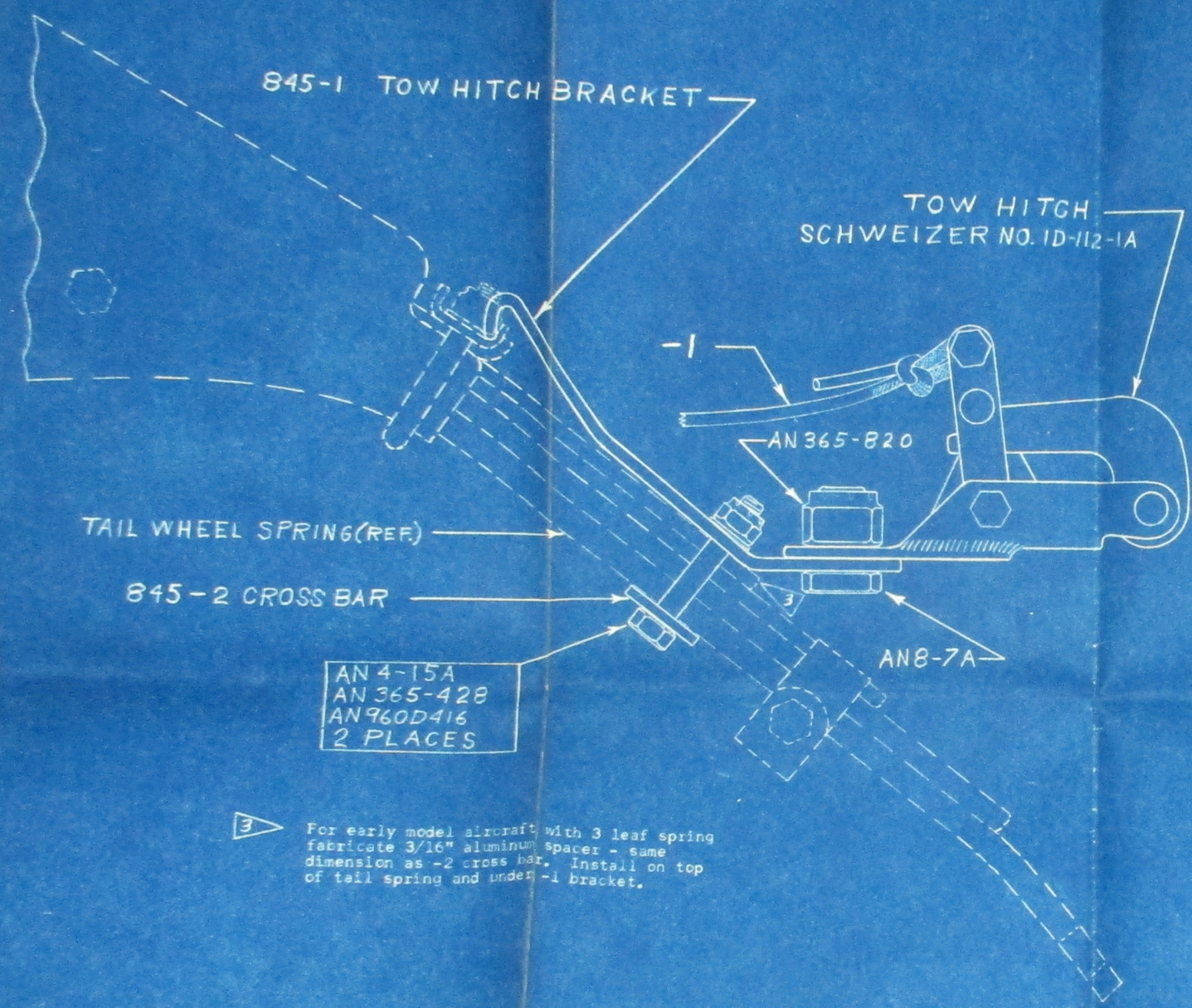


5/15/64 REX.



3 For early model aircraft with 3 leaf spring fabricate 3/16" aluminum spacer - same dimension as -2 cross bar. Install on top of tail spring and under -1 bracket.

