it's best to try to catch any problems early. In certain circumstances, cracked sumps can be welded, but welding magnesium is notoriously difficult because the welding process itself tends to create minute cracks in the metal. (A shop that repairs the sumps using an approved epoxy process is Okanagan Aero Engines, LTD, 5550 Aerospace Dr., Kelowna, BC V1V 1S1 Canada. 1-250-765-9718. Because the process completely coats the interior of the sump, it eliminates further corrosion problems. So it can be used as a preventative treatment as well. However, Okanagan will not treat sumps that are cracked or have been welded. DivCo, Inc. (www.divcoinc.com) can weld cracked oil sumps, but the corrosion problem will remain.)

**Tail wheel main leaf spring and the bolt that attaches the tail wheel to the main spring** (AN7-20A for a Scott 3200 tail wheel, or L-19 eye bolt p/n 0642105). Check for condition, corrosion, cracks, etc. Replace the main leaf spring and all bolts, nuts and washers every 500 hours regardless of condition and make sure that the sharp portion of the lower/trailing edge of the leaf spring located directly above the main leaf spring is removed (by filing) to avoid a sharp stress point on the main leaf spring (normally this only needs to be done if a new stack of leaf springs is installed). Make sure that the nut of the AN7-20A bolt or L-19 eye bolt is an all steel lock nut (i.e., AN363-720/MS21045-7), rather than the originally-specified AN365-720 nylon locknut, as the nylon locknut tends to loosen over time. (Better yet, per Ed Urbanowski, use an AN7-20 bolt with a castellated AN310-7 nut and cotter pin, as Ed says even an all metal locknut will loosen over time.) Make sure that enough washers are used so that full proper torque can be achieve on the nut without it bottoming on the threads of the bolt (this is especially important if the bolt is an L-19 eye bolt, as the main leaf spring is thicker on the L-19). Check that the entire spring assembly (brackets, bolts, springs, shims, etc.) match the IPC drawing for your particular configuration, as it is not uncommon for them to be assembled incorrectly (or for parts to be left off) during prior spring replacements. (For example, it is common for the guard, p/n 0442125, to be missing. But this part performs the important function of preventing a steering chain from hanging up on the shackle bolt in a sharp turn and causing a bent steering arm.) Also, make sure that with the main leaf spring installed, there are no gaps between the sides of the main leaf spring and the "spacer" in the tail wheel fork assembly. The spacer should be changed whenever the mail leaf spring is changed. If there still is some play, the main leaf spring should be shimmed on the sides in the tail wheel assembly to prevent the possibility of sideways movement around the bolt.

**The spindle/kingpin of the Scott 3200 tail wheel**. This is the threaded shaft that extends downward at the center of the bottom of the Scott No. 3216 bracket assembly. Some have reported that the spindle/kingpin has sheared on their aircraft, particularly at the "shoulder" location or the location of the lubrication hole through the shaft. The failures have occurred at about 5000 and 6000 hours. So, beginning at about 3000 or 3500 hours, the entire tail wheel assembly should be taken apart at annual inspection and the kingpin inspected for cracks. After about 4000 or 4500 hours, it is recommended that the No. 3216 bracket assembly with the kingpin be replaced with a new assembly. (Alaskan Bushwheels/Airframes Alaska makes a PMA direct replacement for the No. 3216 assembly: p/n 3200-ABI-3216-00) (Note: all Alaskan Bushwheels/Airframes Alaska 3200 tailwheel parts are PMA direct replacements for their corresponding Scott parts.)

**Flap lever latch rod on C-170B** (p/n 0510169) (specifically applies to C-170B). The lower end of the flap lever latch rod has a 90° bend that fits in a hole in the "latch" (p/n 0510167) and is flattened at the end of the 90° bend to keep the bend in the hole in the latch. Due to vibration and/or years of use, the flattened end of the latch rod can wear and/or the hole of the latch can elongate, making it possible for the end of the latch rod to slip out of the latch. If that happens, the rod and latch button will fall into the flap handle and the flaps cannot be moved. See the Third Quarter 2009 edition of “The 170 News”, pp. 13-14, and the “SAB-090326(s) Flap Failure - Flap Lever Latch Rod, & Latch” (2009) TIC170A thread for more details, including inspection and preventive or corrective action. The end of the latch rod should be modified as described in the article and TIC170A thread.

