

PITTS AVIATION ENTERPRISES, INC.

AIRPLANE FLIGHT MANUAL

MODEL S-2A AIRPLANE

*Pitts*  
**S-2A**

FAA APPROVED:

*John F. Vogel*  
CHIEF, ENGINEERING AND  
MANUFACTURING BRANCH,  
SOUTHERN REGION,  
FEDERAL AVIATION AGENCY

DATE: 11, June, 1971

70202-001

LOG OF REVISIONS

| REVISION LETTER | PAGES AFFECTED       | DESCRIPTION OF CHANGE                       | APPROVAL AND DATE   |
|-----------------|----------------------|---|---|
| A               | 8 of 9               | add radio opt.                              | <i>John F. Vogel</i><br>Chief, Engineering and Manufacturing Branch<br>Southern Region, FAA<br>Date <u>1 December 1971</u>      |
| B               | i, 1 of 9            | Alternate equip. noted                      | <i>Don C. Swabner</i><br>Acting Chief<br>Engineering and Manufacturing Branch<br>Southern Region, FAA<br>Date: April 3, 1974    |
| C               | i, 2 of 9            | correct oil temp limits                     | <i>John F. Vogel</i><br>Chief, Engineering and Manufacturing Branch<br>Southern Region, FAA<br>Date: December 9, 1975           |
| D               | i, 1 of 9            | Engine designation change                   | <i>J. E. McLowen</i><br>Acting Chief,<br>Engineering and Manufacturing Branch<br>Southern Region, FAA<br>Date: October 29, 1976 |
| E               | i, 2 of 9,<br>9 of 9 | adds placard for RPM Limitations            | <i>Lester H. Bowen</i><br>Acting Chief, Eng. and Mfg. Branch Rocky Mountain Region, FAA<br>August 31, 1978                      |
| F               | i, 1 of 9            | Engine designation change                   | <i>James B. Chudy</i><br>Acting Chief, Eng. and Mfg. Branch Rocky Mountain Region, FAA<br>November 29, 1979                     |
| G               | i, 1 of 9,<br>2 of 9 | adds information for normal operating power | <i>James B. Chudy</i><br>Acting Chief, Eng. and Mfg. Branch Rocky Mountain Region, FAA<br>January 20, 1980                      |
| H               | i, 9 of 9            | adds additional spin placard                | <i>James B. Chudy</i><br>Acting Chief, Eng. and Mfg. Branch Rocky Mountain Region, FAA<br>October 25, 1980                      |

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SECTION I OPERATING LIMITATIONS

A. Airspeeds:

|   | <u>CAS</u>           |
|---|----------------------|
| Normal operating range (green arc) from stall speed:            | 58 MPH<br>50 Knots   |
| To maximum normal operating speed:                              | 154 MPH<br>134 Knots |
| Caution range (yellow arc) from maximum normal operating speed: | 154 MPH<br>134 Knots |
| To never exceed speed:  | 203 MPH<br>176 Knots |
| Never exceed speed (red radial)                                 | 203 MPH<br>176 Knots |

FOR ACROBATIC MANEUVER ENTRY SPEEDS SEE PLACARDS SECTION

B. Powerplant Limits:

For Lycoming IO-360-A1A engine as modified by STC No. SE469S0 and Hartzell HC-C2YK-4/C7666A-2, or HC-C2YK-4AF/FC7666A-2 propeller. Propeller min. diameter is 72 in. Propeller max. diameter is 74 in.  
 or  
 For Lycoming AEIO-360-A1A engine or AEIO-360-A1E and Hartzell HC-C2YK-4AF/FC7666A-2 propeller. Propeller min. diameter is 72 in. Propeller max. diameter is 74.

|   |   |
|---|---|
| <u>Propeller Pitch Settings:</u><br>(Measured at 30 in. sta.) | High Pitch: $24^{\circ} + \frac{1}{2}^{\circ}$<br>Low Pitch: $13 \frac{1}{2}^{\circ}$ |
| <u>Engine Rated Power:</u>                                    | 200 HP at 2700 RPM  |
| <u>Normal Operating Power:</u>                                | 150 HP at 2400 RPM  |
| <u>Minimum Fuel Grade:</u>                                    | 100 Octane  |
| <u>Oil Pressure:</u>  |   |
| Minimum (red radial)  | 25 PSI  |
| Caution Range (yellow arc)                                    | from 25 PSI<br>to 60 PSI  |
| Normal Range (green arc)                                      | from 60 PSI<br>to 90 PSI  |