1. Tighten the 1/2" bolt with two 12" wrenches. The tow hitch must be tight to prevent it from swiveling.
2. Tie a 18 ft. length of nylon cord to tow hitch and route forward through the pilots window and tie to assist strap, allow 4 to 6 inches slack. Minimum strength for the nylon is 300 lbs. 3/16" parachute riser cord is recommended.
3. Design load of the tow hitch and tow hitch bracket is 1200 lbs.
4. Tow hitch assemblies of this type have been in use with perfect performance in the Wichita, Kansas area since 1950.
5. A flat pitch or seaplane propeller is desirable however, any propeller will do. Use full throttle at all times during take-off and climb in accordance with the Cessna Owners manual and the engine handbook. Throttling back slightly as the airplane breaks ground as advocated by some people, will cause high cylinder-head temperatures.

NOTE

Retarding the throttle the first 15% does nothing to reduce manifold pressure, but only leans out the mixture. At climb speed the engine will operate at its lowest temperature at full throttle. Climb speed should be 65 I.A.S. Do not use flaps, since they reduce rate of climb. 148 through 1952 Models provide best engine cooling, due to a pressure cooling box on the engine. On 1953 and on Models, check the rear baffle on the engine that goes up to the cowling to determine that it is secure. On some airplanes this baffle leans aft in flight allowing a loss of the pressure differential that is necessary to cool the engine. Several strands of large safety wire from the top of this baffle to the engine lifting lug will prevent this from occurring.

TOW ROPE

Marine grade manila and nylon are not recommended. Marine grade manila is oiled and immediately becomes very dirty and unpleasant to handle. Manila will not provide good resistance to abrasion. Nylon is not recommended, due to its very poor abrasion resistance, too much elasticity and its tendency to whip around the sailplane, due to its light weight and flexibility, if slack occurs in the tow line.

Years of experience with several thousand tows in the Wichita, Kansas area has shown 1/2" sisal to be the best material. It provides the optimum elasticity, has good resistance to abrasion, has the proper breaking strength, which is 1200 lbs. It is also the most economical type of material.

Do not use hardware store rings, it is best to buy the rings from Schweizer. Do not use metal farrels in the ends of the rope, they cause the rope to be damaged on the outside as it strikes the ground. The best material for farrels is low-pressure aircraft fuel hose. It is identified as MIL-H-5593A-10. This hose is expensive, but only 6" is required for each end of the rope. Cheaper grades of hose such as garden hose are too stiff to bend on a small radius and their rubber is too hard for good abrasion resistance.

Do not splice the ends of the rope. High spots of the splice will cut through, due to abrasion. Slide the 6" piece of fuel hose onto the rope, bend the hose around with the ring in place and overlap 10". Wrap the rope with lacing cord, then paint both sides generously with white glue, allow to dry over night and then wrap with cloth-back tape, preferably 2" width. Optimum length is 240 ft. as sold by Schweizer however, 180 ft. is satisfactory. This length is obtained by cutting up a 1/2 coil in three equal parts. The price of a coil will be between \$12.00 and \$18.00. Twenty-four tow ropes of this type were made for the 28th U.S. National Soaring Contest at a cost of \$6.00 each.

Obtain a box approximately 18" square for each rope, the hexagonal shaped box the 1/2 coil comes in is the perfect size for one rope. To store a rope, place one end in the box and continue to stuff in the rope in any manner. The rope will come out of the box just as it goes in without becoming entangled.

- 1 CESSNA 120 140 140A 170 170A & 170B 303A 303B 303C (L-19A TL-19D L-19E)
- 2

JOHN C. DUSSAULT
CHIEF OF STRUCTURES
CESSNA AIRCRAFT COMPANY

THIS INSTALLATION F.A.A. APPROVED BY SUPPLEMENTAL TYPE CERTIFICATE NO. SA268CE

1	-1	RELEASE CORD	MIN. 300#	NYLON
1	845-2	CROSS BAR		
1	845-1	TOW HITCH BRACKET		
QTY.	PART NO.	NAME OF PART	SIZE GAGE	MATERIAL
Scale	FULL	Drawn by	D. BLANTON	MODEL
Tolerance	± 1/16	Checked by	#	JAVELIN AIRCRAFT CO. INC.
		Sketch date	2	WICHITA, KANSAS
Date	MAY 15 1964	Approved	<i>D. Blanton</i>	TOW HITCH INSTALLATION
				Drawing No. 813