**Flap lever latch rivet, bushing and hole on C-170A and C-170B.** In 170A and 170B models, the steel latch/pawl of the flap lever/handle is held in the flap lever and operates around a long thin-diameter bushing held in the thin sheet metal walls of the flap lever by a long aluminum rivet that passes through the inside of the bushing and holes in the walls of the flap lever. Washer are used at each end of aluminum rivet. Through years of use and vibration, the holes in the sheet metal walls of the flap lever containing the bushing and rivet can elongate, causing the bushing to shift and the sheet metal walls to directly rub against the soft aluminum rivet. Because the rivet is softer than the steel lever walls, if this rubbing occurs, the rivet will wear quickly, allowing the mechanism to further wobble. This can lead to flap failure if the bushing, rivet and latch wobble enough so that the latch jams in the lever. If the latch jams, the flaps will be stuck in their position when the latched jammed. See the “Urgent Alert: Inspect your Flap Levers” (2005-2009) TIC170A thread and the Third Quarter 2009 edition of “The 170 News”, pp. 13-14, for more details, including inspection, a testing procedure, and preventive or corrective action. If the holes in the walls of the flap lever pass inspection (are not elongated), the soft aluminum rivet, thin-diameter bushing and washers should be replaced with a 10-32 steel screw with at least a 0.600 grip length, such as an MS 27039-1-17 screw (5/8” [0.625] grip length, 1.094” overall), and a self-locking nut such as AN365-1032A/MS20365-1032A/MS21044N3. Alternatively, for a lower profile, you can use any of an AN525-10R16 washer head screw (19/32 [0.5938”] grip length, 1.0” overall) or a NAS623-3-10 short thread pan head bolt (5/8” [0.625”] grip length, 0.901” overall), with a thin self locking shear nut such as AN364-1032A/MS20364-1032A/MS21083N3. (You could even use a thin all-metal self-locking AN364-1032C/ MS20364-1032C, MS21245-3 or NAS679A3.) If you would rather use a castellated nut with cotter pin, you can use an AN23-15A clevis bolt (5/8” [0.625”] grip length, 0.969” overall) with an MS17826-3 castellated low height (shear) nylon-insert lock nut or an AN320-3 standard low height (shear) castellated nut. Whichever screw/bolt and nut combination you choose, use an AN960-10L thin washer on each end. Also, you may need to trim one or more sides of the flap lever well cover to clear the newly-installed screw/bolt and nut combination. This new configuration eliminates potential wobbling caused by displacement of the original bushing/aluminium rivet arrangement, and allows for better inspection of the area. Once this correction has been made, the area still should be periodically inspected/tested for elongation of the holes in the flap lever.

**The C-170B fuel valve in the aircraft belly can be assembled improperly**, including leaving out an important “bushing”/“bearing” below the valve cam. The depiction of the fuel valve in Fig. 64 of the C-170B IPC contains two errors. First, it shows an o-ring (16) in the wrong location. It should be between the retainer (17) and the check ball (18), not on the other side of the retainer. Second, it does not show a “bushing”/””bearing” needed directly below the cam (9) to keep the cam upward so the small ball (15) properly rides on the cam follower. If the cam drops downward, the small ball (15) drops off the follower (above it) and into the center of the valve body, causing the check ball (18) to slam shut cutting off the fuel until the valve is repaired. Likely because of these errors in the IPC, there have been instances in which the fuel valve has been incorrectly assembled. Incorrect placement of the o-ring (16) is likely to be spotted immediately upon assembly of the valve, as it is likely to leak until corrected. Elimination of the “bushing”/”bearing” may not be immediately detected, as the fuel selector assembly (handle, shaft assembly, etc.) above the valve tends to hold the cam upward. But without the "bushing"/"bearing" installed, pushing down on the fuel selector assembly is likely to push the cam down to cause the small ball (15) to move off the follower into the center of the valve. The fuel valve should be removed and inspected to make sure the "bushing"/"bearing" is present, or at least tested on the ground (in the shop) by repeatedly pushing down on the fuel selector assembly to see if the cam (9) can be moved downward to dislodge the small ball (15) off the cam follower. See the First Quarter 2011 edition of "The 170 News," pp. 14-19, for more details.

Also, it is recommended that the fuel drain plug on the bottom of the fuel valve be replaced with a quick drain plug, such as Saf-Air CAV-110 or CAV-110H4 (1/8" NPT Thread). This makes it easier to drain the valve and eliminates the need to periodically remove and re-install the plug (e.g. during 100 hr./annual inspection), risking over-tightening the plug and cracking the valve body (see below). The plug can be changed without draining the fuel from the tanks if the fuel selector is in the OFF position. However, any fuel in the valve and gascolator will back drain through the open valve plug hole. So, first turn the fuel selector to OFF and then drain the gascolator, Then when you remove the original plug, only a few tablespoons of fuel will drain out of the plug hole. When installing the new quick drain plug, do NOT use Teflon tape, as some of the tape may break off and flow downstream to the gascolator/engine. Also, do NOT over-tighten the new plug as you can easily crack the valve housing. The fuel in the valve is only subject to gravity pressure, so you only need to tighten the plug to finger tight plus about ¼ turn more. Further tightening will crack the valve body. Safety the drain plug like the original plug.