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SECTION I OPERATING LIMITATIONS

B. Powerplant Limits (cont'd)

Oil Pressure (cont'd)

|                            |      |         |
|----------------------------|------|---------|
| Caution range (yellow arc) | from | 90 PSI  |
|                            | to   | 100 PSI |

|                      |  |         |
|----------------------|--|---------|
| Maximum (red radial) |  | 100 PSI |
|----------------------|--|---------|

Oil Temperature:

|                      |  |            |
|----------------------|--|------------|
| Maximum (red radial) |  | 245 Deg. F |
|                      |  | 118 Deg. C |

|                          |      |            |
|--------------------------|------|------------|
| Normal range (green arc) | from | 100 Deg. F |
|                          |      | 38 Deg. C  |
|                          | to   | 245 Deg. F |
|                          |      | 118 Deg. C |

Fuel Pressure:

|         |  |       |
|---------|--|-------|
| Minimum |  | 0 PSI |
|---------|--|-------|

|                          |      |        |
|--------------------------|------|--------|
| Normal range (green arc) | from | 0 PSI  |
|                          | to   | 12 PSI |

|                      |  |        |
|----------------------|--|--------|
| Maximum (red radial) |  | 12 PSI |
|----------------------|--|--------|

Tachometer:

|                  |  |         |
|------------------|--|---------|
| Recommended idle |  | 650 RPM |
|------------------|--|---------|

|                           |      |          |
|---------------------------|------|----------|
| Normal range (green arcs) | from | 500 RPM  |
|                           | to   | 2000 RPM |

|     |      |          |
|-----|------|----------|
| and | from | 2350 RPM |
|     | to   | 2400 RPM |

|                                      |      |          |
|--------------------------------------|------|----------|
| Avoid continuous operation (red arc) | from | 2000 RPM |
|                                      | to   | 2350 RPM |

|   |  |          |
|---|--|----------|
| Avoid continuous operation (red arc) above 2600 RPM in aerobatic flight |  |          |
| Do not exceed (red radial)  |  | 2700 RPM |

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SECTION I OPERATING LIMITATIONS

C. Weights

|   |    |           |
|---|----|-----------|
| Maximum gross weight (Acrobatic category)                         |    | 1500 LBS. |
| Maximum gross weight (Normal category)                            |    | 1575 LBS. |
| Design empty weight, dry, no fuel, no oil                         |    | 1007 LBS. |
| Design empty weight dry center of gravity is at fuselage station: | FS | 87.89     |

NOTE: Reference station, FS 0.00 is located 97.81 inches forward of leading edge of lower wing.

|   |               |              |
|---|---------------|--------------|
| Maximum oil                             | 2 U.S. gals.  | 15 LBS.      |
| Fuel tank capacity                      | 24 U.S. gals. | 144 LBS.     |
| Crew of two plus parachutes             |               | (ACTUAL WT.) |
| Baggage, maximum                        |               | 20 LBS.      |
| Design useful load (Acrobatic category) |               | 493 LBS.     |
| Design useful load (Normal category)    |               | 568 LBS.     |

NOTE: NO ACROBATIC MANEUVERS WITH BAGGAGE.

|                            |               |          |
|----------------------------|---------------|----------|
| Usable fuel, normal flight | 23 U.S. gals. | 138 LBS. |
|----------------------------|---------------|----------|

(See Section V, "Weight and Balance", Model S-2A Airplane, for allowable weight and center of gravity combinations and detail loading instructions.)

Weight and Center of Gravity Limits: (Acrobatic category)

Most forward limit:

FS 92.35 (16.3% mac) at 1350 lbs. or less;

Most forward at maximum gross weight:

FS 95.58 (24.7% mac) at 1500 lbs.;

Most rearward at maximum gross weight:

FS 96.50 (27.0% mac) at 1500 lbs.;

Most rearward limit:

FS 97.12 (28.7%) at 1440 lbs. or less; with straight line variation between points given.

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SECTION I OPERATING LIMITATIONS

C. Weights (cont'd)

Weight and Center of Gravity Limits: (Normal category)

Most forward limit:

FS 92.35 (16.3% mac) at 1350 lbs. or less;

Most forward at maximum gross weight:

FS 94.5 (21.8% mac) at 1575 lbs.;

Most rearward at maximum gross weight:

FS 96.13 (24.4% mac) at 1575 lbs.;

Most rearward:

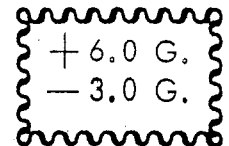
FS 97.50 (29.6% mac) at 1472 lbs. or less; with straight line variation between points given.

