



A Mahindra Aerospace Company

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Issue 3

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Service Letter

Subject: Re-assembly of Containerised GA8/GA8-TC 320

Part A of this service letter is intended to provide a guide for an efficient method of assembling a GA8/GA8-TC 320 received in a shipping container from the factory. These instructions are not to be used in isolation, as reference must always be made to the approved aircraft documentation and all work must be carried out and certified in accordance with the requirements of the appropriate National Airworthiness Authority.

Part B of this Service Letter is intended to provide guidance on conducting a maintenance check flight to ensure the aircraft exhibits the correct flying qualities.

GippsAero strongly recommends that personnel involved in the assembly and maintenance of the GA8/GA8-TC 320 Airvan complete the factory delivered GA8/GA8-TC 320 Maintenance Familiarisation Course

Applicability:

All new GA8/GA8-TC 320 aircraft containerised for transport by GippsAero.

Amendments:

Issue 1 - Initial issue

Issue 2 – Changes to wording to include both GA8 and GA8-TC 320 Models. Division of reassembly and flight test into separate sections to allow engineers to certify compliance with this Service Letter for the reassembly (Part A) before completing flight test (Part B). GippsAero reference GAE12#2757

Issue 3 – Additional information provided in Part A and B. GippsAero reference GAE12#2774.

Background:

For overseas transport the GA8/GA8-TC 320 aircraft can be disassembled and crated into a 40ft sea container in lieu of conducting a ferry flight. The principle of the design of the “in container” fuselage support frame (main undercarriage legs removed) requires the container to be at ground level (use of a Container Side Loading/Lifter trailer is recommended, or if unavailable a crane) for minimum effort to remove fuselage in terms of man-hours, safety considerations and ease of assembly. Unloading from the container can be achieved in under 1 hour provided the container is on ground level.

The fuselage support frame is attached to the nose leg and main undercarriage pick-up points, its base allows the fuselage assembly to be slid out via ramps onto the hangar floor, and is at a comfortable/suitable work height, to prepare wing and empennage mounting points for assembly. Following the fitting of the complete empennage and wings, the standard wing jack points can be used to raise the aircraft to a suitable height to install and secure the main and nose undercarriage. Aircraft is stabilised longitudinally via the tail support point provided in the ventral fin.

Instructions:

PART A - REASSEMBLY

1. Equipment Required

- 1.1. Packing pieces/sloping ramps or wheeled dollies will be required to remove the fuselage from the container.

NOTE:

When using ramps, ensure the slope is shallow enough to prevent the tail end of the fuselage contacting the roof if the nose is lowered too quickly.

- 1.2. Standard set of AF spanners, wrenches and sockets.
- 1.3. Angle grinder or heavy-duty bolt cutters to remove the container seal.
- 1.4. Battery powered drills, screwdrivers for quick removal of industrial hex head screw fasteners used for securing and packing.
- 1.5. Wing installation trestles and supports: can be supplied by the factory or alternatively can be built from factory supplied sketches. Do not remove components from packing or frames until instructed by these procedures. Do not walk or step on the horizontal stabiliser – damage will result.
- 1.6. Aircraft jacks (Cessna single engine wing type jacks are suitable – compressed height approximately 70 inches, extended height approximately 80 inches above ground).
- 1.7. Suitable padding/trestles to support the wings and tail surfaces on while cleaning, inspecting and lubricating fittings as required prior to assembly. Support wings under “double ribs,” identified by the double rivet rows/runs.
- 1.8. Cutting pliers and knife for removal of cable ties and packaging.
- 1.9. Lubricants as per GA8/GA8-TC 320 Service Manual Chapter section 12-20-30.
- 1.10. A clear working area with racking available for safe storage of components shipped within the fuselage is required.

2. Personnel/Labour Requirements

- 2.1. **Removal of Aircraft from Container:** Approximately five people to remove fuselage and wings for approximately one hour.
- 2.2. **Aircraft Assembly:** Assuming the use of wing support trestle (on wheels and height adjustable), the typical re-assembly should take approximately fifty to sixty man-hours labour.