**Cowl door latches on 1952 and earlier models.** The vertical-style cowl door latches of C-170's, C-170A's and 1952 C-170B's can open in flight if the latches are worn or loose, causing the cowl door to open in flight, resulting in potentially severe damage to the door and cowl. Two modes of failure can occur. If the lip of the top part of the latch is worn, the top can slip off its corresponding catch. If the bottom part of the latch is worn or the corresponding catch spring is weak, the bottom part can pop up (open). Carefully inspect all parts of the latch for wear, integrity, proper operation and secure latching, and repair, replace or adjust parts as necessary. For example, when secured, the catch spring should cause the bottom part of the latch to "pop" into its fully closed position and provide positive, firm, tight and secure latching. To ensure against cowl latch failure, many add other means to secure the latches closed, such as adding a dimple or hole to the top of the top catch and adding a corresponding dimple or small rivet (to mate with the hole in the top catch) to the top part of the latch.

**Flap supports, tracks and rollers on 170B.** Like in all other older Cessna single-engine models with semi-Fowler flaps, the flap tracks of the 170B may have seen significant use over the years and may show signs of significant wear. The flap supports, tracks and rollers should be regularly inspected (at least every 100 hours or 12 months, whichever occurs first) for condition and excessive wear to make sure they are still within tolerances, and that all of the rollers still actually roll. Also, SEB95-3R1 is a mandatory Cessna service bulletin requiring (1) inspection of the flap supports and rollers every 100 hrs or 12 months, whichever occurs first; and (2) installation of stainless steel washers on each side of the forward rollers. Although the service bulletin does not require it, McFarlane supplies a "Flap Roller Service Kit" MCSK100 (including an STC) which offers a "permanent" "preventative solution to the wear problem experienced at the aft roller locations" as well by replacing the aft roller and bushing with new ones and adding two stepped washers. In addition, checking that the flap rollers roll freely should be part of every pre-flight inspection. If they do not roll freely, they will develop a flat spot and excessively wear the flap track.

**Door hinges.** Replacements are very hard to find – and very expensive if you find them. Thus, the door hinges should be regularly checked for integrity, corrosion, etc. NEVER allow anyone to lean on the door when they are entering or leaving the aircraft as it can damage or prematurely wear the door hinges.

**Diodes across master solenoid (and starter and other solenoids/contactors if installed).** The C-170 models did not originally have a diode placed in parallel with the master solenoid/contactor coil. Thus, when the battery master switch was turned off (disengaged) a voltage spike would occur and the contacts of master switch would arc. This would unnecessarily shorten the life of the master switch contacts and cause failure of solid state avionics devices if they were not separately shut down (previously) via a radio master switch. In order to prevent this arcing and voltage spike (and potential avionics damage), a diode should be wired across the master solenoid/contactor in parallel with the coil of the master solenoid/contactor. One end of the diode should be attached to the small terminal that is attached to the master switch. The other end of the diode should be attached to the large terminal that is attached to the positive battery terminal. The diode should "point" towards the large positive battery terminal (i.e.. small/master switch terminal —►|— large/positive battery terminal). Per Miles in the TIC170A "electric relay" thread below, the diode can be any switching diode with a Peak Inverse Voltage (PIV) rating of 600V or more and a power rating of 1 W or more, and per G. Horn in the same thread, a silicon diode rated at ½ amp and 100 V or larger is fine. An example of an acceptable diode is IN4005 (1 A forward current, 1V max forward voltage, 600V peak repetitive reverse voltage), such as IN4005G manufactured by On Semiconductors, and other IN4005 diodes and equivalents (such as NTE116) by other manufacturers, available from Internet electronics suppliers such as Newark Element14 (newark.com). (Note: other sources say that the diode can be a common IN5004 diode (3A forward current, 1V forward voltage, 50V peak repetitive reverse voltage) or a "one amp, 100 volt type, or larger in either parameter." But although the IN4005 diode identified above may be rated somewhat higher than minimally necessary, it is no more expensive than these smaller diodes and the slightly larger size and robustness of the IN4005 diode and its leads makes it easier to handle and attach to crimp connectors.) (Also note: Cessna Service Letter 65-89 identifies the diode as "Diode Assembly" p/n 0770728-1.)