D. Flight Load Factors:

(Acrobatic category)

Positive flight, limit

Negative flight, limit



Maneuvers and entry speeds:

See Section IV, "Placards".

E. Flight Load Factors:

(Normal category)

Positive flight, limit

Negative flight, limit

+ 3.80 G.

- 1.52 G.

F. Flight Limitations:

This airplane must be operated as a day VFR airplane only. Flight into known icing conditions is prohibited.

G. Usable Fuel:

Of the 24 U. S. gallon fuel tank capacity, 23 gallons are usable during all normal flight conditions. Unusable fuel, normal flight: 1 U.S. Gal.

NOTE: Do not perform low altitude acrobatics with less than 1/4 tank of fuel on board.

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SECTION II OPERATING PROCEDURES

A. NORMAL PROCEDURES

a. Starting Engine

- |   |               |
|---|---------------|
| 1. Alternate Air:   | OFF           |
| 2. Propeller governor control:  | HIGH RPM      |
| 3. Fuel Selector:   | ON            |
| 4. Throttle:  | OPEN 1/4 FULL |
| 5. Mixture:   | FULL RICH     |
| 6. Boost Pump:  | ON,           |
| until positive fuel pressure is noted, then:                          | OFF           |
| 7. Mixture:   | IDLE CUT-OFF  |
| 8. Crank Engine with Starter  |               |
| 9. When Engine fires, move mixture control<br>slowly and smoothly to: | FULL RICH     |

b. Ground Running and Warm-Up:

To prevent overheating, follow these procedures:

- |  |               |
|--|---------------|
| 1. Head airplane into wind               |               |
| 2. Mixture                               | FULL RICH     |
| 3. Propeller governor control            | HIGH RPM      |
| 4. Warm up at approx.                    | 1000-1200 RPM |
| Avoid prolonged idling and do not exceed | 2200 RPM      |

NOTE: Hot idle oil press. 25 PSI min.

c. Take-Off:

- |   |           |
|---|-----------|
| 1. Warm-up as above   |           |
| 2. Oil pressure:  | GREEN ARC |
| 3. Oil temperature:   | GREEN ARC |
| 4. Mixture control:   | FULL RICH |
| 5. Elevator trim:   | NEUTRAL   |
| 6. Flight controls:   | FREE      |
| 7. Set throttle to 1700 RPM and move propeller<br>governor control through full range and<br>return to: | HIGH RPM  |
| 8. Magneto check: with propeller set at high<br>RPM, set throttle to produce:                           | 2200 RPM  |



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SECTION II OPERATING PROCEDURES

A. NORMAL PROCEDURES (cont'd)

c. Take-Off: (cont'd)

9. Switch magnetos from both to one and note drop-off, return to both until engine regains speed and switch to other magneto and note drop-off, then return to both.

|   |         |
|---|---------|
| Normal drop-off is:                         | 100 RPM |
| Maximum drop-off is:                        | 175 RPM |
| Difference in drop-off between Magnetos is: | 50 RPM  |

10. Throttle: FULL OPEN

d. Landing:

- |                       |           |
|-----------------------|-----------|
| 1. Mixture control:   | FULL RICH |
| 2. Propeller control: | HIGH RPM  |

e. Engine Shut-Down:

- |                     |              |
|---------------------|--------------|
| 1. Throttle:        | CLOSED       |
| 2. Mixture control: | IDLE CUT-OFF |
| 3. Master switch:   | OFF          |
| 4. Ignition switch: | OFF          |

B. EMERGENCY PROCEDURES

a. In-Flight Engine Restart:

- |   |               |
|---|---------------|
| 1. Pull mixture control to:   | IDLE CUT-OFF  |
| 2. Establish glide at:  | 100 MPH IAS   |
| 3. Fuel selector:   | ON            |
| 4. Master switch:   | ON            |
| 5. Throttle:  | OPEN 1/4 FULL |
| 6. Engage starter to start propeller windmilling, if it is not turning. |               |
| 7. Advance mixture control to:  | FULL RICH     |

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SECTION II OPERATING PROCEDURES

B. EMERGENCY PROCEDURES (cont'd)

b. Freezing of Pitot-Static Head:

In the event of icing of the static orifices on the pitot-static head, an alternate source of static pressure is provided.

To open the alternate static air pressure source, turn the indicated valve on the left-hand side of the rear instrument panel counter-clockwise to full open.

c. Best Glide Speed, Engine-out, is: 97 MPH IAS

d. NOTE: Stall warning inoperative with master switch off.

