PENN YAN AERO SERVICE, INC.
2499 BATH ROAD
AIRPORT
PENN YAN, N.Y. 14527-9599
(315) 536-2333

180 H.P. SUPERHAWK

The Engine People

FAA APPROVED

SUPPLEMENTAL AIRPLANE FLIGHT MANUAL

FOR

CESSNA 172N

REG. NO. N738VN Now N943KS

SER. NO. 17270273

This Supplement must be carried in the aircraft when it is modified by the installation of a 180 HP engine and the gross weight is increased in accordance with STC SA703GL. The information contained herein supplements or supersedes the basic placards and markings only in those areas listed.

FAA APPROVED: Gary S Lowen
for W. F. Horn, Manager
Chicago Aircraft
Certification Office
FAA Central Region

DATE: June 11, 1985

Serving the Aviation Industry Since 1945.

Penn Yan Aero Service, Inc.
2499 Bath Road, Airport
Penn Yan, NY 14527-9599

Supplemental Airplane
Flight Manual for
Cessna 172N

SECTION I - Limitations

A. The following placard must be displayed in full view of the pilot:

THIS AIRCRAFT HAS BEEN MODIFIED BY THE INSTALLATION OF A 180 HP ENGINE PER STC SA703GL. IT MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS AS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS.

B. For the N model aircraft the following placard must be displayed adjacent to the flap position selector switch:

MAXIMUM FLAP TRAVEL IS 30°

C. The following limits apply to the normal category only.

Maximum Gross Weight - 2550 lbs.
C.G. Range - 41.0" to 47.3" at 2550 lbs.
35.0" to 47.3" at 1950 lbs. or less
Straight line variation between points given.

SECTION II - Emergency Procedures - No change.

SECTION III - Normal Procedures - No change.

SECTION IV - Performance - No change.

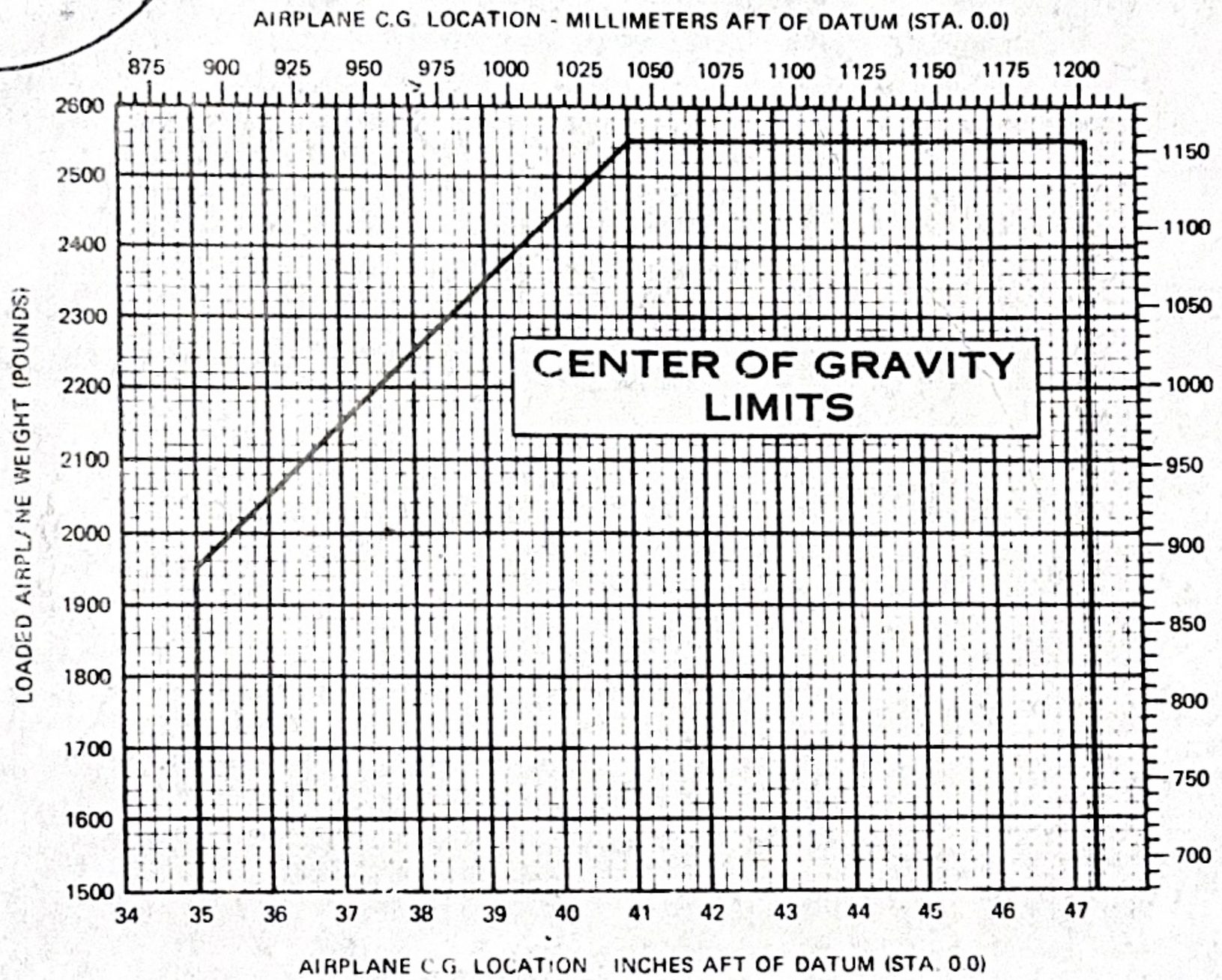
SECTION V - Weight and Balance - See Page 3.