The same kind of diode should be wired across a starter solenoid/contactor coil if a key or push-button is used for the starter (not needed for manual pull starters) or if any other solenoid is used for another purpose (such as for turning on landing lights). See the following TIC170A threads for more details about these issues: "Battery Master Solenoid (Contactor) Diode" (2002) and "electric relay"(2009). Note: the "ACS Starter Solenoid Diode Assembly" sold by Aircraft Spruce (p/n 16050-2) is a diode of the type described here and can be used as discussed above for either a master solenoid/contactor or starter solenoid/contactor

**Oil pressure line.** The original oil pressure lines (engine to firewall and firewall to gauge) are copper and thus subject to embrittlement (and thus cracking and breaking) caused by cold working from engine vibration (particularly the engine-to-firewall line). At least the engine-to-firewall line should be replaced with a flexible line. However, the line connects at both ends to 1/8" flare tubing fittings and suitable -2 flexible hose can be difficult to find (along with a -2 mandrel for attaching the -2 female fittings). Cessna sells a flexible oil pressure line for the C-150 (Cont. 0-200), p/n 359-2D0150 ,which is 15" long (the "150" in the p/n indicates the length). But 15" may be too short for the C-170. You may be able to get the same line in other lengths, such as 19" long, in which case the part number would be 359-2D0190 (the "19" indicates 19" length.) Otherwise, you may be able to have a shop make up a suitable line, such as from Stratoflex 193-2 hose, which apparently is the hose used in the C-150 oil pressure line mentioned above. As of March 2015, Precision Hose Technology, Inc., 2702-D North Sheridan

Road, Tulsa OK 74114, Tel. (800) 331-5946, www.aircrafthose.com, will make a C-170 oil pressure flexible hose line out of Stratoflex 193, which they say is fine for engine applications as it us regularly used for fuel and oil lines. A C-170 firewall to engine flexible oil pressure line made by them (Stratoflex 193-2, 19" long end to end, straight to straight -2 female flare end fittings) is $54 plus shipping. Shelf life is 8 years. (The lines are custom made, so measure the length actually needed. 19" end to end is about right for a 1952 C-170B, but you need to check.)

**Oil pressure line restrictor.** The C-170B IPC specifies an AN816-2B fitting (brass 1/8" pipe to 1/8" flare straight hydraulic fitting) to connect the oil pressure gauge line at the engine (Fig. 50, pp. 86-87, Index No. 31). However, the fitting does not include any restrictor that would prevent excessive oil leakage if the line to the oil pressure gauge is ruptured. Thus, it is recommended that a restrictor be added to the fitting at the engine to prevent excessive oil leakage in the event of a line rupture. There are at least three options: (1) Add a restrictor fitting sold by Wicks (Item # EA22R-O, a straight brass restrictor fitting, 1/8" male to 1/8" female NPT, orifice size .040"); (2) Add a restrictor fitting P/N 05-11908 sold by Aircraft Spruce (an AN823-4 elbow fitting (45° 1/8" male NPT to ¼" male flare) modified to include a .040" restriction) but you will need to change the size of your hose and related fittings; or add a restrictor to the AN816-2B fitting by soldering it closed at one end (use a torch and 50/50 or 60/40 solder and flux) and drilling a restrictor hole through the solder using a No. 60 (.040") or 1/32" (.03125") drill bit (drill carefully as the soft lead solder will tend to grab and snap the thin drill bit). See the following TIC170A threads for more information: "Flexible Oil Pressure Line" (2015) and "Oil Pressure Restrictor Fitting" (2007).

**Generator/Alternator Drive (on C-145/O-300 Engine).** Per Continental SB-95-3B (now incorporated in Standard Practice Maintenance Manual M-0 at pp. 6-148 and 6-150 to 1-151), the drive couplings for generators and alternators on many Continental engines (including the C-145/O-300) can become worn or damaged. For example, the two-part rubber drive bushing (Continental p/n 626543) can become hard and inflexible, reducing or eliminating its dampening function, which can cause excess wear or catastrophic failure of the gear train or generator/alternator drive shaft and ingestion of metal into the engine. Thus, the drive couplings (including the two-part rubber bushing) should be inspected (and parts replaced as necessary) every 500 hours. Note: The "inspection" requires replacement of the rubber bushing (p/n 626543), retainer (p/n 352030) and gasket (p/n ) regardless of condition. The nut (p/n 530412), gear (p/n 531325) and/or sleeve (p/n 530407) must be replaced only if necessary (if they are damaged or worn). See SB95-3B and M-O, pp. 6-148, 6-150 to 6-151, for more information. NOTE: On the C-145/O-300, the generator/alternator shares it's mounting gasket with the tachometer drive housing. So the tach drive housing must be removed when removing the generator/alternator to inspect the drive couplings. DO NOT split the shared gasket. It will cause an oil leak.