SECTION III PERFORMANCE INFORMATION

A. Altitude loss during power-off stalls: 200 FT.

B. Power-off stalling speed versus bank-angle, at 1575 lbs. gross weight and forward gross C.G.:  
Normal Category.

| <u>BANK ANGLE</u> | <u>STALLING SPEED</u> |
|-------------------|-----------------------|
| 0°                | 61 MPH CAS            |
| 30°               | 66 MPH CAS            |
| 45°               | 73 MPH CAS            |
| 60°               | 86 MPH CAS            |

Power-off stalling speed versus bank-angle, at 1500 lbs. gross weight and forward gross C.G.:

Acrobatic Category.

| <u>BANK ANGLE</u> | <u>STALLING SPEED</u> |
|-------------------|-----------------------|
| 0°                | 58 MPH CAS            |
| 30°               | 62 MPH CAS            |
| 45°               | 69 MPH CAS            |
| 60°               | 82 MPH CAS            |

C. Demonstrated flight-time, inverted is: 3 minutes


D. Demonstrated cross-wind velocity is: 20 MPH

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SECTION IV PLACARDS

The following placards are installed in the airplane:

1. Adjacent to fuel selector valve handle in both cockpits:  
 "Fuel Select"  
 "23 gals. usable"  
 "ON" ; "OFF"
2. Adjacent to airspeed indicator: "Design maneuver speed 154 MPH":  
 "Demonstrated crosswind velocity 20 MPH".
3. On inside of baggage compartment door: "No acrobatics with baggage",  
 "Max. baggage 20 lbs."
4. Adjacent to fuel filler neck: "Fuel 100/130 Octane. 23 gals.usable".
5. On left hand side of rear instrument panel adjacent to alternate static source valve: "Open for alternate static ".
6. On fairing stringer on L. H. side of rear cockpit adjacent to mixture control: "Pull for lean mixture".
7. On fairing stringer on R. H. side of rear cockpit adjacent to engine alternate inlet air control: "Pull for alternate air".
8. On elevator trim control quadrant: "Nose Up", "Neutral", "Nose Down".
9. On throttle quadrant: "Open", "Throttle", "Closed".
10. On both instrument panels: "No Smoking".
11. On front instrument panel: "Solo Rear Seat Only".
12. On junction box in rear panel adjacent to the appropriate switches:  
 "Boost Pump Switch", "ON", "OFF".  
 "Alternator Field Switch", "ON", "OFF".  
 "Master Switch", "ON", "OFF".
13. On junction box in rear cockpit adjacent to appropriate circuit breakers:  
 "Alternator",  
 "Alternator Field",  
 "Boost Pump",  
 "Stall Warning",  
 "Radio", (if installed).

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SECTION IV PLACARDS (cont'd)

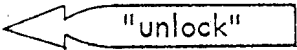
14. On left hand side of rear cockpit coaming in clear view of pilot:

This airplane must be operated as a normal or an acrobatic category airplane in compliance with the operating limitations stated in the form of placards markings and manuals. All markings and placards on this airplane apply to its operation as an Acrobatic Category Airplane. For Normal Category operations refer to the Approved Airplane Flight Manual. Operations limited to day VFR conditions. Flight into known icing conditions prohibited.

APPROVED MANEUVERS AND RECOMMENDED ENTRY SPEEDS:(MPH)

| MANEUVER         | INSIDE              |      | OUTSIDE |      |
|------------------|---------------------|------|---------|------|
|                  | MAX.                | MIN. | MAX.    | MIN. |
| LOOP (UP)        | 180                 | 130  | 180     | 130  |
| LOOP(DOWN)       | 100                 | 70   | 100     | 70   |
| SLOW ROLL        | 180                 | 100  | 180     | 100  |
| BARREL ROLL      | 180                 | 130  | 180     | 130  |
| SNAP ROLL        | 140                 | 90   | 110     | 90   |
| HAMMERHEAD       | 180                 | 130  | 180     | 130  |
| LAZY EIGHT       | 180                 | 140  | 180     | 140  |
| CHANDELLE        | 180                 | 140  | 180     | 140  |
| STALLS AND SPINS | (SLOW DECELERATION) |      |         |      |

For spin recovery put ailerons neutral, apply full opposite rudder briskly and then apply nose down elevator. Use power off for all spin recoveries.

15. Adjacent to propeller governor control, in both cockpits:  
 "Push for High RPM", and 

16. "No acrobatic maneuvers (including spins) are approved for normal category operations". (Immediately aft of placard number 14.)