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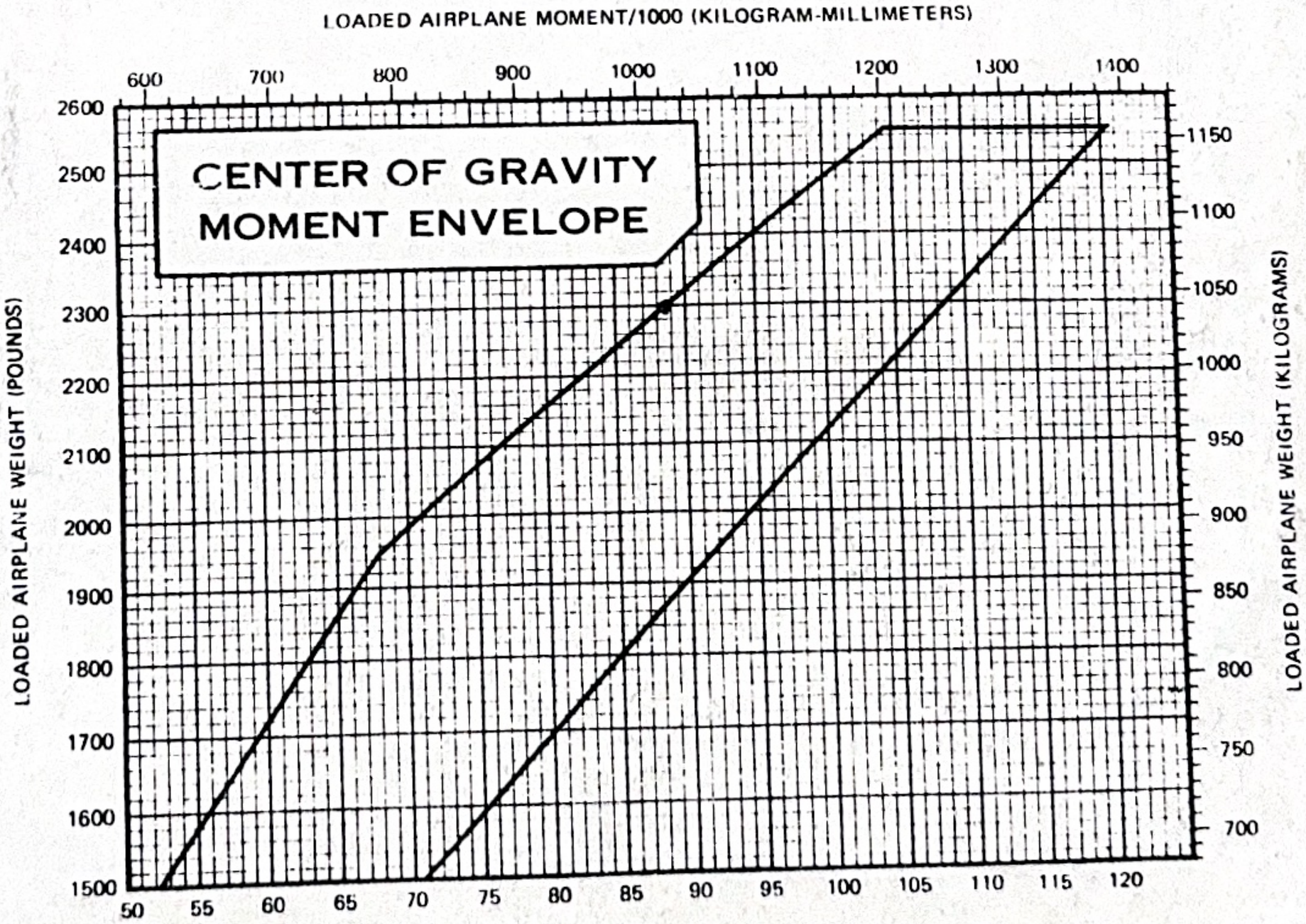
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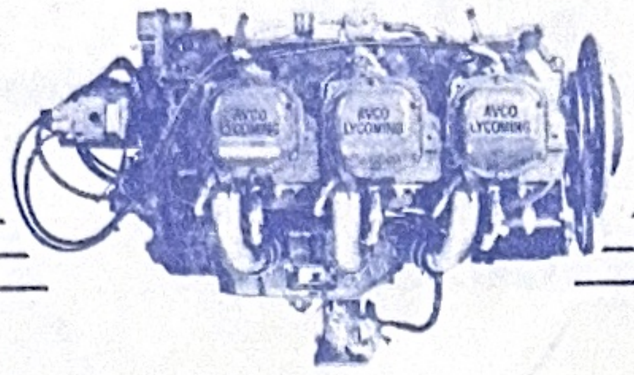
Center of Gravity Limits