3. Removal of Aircraft from Container

Description	Initial	Date
Before opening container, door check seal installed – may have been replaced by customs but should be intact. Remove seal.		
<p style="text-align: center;"><u>CAUTION:</u></p> <p style="text-align: center;"><i>The horizontal stabiliser is packed horizontally in the bottom of the wing frame. <u>Do not walk or step on the Horizontal Stabiliser – Damage will result.</u></i></p> <p>Open doors and Inspect for any damage, corrosion from seawater, etc. If damage is apparent take photos and contact insurance company prior to proceeding.</p> <p>You will require authorisation by Insurance to proceed further should damage be apparent.</p>		

Remove any items stowed in front of or around fuselage that would impede removal. Items stowed in the rear of container between wings can remain until easy access is gained by removal of fuselage.		
Remove restraining straps from fuselage support frame and slide/wheel out, being careful not to prematurely lower nose that may result in damage to upper surface of rear fuselage by contacting the container roof.		
Remove entire fuselage assembly clear of container by at least 25 feet (8 metres) to allow easy removal of wings from container.		
Remove the securing straps holding the tailplane assembly to the wing frame using battery-powered driver and remove using two persons.		
Remove restraining straps from wing support frame and wheel out. <u>NOTE:</u> <i>The wing support frame is fitted with plastic rollers at the bottom. If not using ramps you will need three people to lift the frame over the container lip.</i>		
Remove the restraining straps holding the packaged Fin Assembly to the rear container wall and remove.		
Cut the cable ties securing the main gear legs to the wall and remove.		
Ensure all items and any debris is removed from the container and sweep out if needed, otherwise cleaning charges may apply.		

NOTE:

Care must be taken during handling of airframe components. Particular care must be exercised with trailing edge skins of the control surfaces, these are easily damaged, lifting or manoeuvring of components should be performed without handling the control surface trailing edges. Leave shipping T/E packing in place while assembling and installing the wings, this will make connecting control turn-barrels easier.

4. Horizontal Stabilizer/Elevator Assembly Installation

Description	Initial	Date
<p>Carry out inspection for shipping damage, place on suitable trestles/tables, clean attachment fittings, bolts etc, lubricate with general purpose grease and ensure trim jack shaft is clean and lubricated IAW GA8/GA8-TC 320 Service Manual Chapter 12-20-30. Also, clean and lubricate rear stabiliser attachment fittings and pivot bushes.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>Ensure that the stabiliser trim jack shaft has remained secured against rotation. If the shaft is not secured and the forward trim wheel has been moved, there is a possibility that the trim system rigging may have become incorrect and will require checking IAW GA8/GA8-TC 320 Service Manual Chapter 27-30-10.</i></p>		
<p>With the aid of a person on either tip, lift assembly into position above rear fuselage pivot attach fittings.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>Ensure pivot bushes are greased, installed and rotate freely.</i></p>		
<p>Utilizing a third person, install NAS6605-20 bolts (heads outboard) AN960-516 washers, MS21042-5 nuts and torque IAW GA8/GA8-TC 320 Service Manual Chapter 20-10-00. Install the AN356-524 locking Pal-nuts. Check that the leading edge of stabilizer moves up and down without binding. It is required that the outer flanges of the Stabiliser fitting clamp tightly on inner pivot bush to ensure the bushing rotates in the rear fuselage lug (the bush is slightly wider than the Lug).</p>		
<p>Slide the upper end of the trim jack between front spar attach fittings ensuring that the anti-rotation spacers are fitted. Install the AN5-14A bolt with AN960-516 washer under the head, MS21042-5 nut and washer, and torque IAW GA8/GA8-TC 320 Service Manual Chapter 20-10-00. Install AN356-524 locking Pal-nut and ensure Uniball bearing is clamped tightly.</p>		
<p>Attach trim indicator operating cable on the forward face of the front spar. Check stabilizer and indicator rigging IAW GA8/GA8-TC 320 Service Manual Chapter 27-30-10 and Type Certificate Data Sheet. Ensure correct build-up of washers each side of the rod end ball so that full stabiliser travel is achieved without loading the cable end.</p>		
<p>Connect both elevator push rods to the elevator operating horns. Torque bolts IAW GA8/GA8-TC 320 Service Manual Chapter 20-10-00. Shim between the rod end and the horn sides with washers as required, so as not to compress the horns sides when tightening the bolt. Normally there are thin or thick washers installed between the rod end of the pushrod and the fork faces of the horn to prevent lugs being deformed inwards. The shim washers can be biased inboard or outboard to align the rod with the hole in the rear bulkhead. These shimming (or packing) washers are fitted with the intention to centralise the pushrods through the rear bulkhead cut-out.</p>		
<p>Check complete elevator system installation IAW GA8/GA8-TC 320 Service Manual Chapter 27 Section 27-30-00 to 27-30-09. In particular; inspect the elevator cable runs under the pilots feet to ensure the elevator down cable (GA8-273012-011) is not caught on the drive horn of the control column. The elevator down cable must be on the inboard side of the control column drive horn.</p>		

