Aircraft Tiedowns

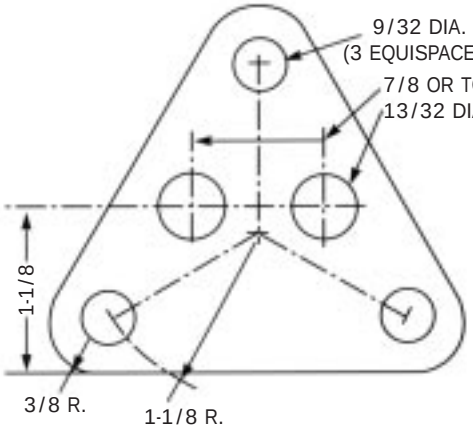
All sizes in inches unless otherwise noted. Fabricate from drawing dimensions - drawings not to scale.

by H.G. Frautschy, based on the drawings and notes of Joe Dickey

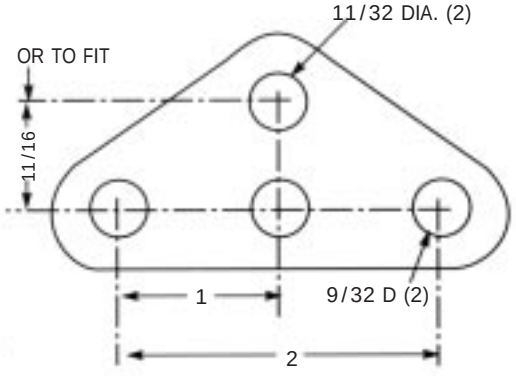
Tiedowns have always elicited a bunch of opinions, and one of my favorites is a compact set of tiedowns that Joe Dickey built up to secure his Aeronca Champ. Joe uses them to supplement "permanent" tiedowns at airports other than his home field, and as a sole means of constraint when he is at a fly-in. He has had good success with them, having never had them pulled out of the ground or breaking. The same can't be said for the "dog anchor" types of tiedowns, which have opened up and broken while Joe was tied down at a fly-in. (Remember the "big blow" at EAA Oshkosh '82?) The set pictured in the doodles on these pages have been used successfully in both rocky and loamy soil, and have proven to be very damage resistant. Small rocks are pushed aside, and impacting larger rocks or boulders results in a resounding "ring" when the rod is struck by the hammer. When that happens, just move the tiedown. A few whacks with the hammer will straighten the steel stake out. Just follow the dimensions shown on the drawings, and remember to always tie your light plane down—it helps when someone decides to run up a helicopter, jet or even another prop driven airplane with the wind blast pointed right at your pride and joy. Having your tail surfaces strained through a chain link fence will ruin a perfectly good summer, not to mention your checkbook!

TIEDOWN BASE PLATES (MAKE FROM 1/8 STEEL)

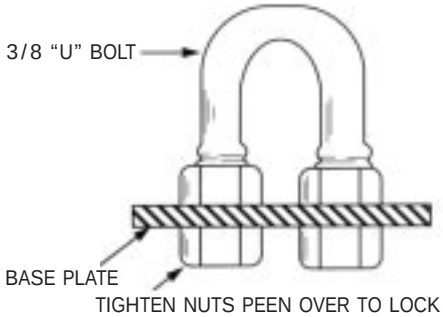
WING PLATE - 2 REQ.



TAIL PLATE - 1 REQ.

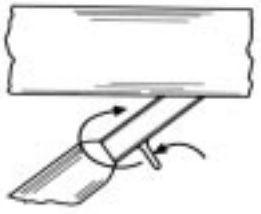


BASE PLATE ASSEMBLY



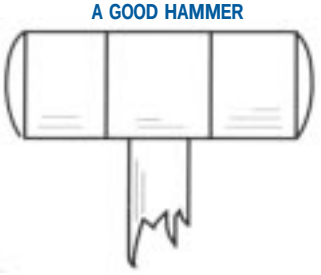
Drawings based on article in the Aeronca Aviator, Issue 10, Summer 1984

AIRPLANES WITH WELDED ON TIEDOWN RINGS



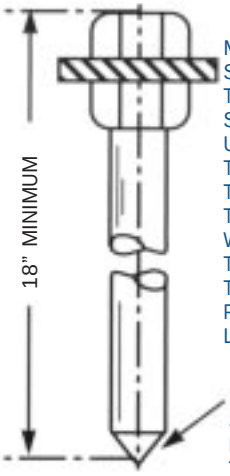
TAKE ROPE THROUGH RING, AROUND STRUT AND BACK. USE RING ONLY TO KEEP ROPE FROM SLIPPING DOWN.