Center of Gravity Moment Envelope

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PENN YAN AERO SERVICE, INC.



Airport
2499 Bath Road
PENN YAN, N. Y. 14527-9599

Approved **Lycoming** *Continental* Engine Rebuild Center

PHONE 315 536-2333

APPROVED REPAIR STATION #1400

1/17/86

Revised Weight and Balance Report

N 738VN 172N S/N 17270273

	Weight	Arm	Moment
Aircraft weight as of 12/9/77	1479.4	39.1	57858
Installed Penn Yan Aero 180 Superhawk STC SA703GL	16.0	-30.53	-488.48

New Empty Weight	1495.4
Empty Wt. C. G.	38.36
Empty Wt. Moment	57369.52
New Useful Load	1054.6

Howard G. Frum c/t

Howard G. Frum
Chief Inspector
Penn Yan Aero Service

PENN YAN AERO SERVICE, INC.

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INSTRUCTIONS FOR N AND P MODEL 172 AIRCRAFT

After completing the installation of the O-360 engine and the 76EM8SPY Propeller, the gross weight of the 172 N and P models may be increased to 2550 pounds.

To increase the gross weight of the N and P model aircraft, the following instructions must be complied with:

1. A. For the 172 N model: Limit the flap travel to 30° maximum +0°, -2° by adjusting the flap down limit switch in the wing. Follow the instructions for adjusting the flaps as directed in the Cessna Service Manual.

   B. For the 172 N model: Replace all placards implying 40° flap travel with placards implying 30°. Install a placard adjacent to the flap position selector switch on the instrument panel. Placard must read "Maximum Flap Travel is 30°".

2. For the 172 N and P model: Replace all three tires with 6 ply tires as specified for the 172Q. Refer to the current 172 Cessna Parts Manual.

3. A. For 172 N aircraft with Serial Numbers 17271034 and below, install the "180 SUPERHAWK" Supplemental Airplane Flight Manual in the aircraft.