5. Vertical Fin Installation

Description	Initial	Date
<p>Inspect for any shipping damage. Clean and inspect forward and rear spar attach holes, faces and bolts. Apply a light coating of preferred corrosion protection (i.e. LPS3 or similar).</p> <p>Three persons and a 10 ft (3 metre) high stepladder or work platform are preferable for fin initial installation.</p>		
<p>Before fitting the fin, it is a convenient time to fit the VOR antenna arms (if aircraft is so equipped). They screw into the round black plastic disc on the top of the fin and are secured with locking grub (set) screws, review Commannt installation instructions.</p>		
<p>Carefully pass the fin assembly to person on ladder/work platform and lower the assembly down into position ensuring correct fore/aft alignment.</p>		
<p>Loosely install 2 bolts in front and rear fin spars to safely hold fin in position. One person can finish the installation and torquing of the bolts in the rear spar, two persons required to correctly torque forward spar bolts.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>Ensure unthreaded portion of all bolts protrudes through spar and bulkhead and sufficient (2) washers are used under the nut to prevent nut binding. No washers required under bolt head.</i></p> <p><i>Correctly torque all nuts IAW GA8/GA8-TC 320 Service Manual Chapter 20-10-00.</i></p>		
<p>Connect the Nav/strobe wiring and radio coax cables at the base of the fin.</p>		

6. Rudder Installation

Description	Initial	Date
<p>Clean and inspect rudder, hinge pivots and mass balance attachments. Lubricate pivot bushes and hinge holes with grease.</p>		
<p>Rudder can be installed with lower mass balance weight fitted – upper balance weight must remain removed. Install lower weight now if preferred.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>GA8/GA8-TC 320 IPC Chapter 27 Figure 27-17 shows correct installation of rudder pivot bushes and attach hardware.</i></p>		
<p>Install upper and middle hinge bushes, bolts and nuts and tighten.</p>		
<p>Take particular notice of Note 1 of IPC Figure 27-18 regarding AN970-4 “penny” washers and lower hinge bolt length. Spacer washers should be added until just taking up the gap, ensure centre and upper Rudder Hinge attach brackets are not contacting Fin mounted brackets to avoid wear. Install lower washers and MS21042 nut, tighten and ensure pivot bushes are clamped and rotate with rudder.</p>		

Description	Initial	Date
<p>Connect rudder cables. Ensure colour of cables matches attach locations.</p> <p style="text-align: center;">NOTE:</p> <p><i>It is usual that rudder cables are disconnected without disturbing the original rigging and the locking should be found intact. They can easily be reconnected by attaching one cable, then with the nose wheel held in position, moderate pressure on the trailing edge at lower rib position of rudder will allow easy installation of the second rudder clevis bolt.</i></p>		
<p>Install both castellated nuts, tighten just enough to contact the fork but allow the cables to move freely, then fit split pin. Fork, arm, and pivot bolt should rotate freely.</p>		
<p>Place the upper mass balance weight in position and install the 2 x AN4 bolts and washers leaving the bolts loose enough so that the weight can be rotated to align the pop rivet holes at each end of the weight. When the holes are aligned the bolts can be tightened and the pop rivets installed.</p> <p style="text-align: center;">NOTE:</p> <p><i>If the pop rivet holes do not align then the weight may need to be swapped end for end.</i></p>		
<p>Check complete rudder system installation IAW GA8/GA8-TC 320 Service Manual Chapter 27 Section 27-20-00 to 27-20-50.</p>		

7. Wing Installation

NOTE:

Whether the aircraft is on the shipping fuselage support frame or is on its wheels, it is stable with only one wing attached (with no fuel).