**SCAT/SCEET hoses that provide air to the carburetor for carburetor heat.** Water from rain and/or washing the aircraft may accumulate in the lower sections of these hoses and remain there if no drain is provided. This may subject the engine to a "gulp" of water when carburetor heat is applied, or whenever sufficient water accumulates to overcome gravity within the hoses. A simple solution is to inspect all flexible air-hoses (SCAT/SCEET) and provide a drain at each low point in each hose by puncturing the lower hose surface with an awl or pick. See the "SAB-090427 Scat/Sceet hose drains" (2009) TIC170A thread for more details.

**Difficult rear seat removal.** This is not really a special attention item, but it does affect inspection, as the rear seat must be removed for 100 hr/annual inspections. The C-170 rear bench seat is notoriously cumbersome and difficult to remove because the seat back is attached to the seat bench. To make removal of the rear seat much easier, the two AN4-11A bolts attaching the seat back to the bench are usually replaced with quick release pins (such as Aircraft Spruce p/n 12-01798), AN394-33/MS20392-3C33 clevis pins with lock pins, or even AN4-11 bolts (same as the original bolts but with shank holes) with lock pins through the shank holes. (The clevis pins should be ¼" dia. and about 1 ¼" "effective length," and oriented so the pins are pulled inward to remove the seat back. The lock pins should have a diameter slightly less than the .076" dia. of the clevis pin holes). If the rear of the seat back is covered, you may need to remove some threads of the covering in the corners to get at the bolts/pins. See the following TIC170A threads for more information: "C170, rear seat removal installation!!" (2014) and "Rear seat removal-TIP (split from ELT location topic) (2009).

**Throttle Cable Connection at Carburetor**. If the throttle cable is connected to the throttle arm of your carburetor using a rod end bearing, it should include a secondary retainment washer as shown in Figure 2 of AC20-143. (Note that the Ball Joint-Throttle Control, Cessna p/n 0550158 (Item 14 of Fig. 49 of the IPC) is no longer available. Instead use the configuration shown in Figure 2 of AC20-143.) See TIC170A Thread – Parts (re Throttle Cable Correction), AC20-143 and Cessna SL62-81.

**Nylon Insert (AN365) Locknuts Used on Bolts Potentially Subject to Rotation or Engine Heat.** Cessna used (and the C-170 IPC's identify) undrilled AN bolts secured by nylon insert AN365 locknuts in areas potentially subject to rotation, when now AC 43.13-1B (¶ 7-64.a) states, "**DO NOT** use self-locking nuts on parts subject to rotation." (Emphasis in original.) Examples in the C-170 models include control rod ends and pulley attach bolts. Thus, all nylon-insert bolt/nut combinations on parts potentially subject to rotation should be replaced with the corresponding castellated nut/cotter pin bolt/nut combinations in accordance with AC 43.13-1B. Similarly, Cessna used (and the C-170 IPC's identify) nylon insert AN365 locknuts on bolts in firewall-forward areas subject to engine heat, when now AC 43.13.1B (¶ 7-64.f) states, "Fiber or nylon self-locking nuts are not installed in area where temperatures exceed 250°F." Current practice is to use all-metal locknuts firewall-forward. Thus these nylon-insert nuts should be replaced with the corresponding all-metal AN363 locknuts in accordance with current practice.

**Missing Shop Heads on Aileron Counterweights.** Because of dissimilar metal corrosion, the shop heads of the rivets attaching the lead counterweights to the ailerons can be missing. Therefore the aileron counterweights should be regularly checked (e.g., during pre-flight inspection) and at least at every annual inspection, for missing rivet shop heads and secure attachment.

**Dissimilar Corrosion on Rudder Horns/Bellcrank Arms with L-19 Bumpers.** Cessna SEL-27-02 describes dissimilar metal corrosion between the rudder horns and steel bumpers on C-150's and C-152's. Given that the L-19 bumpers, which some have installed on the rudder horns of their C-170 models, are also steel, it's probably prudent that they be regularly inspected (at least at annual inspection) for any signs of dissimilar metal corrosion.