

FW-FWI660-11
Rev IR
Supplemental Airplane Flight Manual
for
Pacific Aerial Tow Hook Hitch Installation

Make/Model: _____

Registration No. _____

Serial No. _____

The information contained in this document is _____ approved material which must be applied together with the basic FAA approved airplane placards and markings and/or FAA approved Airplane Flight Manual. This supplemental manual must be carried in the airplane when it is modified by the installation of one or more Pacific Aerial Tow Hook hitch installations in accordance with Supplemental Type Certificate (STC) No. SA0220SO.

The information contained in this document supersedes the basic airplane markings and placards and/or Flight Manual covered in the items contained herein. For Limitations, Procedures, and Performance information not contained in this supplement, consult the basic airplane markings and placards, and/or Flight Manual..

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REV.	PAGES AFFECTED	DESCRIPTION	FAA APPROVED (DATE)
IR	ALL	Initial Release	See Cover

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SECTION 1. GENERAL

This Supplemental Airplane Flight Manual is applicable to approved airplanes equipped with Pacific Aerial Tow Hook release hitch and release lever. See STC SA220SO or approved AML for approved aircraft makes and models.

Description of system: One or two tow hitches are installed at the rear of the aircraft with corresponding release handle(s) in the cockpit. The tow hitch allows a glider or banner to be towed by the aircraft with an attached ring or safety link connected to a rope that is attached to the glider, banner or grapple hook. The rope can be released by the pilot near the ground prior to landing in normal operations or in flight in an emergency by actuating the release lever. The tow hook is rated for gliders up to 1200 lb.

SECTION 2. NORMAL PROCEDURES: (NOTE: these items supplement the basic flight manual normal procedures- be sure to follow those procedures except as noted below)

GLIDER TOWING OPERATION

A. PREFLIGHT CHECK

1. Verify the tow hitch fasteners are secure and the rubber spring holds the closed release arm in place. (Has spring force against the latch.)
2. Ensure that the tow ring is free from distortion.
3. Ensure that the tow ring is a PATH p/n 6131 (2 1/4-inch outside diameter, .25-inch cross section, forged, heat treated, and proof loaded).

B. BEFORE TAKEOFF

1. Line up the glider and tow plane on the runway with the tow plane in the lead position. Both aircraft should be facing into the wind.
2. The aircraft should be separated by the approximate length of the tow rope.
3. Hook the tow rope into the hook of the tow plane.
4. The tow pilot must carefully remove slack from the tow rope between the glider and tow plane.

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5. Once the glider is determined to be securely attached to the tow plane via the tow rope and tow hook, takeoff is initiated.

C. RELEASING THE GLIDER

1. Once the tow pilot has towed the glider to a predetermined altitude and location, the glider pilot must release the glider from the tow line.
2. The tow pilot will then return to the airfield and drop the towline via the tow hook release handle before landing – normally in a predetermined area adjacent to the runway.
3. Visually verify the tow line has been dropped before landing to prevent any potential damage to the aircraft during landing.

BANNER and AERIAL BILLBOARD TOWING OPERATION

A. PREFLIGHT CHECK

1. Verify the tow hitch fasteners are secure and the rubber spring holds the closed release arm in place. (Has spring force against the latch.)
2. Ensure that the tow ring or safety link is free from distortion.
3. Ensure that the tow ring is a PATH p/n 6131 (2 1/4-inch outside diameter, .25-inch cross section, forged, heat treated, and proof loaded) or safety link p/n 1000.
4. Stow the grapple hook and tow rope in the aircraft. They should be within easy reach and access for the tow pilot. Take care they do not interfere with any aircraft controls.
5. For multiple tow hook installations, check that the grapple hooks are marked with the tow hook number and they are in sequence.

B. BEFORE TAKEOFF

1. Before towing, the banner should be laid out on the ground extended to its full length.
2. The lead end of the banner must be attached to a tow line, terminated with a large loop at the end.
3. Tie a grapple hook to a tow rope with a tow ring or safety link attached. The tow ring should be opposite the grapple hook on the tow rope.
4. Secure the tow ring into the tow hook assembly.

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C. FLIGHT

1. After takeoff is initiated and the pilot is ready to catch the banner, the pilot must carefully toss the grapple hook outside the aircraft. The grapple hook can now catch the banner.
2. As soon as the grapple hook has snagged the loop of the banner tow line, the tow pilot must immediately begin a steep climb to minimize any damage to the banner caused by dragging the banner on the ground.
3. The tow plane may then climb to altitude and tow the banner over the intended audience.

CAUTION: excessively abrupt rotation of an airplane during a pickup, or a snap or steep turn after a missed pickup, may be sufficient to precipitate an accelerated stall.

D. RELEASING THE BANNER.

1. After completing display of the banner, the pilot must return to the airfield at a predetermined location.
2. The pilot must approach the designated location at a low altitude and activate the tow hook release handle, dropping the banner, grapple hook, and both tow lines.
3. Visually verify that the load has been released from the aircraft before landing to prevent any potential damage to the aircraft during landing.

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SECTION 3. EMERGENCY PROCEDURES:

Emergency procedures in the FAA approved airplane placards and/or Flight Manual generally apply.

GLIDER TOWING

Glider does not initiate release or cannot release from tow-plane: PULL
RELEASE HANDLE

Glider is at unsafe angle to tow-plane: PULL RELEASE HANDLE

BANNER TOWING:

Loss of engine power: PULL RELEASE HANDLE

Banner fouled and affecting aircraft performance: PULL RELEASE
HANDLE

CAUTION: In the event of an emergency banner release in congested areas, due care should be exercised that it will not cause undue hazard to persons or property on the surface.

In the event of banner not properly releasing during dropoff the pilot should conduct a go-around and attempt to release the banner before landing.

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SECTION 4. LIMITATIONS

MAXIMUM WEIGHTS:

No Change

CENTER OF GRAVITY LIMITS:

No Change.

AIRSPEED LIMITS:

No Change.

AIR SPEED INDICATOR MARKINGS:

No Change.

FLAP LIMITS:

No Change

NUMBER OF OCCUPANTS

Only essential crew members will be carried during tow operations.

PLACARDS:

Near Tow Hook release handle: PULL TO RELEASE

In full view of pilot, Either:

Glider operation “GLIDER TOWLINE ASSEMBLY
BREAKING STRENGTH NOT TO EXCEED
960 POUNDS”

Or Banner Towing “TOW HOOK LIMITED TO MAXIMUM
BANNER WEIGHT OF 600 LBS”

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