ALASKAN BUSHWHEELS

Installation Instructions For Single Shock T3 Tailwheel Assemblies

Heavy Duty and LSA Models

Experimental Use Only

Consult with your own aircraft's specific maintenance manual during installation to verify any steps outside the scope of this document, that may pertain to your aircraft specifically, are followed.

Also verify that the T3 assembly you are installing is the proper type and configuration for your aircraft (appropriate spring weight, and proper fuselage attach point locations).

A) Carefully block the aircraft main wheels and lock brakes so the aircraft cannot roll.

B) Carefully raise and support the tail, so that the tail wheel is clear of the ground.

C) Disconnect and inspect the steering chains and spring from the rudder horn.

D) Remove the bolt securing the tailwheel assembly to the spring and inspect it for wear. ABI, LLC recommends replacement of all hardware (see Figure 1, #1).

E) Remove the bolts from the rear tail spring bracket (see Figure 1, #2).

F) Remove front spring attach bolt (see Figure 1, #3), and remove tail spring.

G) Install the T3 assembly in place of the leaf spring in reverse order to steps E and F. Replace hardware with hardware supplied in the optional installation kit, or your own new hardware of appropriate sizes (see Figure 2).

H) Tighten the front and rear fuselage attach bracket bolts on the T3 Assembly (see Figure 2). These bolts are shipped with minimum torque, to allow for the free rotation of the attach brackets for easier fit-up and hole alignment on the fuselage.

I) Re-attach the tail wheel steering chains and springs to the rudder steering horns. Use additional length of chain as necessary to achieve proper installation length (extra chain is supplied with optional install kit). The T3 assembly may be a slightly different length and/or height compared to your current leaf spring.

Note: *The steering springs should be just slack while in the statically loaded position with tailwheel resting on the ground (not while unloaded as tail is raised).*

ABI, LLC also recommends the use of a bent steering arm for optimum steering chain angle.

J) Verify all hardware is torqued per the specs in attached Table 7-1 from AC 43.13-1B, and that all castle nuts are secured with a cotter pin.

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K) Check the tailwheel for proper steering function and free rotation.

L) Check for unwanted lateral movement at tailwheel head attachment bolt.

If excessive lateral movement between the tailwheel head and T3 Suspension Assembly is still present after torqueing tailwheel attach bolt, then use optional tailwheel shim(s), ABI-51270, as needed to ensure tight fit of the tailwheel head to T3 assembly mounting bracket.

M) Verify that the shock's adjustable rebound knob is set all the way to "Slow" or negative "-" and then one click towards "fast" or positive "+" and that the spring preload nut is tightened to at least one full turn past initial engagement with the spring when the suspensions system is totally unloaded *(either with the tail supported in the air, or while the T3 is not attached to the airplane*).

Slower (-) settings will equate to more damping and faster (+) settings will give less rebound damping in the shock.

N) Lower the aircraft to the ground. Perform a low speed taxi test, a straight taxi and a full 360^{O} turn in both directions.

O) Revise weight and balance. Make any necessary log book and maintenance record entries as required.