Description	Initial	Date
<p>Before installing the wing, it is a convenient time to install the VHF Com antennas, removed for transit, into the centre section roof. Connect Coaxial BNC connectors to base, fit gasket and attach with screws supplied. This is achieved with one hand on top of roof and the other through the lightening holes to attach the nuts and Coaxial cable.</p>		
<p>Clean, inspect and grease all wing, strut, fuselage pick up points and bolts etc. Remove all blanks from fuel supply and vent lines. Round off any sharp edges on the end of the fuel pipes. Check and ensure they are <u>all clear</u>. Lightly lubricate outer surface of pipes and inner surface of rubber sleeves to allow easy assembly.</p>		
<p>Lift wing assembly onto mobile wing rigging trestle (or manhandle with 4-5 people) and adjust to correct height considering the dihedral angle. Move wing assembly carefully towards correct position while feeding the aileron control cables into their respective locations in the fuselage, also ensure smooth insertion of fuel supply and vent lines.</p> <p style="text-align: center;">NOTE:</p> <p><i>On left hand side fuselage, check rear spar ensure cam adjusters (if fitted) are well greased, fully inserted and the bolt holes aligned with each other. Check the marks on cam adjusters and fuselage are aligned. The cam position will have been determined during factory flight test and marked before disassembly. If not, it has generally been found that balanced flight in terms of roll is achieved with the rear spar near the lowest position.</i></p>		
<p>When front and rear spar holes are aligned in fittings, install bolts, washers and nuts. Do not tighten at this stage.</p> <p>See GA8/GA8-TC 320 IPC Chapter 57 Figure 57-1B.</p>		

Strut Installation – Lower End (See GA8/GA8-TC 320 IPC Figure 57-2 and SL-GA8-2018-37)

Description	Initial	Date
Identify lower end of strut, ensure fairings are on struts in correct locations for re-installation after duplicate inspections, then carefully insert Strut into position. NOTE: <i>Ensure fork mating surfaces are cleaned and well greased to prevent galling during insertion.</i>		
Line up lower bolt holes and insert bolt.		

Strut Installation – Upper end (See GA8/GA8-TC 320 IPC Figure 57-2 and SL-GA8-2018-37)

Description	Initial	Date
Ensure the wing mounted strut attach lug faces are well greased to prevent galling. Raise upper end of strut and insert into position. If wing lugs do not align, a clamp can be used (See SL-GA8-2018-37 Figure 5) to slightly squeeze or spring them together to allow entry into the strut fork.		
Raise or lower wing to align bolt holes, locate tie down bracket into position and install bolt.		
Before final tightening, slide the upper strut fairing into position to check alignment with the tie-down Bracket hole and adjust as required.		

Complete Wing Bolt Installation

Install double locking nuts on lower strut bolts. NOTE: <i>It is easier to feed the 2 nuts into the lower strut attach bolt progressively as the bolt is moved in, due to limited access. Modified open-end spanners or wrenches can be used.</i>		
Carefully tighten all primary nuts and torque, then lock secondary nuts onto the primary nut. NOTE: <i>The primary and secondary nuts are an FAA requirement, however they are awkward and require considerable care to install correctly as intended, especially the smaller diameter nuts as on the rear spar bolts, they are narrower than most spanners and wrenches and the threads in these nuts can strip very easily if over torqued due to the limited number of threads in each nut.</i>		

Fuel and Vent Lines

Description	Initial	Date
Verify fuel and vent lines have been lubricated. Ensure rubber hose joining sleeves are centred over the gap between the ends of the pipes, also that sufficient engagement has been achieved to allow correct clamping and sealing by the hose clamps. Adjust as required and tighten all hose clamps.		

