

9.0 SERVICING INSTRUCTIONS

As coded in the Inspection Time Limits chart in this section, there are items to be checked each 25, 50, 100, and 200 hours. Also, there are notes on special items which may require servicing at more frequent intervals.

* When conducting an inspection at 25 hours, all items marked for 25 hours would be accomplished.

* at 50 hours, the 25 and 50-hour items would be accomplished.

* at 100 hours, the 25, 50, and 100-hour items would be accomplished.

* at 200 hours, the 25, 50, 100 and 200-hour items would be accomplished.

* A complete inspection (Annual Inspection) would include all 25, 50, 100, 200 hour items.

Below is a list of recommended lubricants and “protection” products when servicing float hull, amphibious components. This lists products used by Wipaire during assembly of the floats.

There may be equivalent products just as satisfactory for protection. However, it is recommended if trying different products, to inspect them frequently so as to determine their effectiveness.

Protection of nuts, bolts, hydraulic lines, metal surfaces, or electrical connections.

Dinitrol AV30

Dinol Group

CRC – SP400 Soft Seal

CRC Industries

General Lubricants

LPS 1, LPS 2 and LPS 3

LPS Industries

Wheel Bearings, Main Gear Retract

Mechanism, Nose Gear Pivot and Rod Ends

*HCF Grease, P/N 605
HCF Industries

*Aeroshell 22
Shell Global Solutions

*Green Grease, Multi-Purpose
Green Grease Inc.

*Aviation Grease SHC 100
ExxonMobil Aviation Lubricants

*** If existing grease cannot be identified you must lubri-flush all float grease fittings until visibly exhausting all old grease and new grease is coming out. Additionally if you cannot determine existing grease in wheel bearings, completely clean and repack bearings with new grease.**

Metal Corrosion Protection
Boeshield T9 Rust Protection
Boeing Company

Corrosion X
Corrosion Technologies Corporation

ACF-50 Rust Protection

Tef-Gel
Ultra Safety Systems, Inc.

Float Sealant
890 B2 or B4
Pro Seal Company

PR 1440 C
PPG Aerospace

RTV Silicones
General Electric

SIKAFLEX 201 or 252
Sika Manufacturing

Teflon Spray
6P-730A
Comet Industries

Hydraulic Fluid
Mil-H-5606

Electrical Insulating Compound

Dow Corning 4 (DC4)
Dow Corning Corporation

Bolt Torque Bolts in Critical Areas - For common, correct torque when installed, or when visual inspection indicates a need for a torque check.

Nut torque should be applied depending on the hardware application, unless the torque is specified for a certain joint in this manual or installation drawings.

****Tension Application**

Nut-Bolt Size	Torque Limits (in-lbs)	
	Min.	Max.
8-36	12	15
10-32	20	25
1/4-28	50	70
5/16-24	100	140
3/8-24	160	190
7/16-20	450	500
1/2-20	480	690
9/16-18	800	1,000
5/8-18	1,100	1,300
3/4-16	2,300	2,500
7/8-14	2,500	3,000
1-14	3,700	4,500
1 1/8-12	5,000	7,000
1 1/4-12	9,000	11,000

****Shear Application**

Nut-Bolt Size	Torque Limits (in-lbs)	
	Min.	Max.
8-36	7	9
10-32	12	15
1/4-28	30	40
5/16-24	60	85
3/8-24	95	110
7/16-20	270	300
1/2-20	290	410
9/16-18	480	600
5/8-18	600	780
3/4-16	1,300	1,500
7/8-14	1,500	1,800
1-14	2,200	3,300
1 1/8-12	3,000	4,200
1 1/4-12	5,400	6,600