A GOOD HAMMER



MACHINIST'S MALLET WITH ONE PLASTIC HEAD AND ONE STEEL HEAD. DOESN'T WEIGH MUCH. DRIVES TIEDOWN PINS, PLASTIC TENT STAKES, AND THOSE WHO IGNORE "PLEASE DO NOT TOUCH" SIGNS.

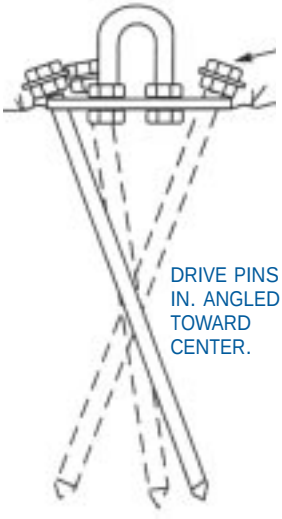
ANCHOR PINS - 8 REQ.



MAKE FROM 1/4 STEEL ROD THREAD TOP TO SUIT HARDWARE USED. RUN BOTTOM NUT SNUG TO BOTTOM OF THREADS. ADD WASHER (NEEDED TO PULL PIN) AND TIGHTEN TOP NUT. PEEN OVER TO LOCK.

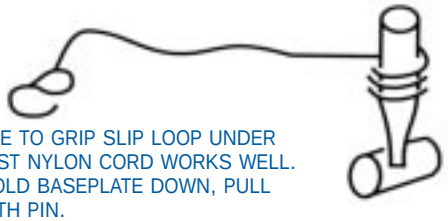
90° POINT - SHARPER POINTS BLUNT TOO EASILY

SETTING ANCHORS



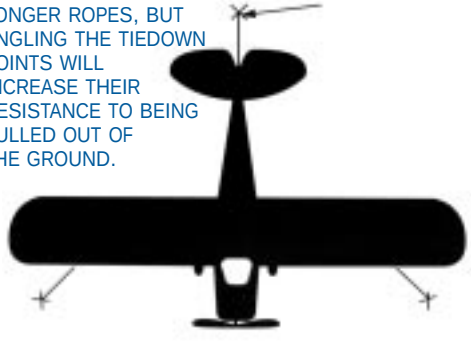
DRIVE PINS IN. ANGLED TOWARD CENTER.

TO REMOVE PINS



USE HAMMER HANDLE TO GRIP SLIP LOOP UNDER WASHER. 450 LB. TEST NYLON CORD WORKS WELL. USE ONE FOOT TO HOLD BASEPLATE DOWN, PULL STRAIGHT IN LINE WITH PIN.

IMPORTANT:
SPREAD TIEDOWNS SO PULL IS NOT STRAIGHT UP! YOU'LL NEED LONGER ROPES, BUT ANGLING THE TIEDOWN POINTS WILL INCREASE THEIR RESISTANCE TO BEING PULLED OUT OF THE GROUND.



THIS IS A MODIFICATION OF JOE'S ORIGINAL DESIGN BY BION MCPEAK - ELIMINATE THE "U" BOLT, AND ON A NEW SET OF BASE PLATES, CAREFULLY RADIUS THE NEW HOLE FOR THE ROPE TO PREVENT CHAFING. THE HOLE SHOULD BE A TIGHT FIT FOR THE ROPE. KNOT THE ROPE AS SHOWN ON THE BACKSIDE OF THE BASEPLATE. MELT OR GLUE THE KNOT TO BE SURE IT WILL NOT COME UNDONE. THIS BASEPLATE IS NOT RECOMMENDED FOR USE WITH POLYETHYLENE ROPE.