Control Cables Systems – Flaps (See GA8/GA8-TC 320 IPC Figure 27-7)

Description	Initial	Date
<p>Connect cables to Flap Torque tube operating arms. Ensure sufficient, even and correct thread engagement in turnbuckles.</p> <p>Ensure clearance of Cable end hardware on upper wall channel opening.</p> <p>Carry out rigging and cable tension IAW GA8/GA8-TC 320 Service Manual Section 27-50-00 to 27-50-35. Cables must not be so tight as to cause excessive friction but must be sufficiently tight to ensure light positive retention of the flap against the up-stop. Tension must be even on both sides.</p>		

Control Cables Systems – Ailerons (See GA8/GA8-TC 320 IPC Fig 27-8 and 27-9)

Description	Initial	Date
<p>Install cable keepers in the pulley cable guard holes where Aileron Balance cables pass through into the fuselage roof, both sides.</p>		
<p>Ensure correct routing of aileron left and right operating and balance cables. Ensure sufficient, even and correct thread engagement in turn barrels.</p> <p>Carry out Rigging and Cable tension IAW GA8/GA8-TC 320 Service Manual Section 27-10-00 to 27-10-70. If an autopilot is fitted; ensure the aileron bridle cable for the autopilot servo has not disengaged from the servo capstan while disconnected during shipping.</p>		

Electrical Connectors

Description	Initial	Date
<p>Identify and correctly connect plugs located in the left and right leading-edge section of wing roots.</p>		

Pitot/Static Lines

Description	Initial	Date
<p>Locate and connect Blue/Red colour coded lines in Left hand wing root.</p>		

Pitot Static Head Assembly

Description	Initial	Date
<p>Remove left hand fibreglass tip fairing (GA8/GA8-TC 320 IPC Figure 57-1A Item 6, Part No. GA8-571019-011).</p>		
<p>Pitot-static assembly is stored inside with the pitot and static lines connected. The mount bolts and stand-off spacers can be found in their appropriate holes in the end rib. Marking of "TOP" on the Pitot head must be correct when installed to ensure correct drain hole location. Attach the pitot head using the hardware as removed and connect terminals for the heated pitot.</p>		
<p>Check pitot-static lines are correctly installed and tightened.</p>		
<p>Carry out a pitot-static leak check IAW GA8/GA8-TC 320 Service Manual Section 34-10-00. A purpose made Pitot Static head adaptor is necessary for the unique Airvan Pitot Head.</p>		
<p>Install the tip fairing.</p>		

8. Undercarriage Installation

Description	Initial	Date
Install wing jacks and tail support IAW GA8/GA8-TC 320 Service Manual Chapter 7-10-00. Pay attention to CAUTION regarding empty weight longitudinal centre of gravity.		
Raise aircraft sufficiently to remove weight from main undercarriage and nose leg attach bolts from shipping fuselage support frame. Release Brake callipers attached to frame and support until refitted to Main Landing Gear. Raise aircraft clear of frame, remove inboard securing bolts from main undercarriage support bars and remove from fuselage.		
Clean and inspect main undercarriage legs, fuselage mounting fittings, nose leg fork and mounting pad.		
Lightly grease faces or apply preferred anti-corrosion treatment as appropriate (Duralac jointing compound, LPS 3 or similar).		

Main Undercarriage

Description	Initial	Date
Insert main legs into fuselage fittings and install NAS6606 bolts with Loctite 242, complete outboard mounting bolts first to allow easier access (ensures spanner/wrenches do not foul inboard bolt heads). See GA8/GA8-TC 320 IPC Figure 32-1A Item 17, GA8/GA8-TC 320 Service Manual Chapter 32-10-00.		
Tighten all 16 mounting bolts, double check (independent check recommended) and install bolt retaining cap.		
Install close out plate into the fuselage above the undercarriage leg and attach with two screws. NOTE: <i>These plates can be installed with the undercarriage leg in position. Use a 90 degree pick or bent wire to hook the small holes in the plate to help align the screw holes.</i>		
Install brake calliper onto torque plate and secure pad assembly.		
Secure brake line to leg with p-clips, ensuring correct fit within the Leg fairings and complete installation of the fairings.		

Nose Wheel (See GA8/GA8-TC 320 IPC Figure 32-3D View DD)

Description	Initial	Date
Locate fork and wheel assembly, as shown in View DD, use of a pigmented jointing compound, such as Duralac, is recommended. Install 4 mounting bolts, washers and nuts and correctly torque. NOTE: <i>Nose wheel fork is not handed therefore has no front or rear.</i>		
Correctly inflate tyres. Mains - 29 psi Nose – 33 psi		
Lower aircraft off jacks and remove tail stand.		