17. On right side of instrument panel adjacent to tachometer  
 "Avoid continuous operation between 2000 and 2350 RPM.  
 Above 2600 RPM in aerobatic flight."

18. "For flat spins use aileron with the spin for recovery"  
 (Immediately aft of placard number 14 and below placard 16.)

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SECTION V            WEIGHT AND BALANCE

ACTUAL WEIGHT AND BALANCE OF:

MODEL:            PITTS S-2A

SERIAL NO.: 2085

DATE: 12-19-2008

PREPARED BY: E. F. Dearing  
E. F. Dearing,  
Chief Engineer

CHECKED BY: Aviat Aircraft Inc

APPROVED BY: C. H. Pitts  
C. H. Pitts,  
President

NOTE: It is the responsibility of the pilot to ensure that his airplane is operated in loading configurations which are within the approved weight and center of gravity limits.

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SECTION V            WEIGHT AND BALANCE

LOG OF REVISIONS

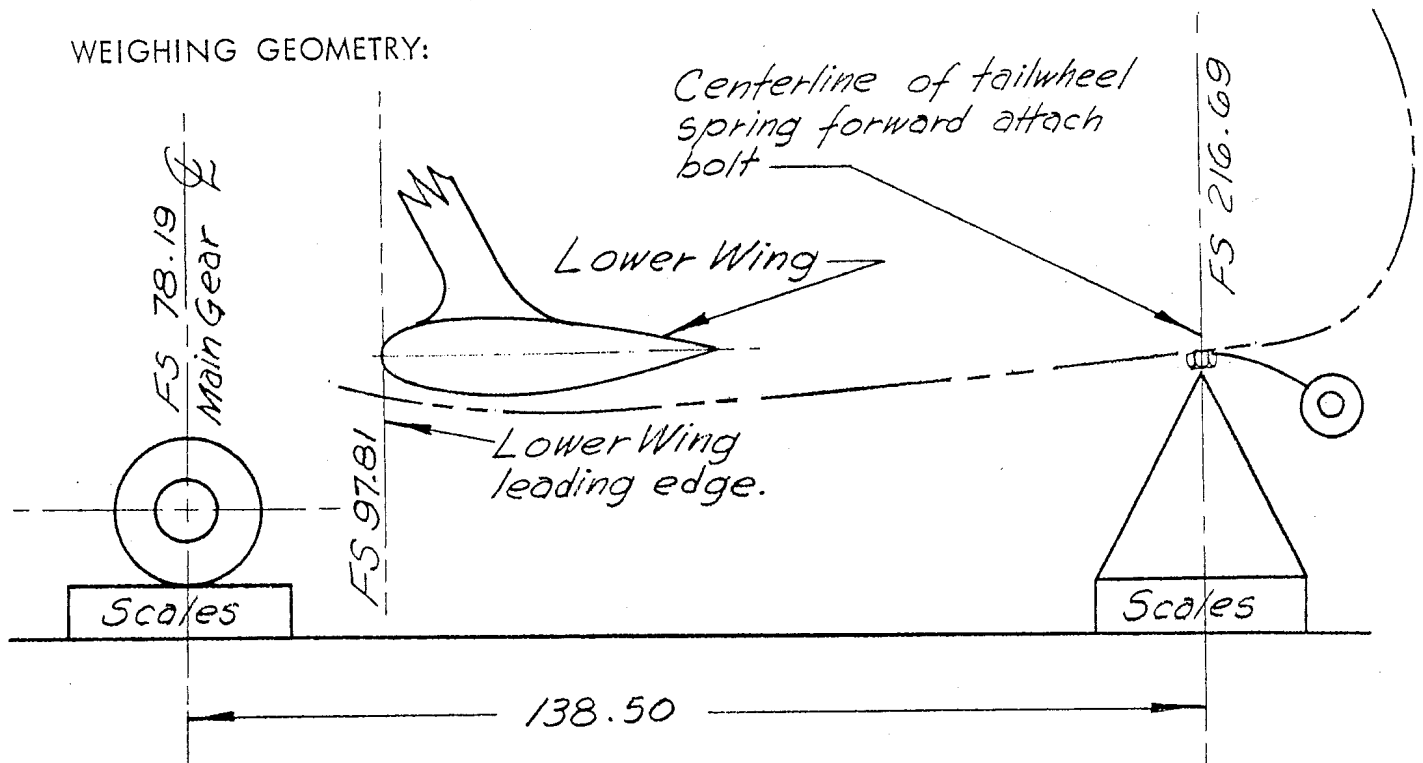
| REVISION LETTER | PAGES AFFECTED              | DESCRIPTION OF CHANGE                    | APPROVAL AND DATE |
|-----------------|-----------------------------|--|-------------------|
| A               | 3 thru 17                   | retyped, renumbered, expand equip. list. | EFD 1 Dec. 1971   |
| B               | 2 of 17, 12 of 17, 14 of 17 | alternate equip. noted                   | EFD 15 Feb. 1974  |
| C               | 2 of 17, 14 of 17           | opt. equip. added                        | EFD 15 Nov. 1975  |
| D               | 12, 13, 14, 14.1 of 17      | Equip. list rev.                         | EFD 21 Jan. 1976  |
| E               | 2, 12, 14, 14.1 of 17       | Equip. list rev.                         | EFD 13 Oct. 1976  |
| F               | 2, 12, 13, 14, 14.1 of 17   | Equip. list rev.                         | EHA 6 Oct 1977    |
| G               | 14.1 of 17                  | Equip. list rev.                         | EHA 1 Apr. 1978   |
| H               | 2 & 12 of 17                | Equip. list rev.                         | EHA 20 May 1979   |
| I               | 2 & 12 of 17                | Equip. list rev.                         | EHA 15 Nov 1979   |
|                 |                             |  |                   |
|                 |                             |  |                   |