** A Torque of 80% should be used when Tef-Gel is applied to the bolt.

INSTRUCTIONS / PROCEDURES		HOURLY LIMITS					MECHANIC		INSP
		25	50	100	200	Annual	Rt.	Lt.	
Water Rudder System & Tail	General Water rudder blades – inspect for cuts, tears and condition.	Details Water rudder blades and posts – inspect for damage, security of attachment, corrosion, paint, rigging. Check post bolts and bushings and lube with LPS 2.		X					
	Water rudder steering and retract systems – inspect the following: cables for broken wire; fittings for cable slippage, cracks and distortion; cable pulleys for freedom of rotation and cable guard pins for presence; rigging.	Check top and bottom rollers for rotation and lube with LPS 2 or similar product. Tension cables 30 lbs. +/- 5lbs.			X				
	On the aircraft: Remove, clean, inspect, and grease the Aux. finlets on the horizontal stabilizer.	Remove, clean, inspect and grease the strakes on the leading edge of the horizontal stabilizer.					X		
Electrical System	Pump and indicator light wiring – inspect for chafing, broken, or loose terminals and general condition.				X				
	Pressure Switches – inspect wiring, mounting, and general condition.				X				
	Pump Motors – inspect wiring, mounting, and general condition.				X				
Landing Gear Systems	Emergency Trim Timer Override System (ETTOS) – inspect wiring and function	Activate system and insure that the aileron trim tab moves continuously left and right when trim timer bypass is active; and that when the system is inactive the aileron trim tab moves for 1 second and then stops until the button is released and depressed again.			X				
	Inspection and servicing nose gear tracks:	Nose tracks and blocks – clean and dry or clean and wipe with silicone spray.		X					
	Nose Gear Box/Block Tracks measured at slide route for wear. .050" or less wear tolerance.	Check side play – 3/32" to 1/8" max tolerance.				X			

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INSTRUCTIONS / PROCEDURES		HOURLY LIMITS						MECHANIC		INSP
		25	50	100	200	Annual	Rt.	Lt.		
General	Details									
Nose gear pivot blocks and forks – inspect for condition, lubrication, corrosion, and paint.		X							X	
Nose & Main wheel bearings – Grease Zerks.		X							X	
Inspect Hydraulic rotary actuator in the main wheel well.		X							X	
Hydraulic fluid level : MIL -H-5606	Check indicators on tanks. Fill as needed.		X						X	
Wheels and tires – inspect for wear, pressure, and condition.	Main Wheels: 50 psi ± 5 psi. Nose Wheels: 60 psi ± 5 psi.		X						X	
Brake assemblies – inspect for wear, corrosion, and leakage.			X						X	
Hydraulic fluid in reservoir should be checked for moisture or other contaminants and changed if necessary.	When the plastic reservoir is removed, the visible screens should be inspected and cleaned before reassembly.								X	
Main and Nose gear actuators, Assemblies - inspect for condition, lubrication, leakage, corrosion, and cleanliness.				X					X	
Nose gear springs - Scotchply springs, inspect for cracks, delamination and paint.				X					X	
Main gear drag link bushings - inspect for condition, lubrication, and corrosion.				X					X	
Clean the wheel wells to facilitate general condition inspection.				X					X	
Main gear oleos - inspect for evidence of leakage, proper extension, and check cylinder for corrosion, pitting, cleanliness, and security.				X					X	
Hydraulic lines and fittings - inspect for leaks, condition, and security.					X				X	
Hydraulic Manifolds (if Equipped) – inspect for condition, security, and leaks.					X				X	
Brake system plumbing - inspect for leaks, condition, and security.					X				X	

INSTRUCTIONS / PROCEDURES		HOURLY LIMITS					MECHANIC		INSP
		25	50	100	200	Annua	Rt.	Lt.	
Engine Exhaust Ducts (when installed per 1004690)	<p>General</p> <p>Inspect engine exhaust ducts and heat shield, if installed, for security of attachment and cracks or damage.</p>	<p>Details</p> <p>Clean soot & exhaust deposits for visual inspection. Ensure attachment hardware is tight (refer to torque chart). Note: Not all aircraft are equipped the waterline cut exhaust system. Wipaire recommends any repairs to the exhaust stacks be done by Frakes Aviation (Clerburne, Texas, USA). Repairs by other facilities for vendors will void the warranty provided by Frakes Aviation.</p>		X					
Elevator down-spring (when installed per 1004690)	<p>Inspect the elevator down-spring for proper operation and security.</p>	<p>Inspect the attachment of the elevator down-spring clamp on the appropriate elevator control cable and on the fuselage attachment (on the autopilot clutch bracket). Fasteners should be secure.</p>		X			X		