9. Electrical System

Battery

Description	Initial	Date
Remove the Pilot's Seat and Battery Box-Electrical cover underneath, ensure all floor mounted circuit breakers are "pulled", re-connect the battery.		
<p>It is preferable to ensure aircraft battery is fully charged. This can be accomplished by either removing the battery and charging on 14 volt charger as required by battery manufacturers recommendations (supplied in Aircraft Documents), or using 3 pin ground power plug, connect 14 volt Ground power until current drain is nearly zero or with aircraft master switches on, battery voltage is 14 volts.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>When battery is only partially charged, Voltage indication is proportionally lower i.e. 10 to 13 volts.</i></p>		
Reinstall Battery Box-Electrical cover, Pilots Seat and Seat stops. Re-activate/reset circuit breakers.		

Electrical System Checks

Description	Initial	Date
With ground power installed or battery fully charged, turn on Master Switches.		
<p>Ensure all breakers are in and check operation of all electrical systems, in particular the following items disturbed by disassembly.</p> <ul style="list-style-type: none"> • Nav Lights • Strobe Lights • Pitot Heat – ensure pitot heat cover is removed, only test for 30 seconds (maximum) period to prevent overheating, observe Amp Meter current draw, beware of burns. • Stall warning – This should also operate with the battery master off. 		

10. Final Checks

Fuel System Leak Check

Description	Initial	Date
<p>Ensure all (x5) fuel drains are tight and closed.</p> <p>Add approximately ¼ fuel to each tank and check for leaks.</p> <p style="text-align: center;">NOTE:</p> <p style="text-align: center;"><i>A slow leak may take some time to become noticeable, preferably leave overnight – with cockpit doors closed overnight, there should be no fuel odour next day immediately after opening the doors.</i></p>		

Brake System

Description	Initial	Date
Cycle brake pedals until they become firm (this action moves the pistons out in the wheel callipers until they are in the normal position). Remove fill cap from Master Cylinder and using a torch/flashlight, ensure reservoir is at least ¾ full – MIL-H-5606 hydraulic fluid. Do not overfill.		

Flight Controls/Wings/Empennage

Description				
Carry out independent/duplicate inspections for security and locking of the following installations and systems:				
a) Installation of attach fasteners and locking of wings and empennage				
b) Primary flight control systems				
c) All control surface attach points are correctly installed and locked.				
First inspection	Signature	Authority Number	Date	
Second inspection	Signature	Authority Number	Date	
Description			Initial	Date
Install all interior trim panels, seats and carpets.				
Install upper wing root panels and leading-edge fairings with sealant. Lower wing root panels should be fitted without sealant to allow drainage and easy access for scheduled inspections.				
<p>NOTE:</p> <p><i>Ensure that the sealant used is of a neutral cure type i.e. contains no acetic acid. Acetic acid can damage aluminium.</i></p>				
Install all remaining fairings and inspection panels.				

Engine

Description	Initial	Date
De-inhibit engine as per Lycoming Service Letter L180 at latest issue.		
Carry out inspection forward of firewall to ensure:		
a) All engine controls are correctly installed, operation correct.		
b) Silica – Moisture absorbent bags etc. removed.		
c) Oil System – correct level and oil type.		
d) Remove covers from exhaust tail pipes and engine breather.		
e) Engine may need cleaning externally to remove excess corrosion inhibitor applied prior to shipping.		
Install all engine cowls.		