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SECTION V WEIGHT AND BALANCE

Airplane Serial Number: 2085

WEIGHING GEOMETRY:



Datum is 97.81 inches forward of lower wing leading edge.

Weighing performed with airplane level.

Level airplane on upper longerons at rear cockpit.

A. Empty Weight As Weighed:

| SCALE                            | READING   | TARE       | NET        |
|----------------------------------|-----------|------------|------------|
| Left Main                        | 482.0 lb. | - 0.5 lb.  | 481.5 lb.  |
| Right Main                       | 479.5 lb. | - 0.5 lb.  | 479.0 lb.  |
| Tail                             | 104.0 lb. | - 33.0 lb. | 71.0 lb.   |
| Empty weight as weighed is total |           |            | 1031.5 lb. |

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## SECTION V WEIGHT AND BALANCE

Airplane Serial Number: 2085A. Empty Weight As Weighed (cont'd) $\bar{X}$  C.G. As Weighed:

$$\bar{x} \text{ c.g.} = \frac{(\text{left main net} + \text{right main net}) 78.19 + (\text{tail net}) 216.69}{\text{total net}}$$

$$\bar{x} \text{ c.g.} = \frac{(\text{ } 960.5 \text{ } ) 78.19 + (\text{ } 71.0 \text{ } ) 216.69}{(1031.5)}$$

$$\bar{x} \text{ c.g.} = (\text{ } 90486 \text{ } ) / (\text{ } 1031.5 \text{ } );$$

$$\bar{x} \text{ c.g.} = \underline{\text{ } 87.72 \text{ }} \text{ inches aft of datum, as weighed.}$$

Standard Zero-Fuel Weight And Moment:

$$\text{As-weighed weight, net, (page 3)} = \underline{\text{ } 1031.5 \text{ }} \text{ lb.}$$

$$\begin{aligned} \text{As-weighed moment} &= (\text{as-weighed weight}) (\bar{x} \text{ c.g.}) \\ &= (\text{ } 1031.5 \text{ } ) (\text{ } 87.72 \text{ } ) \\ &= \underline{\text{ } 90486 \text{ }} \text{ in-lb.} \end{aligned}$$

The as-weighed weight and moment above includes the following items:

1. Radio (optional):

YES NO 

|                    |                 |                       |
|--------------------|-----------------|-----------------------|
| <u>Weight, lb.</u> | <u>Arm, in.</u> | <u>Moment, in-lb.</u> |
| 7.0                | 120.00          | 840                   |

2. Engine oil:

|                    |                 |                       |
|--------------------|-----------------|-----------------------|
| <u>Weight, lb.</u> | <u>Arm, in.</u> | <u>Moment, in-lb.</u> |
| ( gal. ) ( - )     | 54.81           | ( - )                 |

NOTE: Full oil is as follows:

2 gal. 15 lb.

54.81

822 in-lb.