   B. For 172 N aircraft with Serial Numbers 17271035 and above, install the "180 SUPERHAWK" supplement to the Pilot's Operating Handbook and FAA Approved Flight Manual.

June 27, 1985

PROPELLER BULLETIN

Sensenich Corp. **Lancaster, Pa.** 17604

P.O. Box 1168 (717) 569-0435

FIXED-PITCH METAL PROPELLERS
INSTRUCTIONS FOR USE AND CARE

Supersedes previous Use & Care Instructions
Service Bulletins and Airworthiness Directives are not affected by these instructions

Your Sensenich propeller has been manufactured under closely controlled conditions to the approved design in accordance with the applicable FAA Regulations. Stamped on the propeller hub face are the Model and Serial Number, the Type Certificate Number, and the Production Certificate Number (Sensenich Corp. P.C. No. 1).

DO

1. Have your propeller installed by an A. & P. mechanic. For convenience, the proper installation bolt torque is shown on the blade decal near the hub. Always have blade track checked after the hub bolts are tightened. **Note:** Every propeller is accurately balanced at the factory. If the propeller-engine combination feels rough in flight, ask your mechanic to remove the propeller, rotate it 180 degrees on the engine crankshaft flange, and re-install. Again check blade track. If the blades track, this will verify trueness of the crankshaft flange.

2. Inspect the blades of the propeller before each flight for nicks, cuts, and stone bruises. Have minor repairs* promptly performed by an A. & P. mechanic. If a crack is discovered, **THE PROPELLER MUST BE IMMEDIATELY REMOVED FROM SERVICE.**

3. Have major repairs* performed by an FAA Certificated Propeller Repair Station or by the factory.

4. Conform to applicable RPM limitations and periodically have your tachometer checked for accuracy.

5. Frequently wipe the propeller blades clean with an oily rag. This oily wipe will remove corrosive substances, and the oily residue will repel water and corrosives.

6. The recommended flight-time between reconditioning for your Sensenich fixed-pitch metal propeller is One Thousand hours **PROVIDED IT HAS NOT RECEIVED PRIOR DAMAGE REQUIRING IMMEDIATE ATTENTION.** This accomplishes the removal of fatigued surface metal and the accumulation of small nicks and cuts too numerous to be repaired individually.

DO NOT

1. Permit installation of a propeller unless it is the model approved under the Aircraft Type Certificate and has been obtained from a reliable source. **Beware** of a propeller of unknown service history.

2. Push or pull on the propeller when moving an aircraft by hand.

3. Run up your engine/propeller over loose stones or gravel.

4. Paint over corroded or damaged blade. This hides the defect and may deter needed repair.

5. Permit repair of blade damage by peening or welding. **These practices will lead to early blade failure.**

6. Fly your aircraft under any circumstance before a thorough inspection by qualified personnel if the propeller has been subjected to impact.

7. Have your propeller straightened except by a FAA Certificated Propeller Repair Station or the factory. Even partial straightening of blades for convenience of shipping to a repair station may cause hidden damage which, if not detected, could result in the return to service of a non-airworthy propeller. **Report anything of this nature before repair is initiated.**



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Approved **Lycoming** *Continental* Engine Overhaul

PHONE 315 536-2333

APPROVED REPAIR STATION #1400

INFORMATION BULLETIN

The first paragraph of our STC installation instructions says to purchase CURRENT Cessna and Lycoming Parts and Service Manuals. The current 172 parts manual contains information on the 180 HP Cessna 172Q aircraft.

It is our contention that the installer must thoroughly study these manuals prior to beginning the job and then refer to them as he works along. The technician will then have adequate information and background to complete a proper STC modification.

We have had several occurences of customers requesting information from us that is contained in these manuals. The implication to us is that the current manuals were not obtained and/or studied. Our instructions are FAA approved as part of the STC. Reference to current manuals should therefore be considered mandatory.

We strongly recommend that you purchase them in "hard copy" format rather than the aerofiche. A "real manual" is much easier to read, reference and work with. Also, you can make notes in the "real manual".

The proper ring gear / support assembly to use for the O-360 engine with the Cessna alternator and the geared starter is Lycoming P/N LW-16471 or 77579 or 75030 or equivilent.