Engine Ground Run

Carry out the following engine ground run:

Record OAT _____ °C		Record Altitude _____ ft	Static MP _____ in.Hg
Item	Description	Result	
1	Auxiliary fuel pump operation (record pressure mixture ICO)	psi	
2	Normal cranking and starting	Yes / No	
3	Oil pressure rising (light off) - DO NOT exceed redline pressure.	Yes / No	
4	Alternator light off, with 14 volts	Yes / No	
5	Ammeter charging	Yes / No	
6	Vacuum light off and gauge indicating (if fitted)	Yes / No	
7	CHT rising	Yes / No	
8	Engine warm	Yes / No	
9	Shut down, remove cowls and check for leaks	OK / Not OK	
10	Re-install cowls and repeat engine start and warm-up Items 1 through 8	OK / Not OK	
11	Magneto check at 1800 RPM	Mag drop LH Mag Selected	RPM
		Mag drop RH Mag Selected	RPM
12	Pitch operation normal (<i>cycle prop at 1500 RPM, follow Hartzell manual 115N</i>)	Yes / No	
13	Record at Full Throttle	RPM	RPM
	<i>Ensure area to be used is clear of debris.</i>	Manifold Pressure	in.Hg
	<i>Full throttle check not to exceed 30 seconds.</i>	Vacuum	in.Hg
	<i>Heavy duty chocks may be required to achieve full power against the brakes.</i>	Oil Pressure	psi
	<i>Hold full "Up" elevator to increase prop tip clearance.</i>	Oil Temperature	°C
		Fuel Pressure	psi
		Fuel Flow	L/Hr
		CHT	°C
	EGT/TIT Recording	Yes / No	

14	Record at Idle – Hot.	Idle Normal	Yes / No
		RPM	RPM
		Oil Pressure	psi
		Oil Temperature	°C
		Magneto Dead Cut	Yes / No
		Idle Mixture Check	Lean / OK / Rich
		Normal Shut Down	Yes / No
15	Abnormal vibrations at any RPM	Yes / No	
16	Check operation of all engine gauges, including EDM (if fitted).	OK / Not OK	
17	Engine shut down and leak check	OK / Not OK	
18	Ensure all panels installed	Yes / No	
19	Engine run carried out <i>(Refer Lycoming Operator's Manual Section 3)</i>	Print Name	
		Signed	
		Date	
20	Remarks:		

Description	Initial	Date
Check correct operation of all avionics.		
When moving off to taxi, check brakes and nosewheel steering for correct operation.		
Ensure the exterior of aircraft is clean.		
Ensure interior is clean, finger marks are removed and flooring vacuumed.		
Ensure all required seats are installed correctly – all feet are engaged.		
Ensure all shoulder harnesses installed correctly.		
Prepare aircraft for flight.		
Complete log book entries and certify compliance with Part A. Check and ensure all AD's, SB etc have been carried out, complied with as required by the country's National Airworthiness Authority.		

PART B - FLIGHT CHECK

Before flight carry out the following steps;

Description	Initial	Date
<p>For aircraft that have been fitted at the factory with a rear spar cam adjuster detailed in the Service Manual section 57-10-10 "Wing Rigging" (aircraft serial numbers GA8-04-054 onwards or aircraft incorporating SB-GA8-2004-12).</p> <p>For new or factory refurbished aircraft; ensure the rear spar cam adjuster is set to the factory marked position.</p> <p style="text-align: center;"><u>NOTE:</u></p> <p><i>For aircraft not fitted with a rear spar cam adjuster, refer to Service Bulletin SB-GA8-2004-12 for installation of rear spar adjusting bushes.</i></p>		
<p>For aircraft fitted with a fixed rudder tab (aircraft serial numbers GA8-05-070 onwards or aircraft incorporating SB-GA8-2005-22 or SB-GA8-2016-166);</p> <p>Ensure the fixed rudder tab is set to approximately 15 (+/- 1) degrees to port.</p> <p style="text-align: center;"><u>NOTE:</u></p> <p><i>For aircraft not fitted with a rudder trim tab, refer to Service Bulletin SB-GA8-2005-22, or SB-GA8-2016-166 for rudder tab installation and adjustment.</i></p>		
<p>Skid/Slip Indication Check;</p> <p>Apply a long spirit level across a clear section of the cabin floor free of any protrusions. Adjust aircraft laterally until level, this can be achieved by jacking the aircraft as per the Service Manual section 7-10-00 or deflating a main wheel tyre (ensure tyre is re-inflated to correct pressure before returning the aircraft to service). Once aircraft is laterally level; observe the skid ball in the turn co-ordinator or equivalent indicator in the Electronic Flight Instrument System (EFIS) is centred. If not adjust the mounting screws of the skid ball or follow the EFIS manufacturers instructions until centre is achieved.</p>		
<p>Fuel Balance Check;</p> <p>While the aircraft is laterally level; it is essential that there is an equal amount of fuel in the right and left wing tanks for conducting the flight check. Verify fuel quantities manually using a calibrated dipstick and add fuel as required to achieve equal quantities.</p>		