Rev. A



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## SECTION V WEIGHT AND BALANCE

Airplane Serial Number: 2085A. Standard Zero-Fuel Weight And Moment(cont'd)

## 3. Fuel:

|  |                                 |  |
|--|---------------------------------|--|
| $\frac{\text{Weight, lb.}}{\text{( gal. )}}$ | $\frac{\text{Arm, in.}}{80.81}$ | $\frac{\text{Moment, in-lb.}}{\text{( - )}}$ |
|--|---------------------------------|--|

The following zero-fuel weight is for Pitts Model S-2A Airplane Serial No. 2085, with two gallons of oil, zero fuel, (with) (without) radio, no pilots, no baggage:

|                      | WEIGHT, LB. | MOMENT, IN-LB. |
|----------------------|-------------|----------------|
| As-weighed           | 1031.5      | 90486          |
| Oil Correction       |             |                |
| Fuel Correction      |             |                |
| Other Correction (1) |             |                |
| Standard, Zero-fuel  | 1031.5      | 90486          |

(1) : Other Correction:

Equipped Weight Empty:

The equipped weight empty of the airplane is the standard zero-fuel weight of the above, plus one gallon, (six lbs.) of normal unusable fuel, and includes 8 quarts oil.

|                       | WEIGHT, LB. | MOMENT, IN-LB. |
|-----------------------|-------------|----------------|
| Standard Zero-Fuel    | ( 1031.5 )  | ( 90486 )      |
| Normal Unusable Fuel  | 6.0         | 485            |
| Equipped Weight Empty | 1037.5      | 90971          |

Rev. A

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

Airplane Serial Number: 2085

A. Allowable Weight and Center of Gravity:

The allowable weight and center of gravity envelope to which the Model S-2A is FAA Type Certificated in the ACROBATIC CATEGORY is defined by the following points:

| At Most Forward C.G.:                 |           |        |       |
|---------------------------------------|-----------|--------|-------|
| Weight, Lb.                           | Arm, F.S. | Moment | % MAC |
| 1350                                  | 92.35     | 124673 | 16.3  |
| At Most Forward and Max. Gross C.G.:  |           |        |       |
| 1500                                  | 95.58     | 143370 | 24.7  |
| At Most Rearward and Max. Gross C.G.: |           |        |       |
| 1500                                  | 96.50     | 144750 | 27.0  |
| At Most Rearward C.G.:                |           |        |       |
| 1440                                  | 97.12     | 139853 | 28.7  |

The allowable weight and center of gravity envelope to which the Model S-2A is FAA Type Certificated in the NORMAL CATEGORY is defined by the following points:

| At Most Forward C.G.:                 |           |        |       |
|---------------------------------------|-----------|--------|-------|
| Weight, Lb.                           | Arm, F.S. | Moment | % MAC |
| 1350                                  | 92.35     | 124673 | 16.3  |
| At Most Forward and Max. Gross C.G.:  |           |        |       |
| 1575                                  | 94.50     | 148838 | 21.8  |
| At Most Rearward and Max. Gross C.G.: |           |        |       |
| 1575                                  | 96.13     | 151405 | 26.1  |
| At Most Rearward C.G.:                |           |        |       |
| 1472                                  | 97.50     | 143520 | 29.6  |

Rev. A

PITTS AVIATION ENTERPRISES, INC.  
AIRPLANE FLIGHT MANUAL  
MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

The following section of this manual has been provided for your convenience in determining the weight and center of gravity of the airplane for various loading configurations.

CAUTION

1. The envelope of Page 17 has been thoroughly investigated by Pitts Aviation, and by the Federal Aviation Agency, and the S-2A airplane has been found to comply with all flight and structural requirements of FAR 23, Acrobatic Category, within this envelope. Operation at weights or centers of gravity not within the envelope is legally prohibited, and may be dangerous.
2. Do not perform acrobatics with baggage.
3. Do not perform acrobatics with less than 1/4 tank of fuel on board.

For your convenience, several loading points for various configurations have been computed and plotted on the envelope of Page 17. These points are for example, and are based on an airplane dry empty weight of 1007 pounds, and a moment of 88505 in.-lb. which is typical; however, THE OWNER IS CAUTIONED TO BASE ACTUAL WEIGHT/C.G. CALCULATIONS FOR HIS AIRPLANE ON THE EQUIPPED WEIGHT EMPTY SHOWN AT THE BOTTOM OF PAGE 5.

TO DETERMINE YOUR WEIGHT AND C.G.:

1. Begin with the equipped weight empty of your airplane, shown at the bottom of Page 5. Record the weight and the moment.
2. From the plot on Page 16, (weight and moment due to pilots), locate the weights and moments corresponding to the actual weights of the pilots on board, including parachutes, if they are worn.
3. From the plot on Page 16, (weight and moment due to baggage), locate the weight and moment corresponding to the weight of baggage in the baggage compartment aft of the rear cockpit.