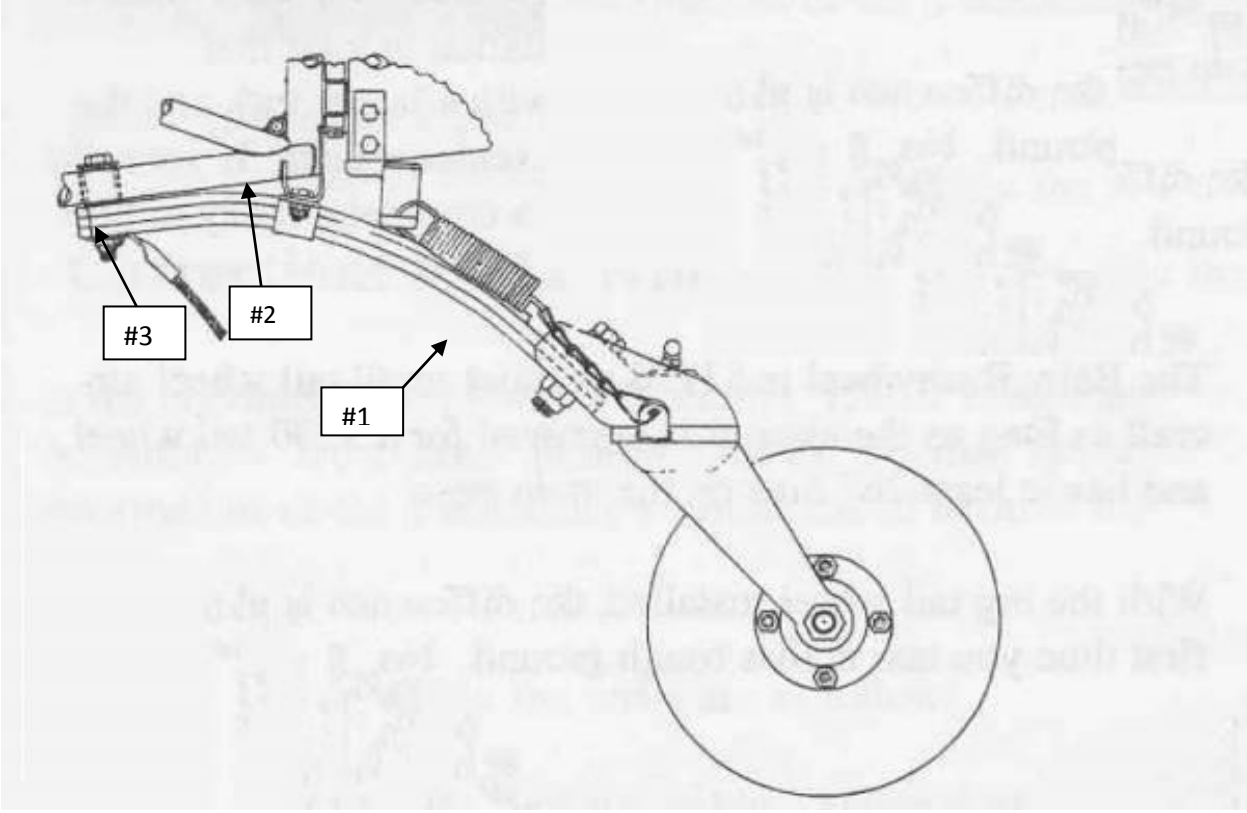

Figure 1: Typical Tail Spring Setup

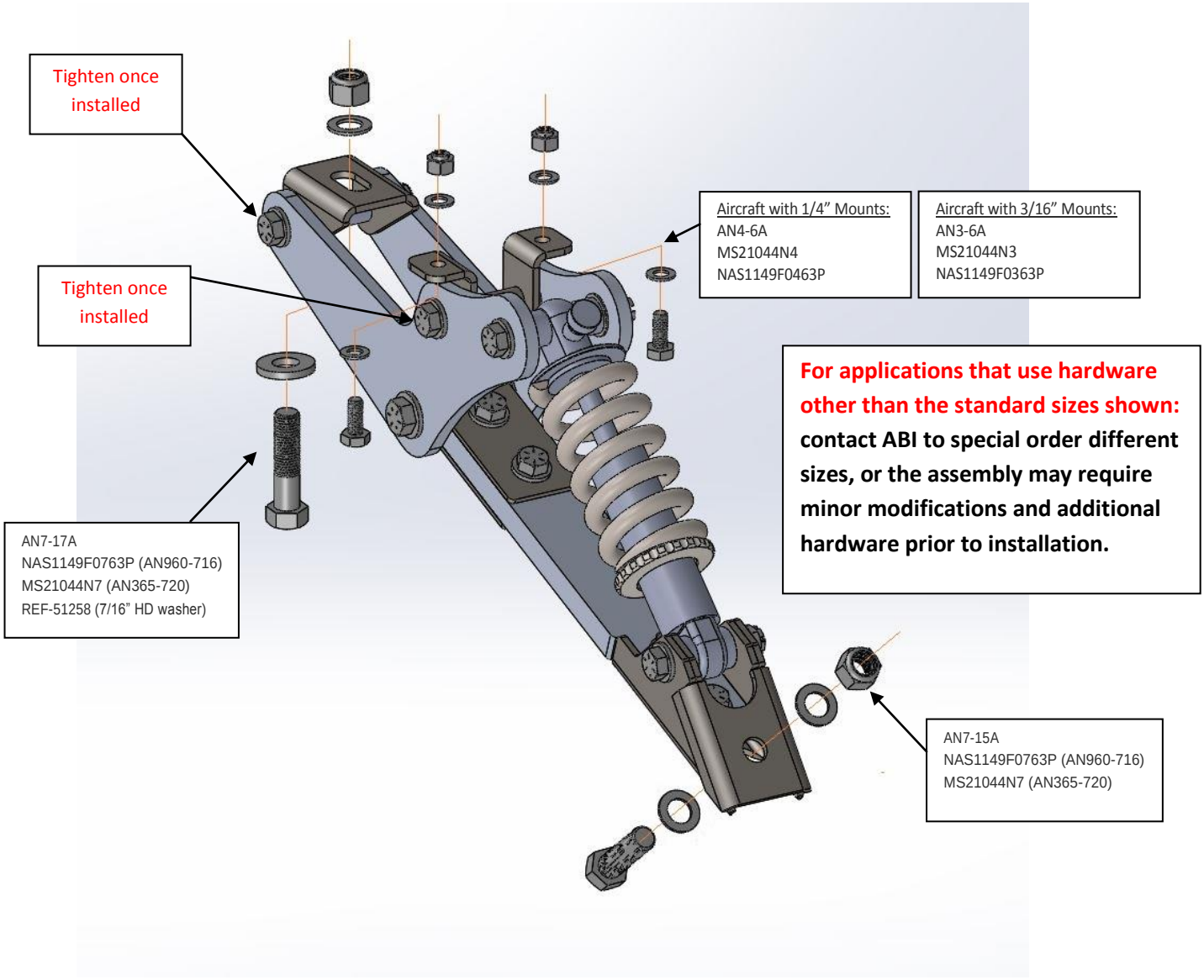

Figure 2: T3 setup, with optional installation hardware

TABLE 7-1. Recommended torque values (inch-pounds).

CAUTION THE FOLLOWING TORQUE VALUES ARE DERIVED FROM OIL FREE CADMIUM PLATED THREADS.				
	TORQUE LIMITS RECOMMENDED FOR INSTALLATION (BOLTS LOADED PRIMARILY IN SHEAR)		MAXIMUM ALLOWABLE TIGHTENING TORQUE LIMITS	
Thread Size	Tension type nuts MS20365 and AN310 (40,000 psi in bolts)	Shear type nuts MS20364 and AN320 (24,000 psi in bolts)	Nuts MS20365 and AN310 (90,000 psi in bolts)	Nuts MS20364 and AN320 (54,000 psi in bolts)
FINE THREAD SERIES				
8-36	12-15	7-9	20	12
10-32	20-25	12-15	40	25
1/4-28	50-70	30-40	100	60
5/16-24	100-140	60-85	225	140
3/8-24	160-190	95-110	390	240
7/16-20	450-500	270-300	840	500
1/2-20	480-690	290-410	1100	660
9/16-18	800-1000	480-600	1600	960
5/8-18	1100-1300	600-780	2400	1400
3/4-16	2300-2500	1300-1500	5000	3000
7/8-14	2500-3000	1500-1800	7000	4200
1-14	3700-5500	2200-3300*	10,000	6000
1-1/8-12	5000-7000	3000-4200*	15,000	9000
1-1/4-12	9000-11,000	5400-6600*	25,000	15,000
COARSE THREAD SERIES				
8-32	12-15	7-9	20	12
10-24	20-25	12-15	35	21
1/4-20	40-50	25-30	75	45
5/16-18	80-90	48-55	160	100
3/8-16	160-185	95-100	275	170
7/16-14	235-255	140-155	475	280
1/2-13	400-480	240-290	880	520
9/16-12	500-700	300-420	1100	650
5/8-11	700-900	420-540	1500	900
3/4-10	1150-1600	700-950	2500	1500
7/8-9	2200-3000	1300-1800	4600	2700

The above torque values may be used for all cadmium-plated steel nuts of the fine or coarse thread series which have approximately equal number of threads and equal face bearing areas.
* Estimated corresponding values.

Figure 3: Recommended Torque Settings by Bolt Size