Perform these steps during flight, as indicated;

Description	Initial	Date
<p>During taxi, check aircraft tracks straight with pedals centred.</p> <p style="text-align: center;">Left turn / OK / Right turn</p>		
<p>During check flight, observe all systems for normal operation.</p> <p style="text-align: center;">OK / See Remarks</p>		
<p>Establish steady, straight, and level flight by setting the pitch trim at a safe altitude above ground level in an area clear of traffic, and <u>in smooth air</u>. Set power to approximately 75% (GA8 – 23 in. Hg MAP and 2250 RPM or GA8-TC 320 – 30 in. Hg MAP and 2250 RPM) and autopilot (if fitted) OFF.</p>		
<p>Hold the skid ball central throughout this manoeuvre using pressure on the rudder pedals and when stabilised; gently feel, by applying slight left and right rotation of the control wheel, the aerodynamically centralised position of the ailerons. Once the ailerons are centralised release the control wheel with the skid ball held central and note if the aircraft tends to roll right or left. Repeat several times to ensure consistent results are achieved.</p> <p style="text-align: center;">Left Roll / OK / Right Roll</p>		
<p>If a consistent roll is observed discontinue the flight and while on ground conduct the wing incidence adjusting cam alteration in accordance with the Service Manual section 57-10-10 on “Wing Rigging”. A crows foot type spanner for securing the nut is recommended to ensure ease of operation and adequate torquing of the rear spar cam adjuster in the set position.</p> <p>Lowering the left wing trailing edge will create a right roll and hence correct a left roll situation, and raising the left wing trailing edge will create a left roll and hence correct a right roll situation. In piloting terms, lowering the left wing trailing edge has the same effect as turning the control wheel to the right and vice-versa. Repeat the above step until no rolling motion is observed.</p>		
<p>During the flight condition stipulated above, and once any rolling tendency is rectified, the aircraft is to be stabilised with the skid ball central and wings level; remove feet from the rudder pedals and observe any tendency to yaw right or left. Repeat several times to ensure consistent results are achieved.</p> <p style="text-align: center;">Left Yaw / OK / Right Yaw</p>		
<p>If a consistent yaw is observed discontinue the flight and while on ground perform an adjustment to the fixed rudder tab.</p> <p>For a right yaw adjust the trailing edge of the rudder tab to starboard and for left yaw adjust the trailing edge of the tab to port. In piloting terms; adjusting the trailing edge of the tab to starboard has the same effect as pressing the left rudder pedal and vice-versa. Large adjustments are extremely unusual and typically indicate an underlying problem with the wing rigging or uneven fuel quantities in the left and right wing tanks. Refer to Fuel Balance Check and Flap and Aileron Rigging Check from previous section.</p>		

<p style="text-align: center;"><u>NOTE:</u></p> <p style="text-align: center;"><i>Great care must be exercised when adjusting the fixed rudder tab. It is recommended that 2 pieces straight wood strips are C clamped to the tab and apply gentle loading as required being careful not to overstress the rivets through the .016" thin rudder skin.</i></p> <p style="text-align: center;"><u>NOTE:</u></p> <p style="text-align: center;"><i>The GA8 is equipped with a ground-adjustable tab on the rudder and a fixed (non-adjustable) trim tab on the elevator. No other tabs are approved or required to achieve proper rigging.</i></p> <p style="text-align: center;"><u>NOTE:</u></p> <p style="text-align: center;"><i>The GA8 has excellent handling and is a stable flight platform. When properly rigged, all GA8's are capable of flying "hands and feet off" much of the time. If the aircraft handling does not meet these criteria after completing the above procedure consult GippsAero Service Letter SL-GA8-2022-42.</i></p>		
<p>REMARKS:</p>		

Support:

Should you require any further information or assistance please contact our Customer Support Department:

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