NOTE: No acrobatics with baggage.

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

TO DETERMINE YOUR WEIGHT AND C.G.: (cont'd)

4. Add these weight and moments as shown:

|                       | WEIGHT, LB. | MOMENT, IN-LB. |
|-----------------------|-------------|----------------|
| Equipped Weight Empty |             |                |
| Forward Pilot         |             |                |
| Aft Pilot             |             |                |
| Baggage               |             |                |
| Total                 |             |                |

5. Locate the total weight and moment point found in step 4. on the plot of Page 17. This point on the weight/C.G. envelope represents the airplane and its contents with zero usable fuel. Note that this point must not lie aft of the rear C.G. limit of the envelope of Page 17 .
6. To the weight obtained in step 4. above, (zero usable fuel), add the weight of the maximum usable fuel: 23 gals. times 6 lb/gal., or 138 pounds. Draw a line through the zero usable fuel point of step 5. above, parallel to the fuel-burnoff lines of the weight/C.G. envelope, extending the line upward to the left, to the weight corresponding to airplane and contents plus maximum usable fuel. This point must also be within the design weight and C.G. envelope of Page 17 . The two points obtained in steps 5. and 6. above, represent the configuration of the airplane at take-off with full fuel and at landing with zero usable fuel.

The above procedure is illustrated by the examples shown here:

Example #1.

CONFIGURATION:

140 lb. pilot + 20 lb. parachute in aft seat; no baggage.

Step 1: From bottom of Page 5 of 17 , equipped weight empty = 1028 lbs., and the corresponding moment is 89812 in-lb.

Step 2: From plot of Page 16 of 17 , for pilot plus chute of 160 lbs. in aft seat, read moment = 21850 in-lb.

Step 3: Weight and moment from baggage: NONE.

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

TO DETERMINE YOUR WEIGHT AND C.G.: (cont'd)

Example # 1. (cont'd)

Step 4: Add the results of steps 1 thru 3:

|   | WEIGHT | MOMENT |
|---|--------|--------|
| Equipped, Empty                             | 1028   | 89812  |
| Pilot, Aft                                  | 160    | 21850  |
| Baggage                                     | 0      | 0      |
| <hr/>                                       |        |        |
| Airplane and contents,<br>zero usable fuel: | 1188   | 111662 |

Step 5: Locate the point of step 4, (1188 lb. and 111662 in-lb.), on the chart of Page 17 of 17. Note that it is within the design envelope at Fuselage Station 93.99. (this point is labeled 1-B.)

Step 6: Weight and moment from fuel: (from plot, Page 15 of 17 :

|                        | WEIGHT      | MOMENT        |
|------------------------|-------------|---------------|
| Fuel (23 gal)          | 138         | 11152         |
| Plus (step 5)          | 1188        | 111662        |
| Total, with full fuel: | <u>1326</u> | <u>122814</u> |

Locate this point on the chart of Page 17 of 17, and label it 1-F. Since this point, (at fuselage station 92.62), is within the design envelope, the airplane is satisfactorily loaded for this example.

Example #2.

CONFIGURATION:

220 lb. aft pilot + 20 lb. parachute in aft seat; no baggage.

Step 1. From bottom of Page 5 of 17, equipped weight empty equal 1028 lb. and the corresponding moment is 89812 in-lb.

Step 2. From plot of Page 16 of 17, for pilot plus chute of 240 lb. in aft seat, read moment equals 32780 in-lb.

Step 3. Weight and moment from baggage: NONE

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

TO DETERMINE YOUR WEIGHT AND C.G.: (cont'd)

Example #2. (cont'd)

Step 4. Add the results of steps 1 thru 3:

|   | WEIGHT   | MOMENT   |
|---|----------|----------|
| Equipped, Empty                             | 1028     | 89812    |
| Pilot, Aft                                  | 240      | 32780    |
| Baggage                                     | <u>0</u> | <u>0</u> |
| Airplane and contents,<br>zero usable fuel: | 1268     | 122592   |

Step 5. Locate the point of step 4, (1268 lb. and 122592 in-lb), on the chart of Page 17 of 17 . (This point is labeled 2-E. Note that it is inside the design envelope at FS 96.68)

Step 6. Weight and moment from fuel: (from plot, Page 15 of 17 ).

|                        | WEIGHT      | MOMENT        |
|------------------------|-------------|---------------|
| Fuel (23 gal)          | 138         | 11152         |
| Plus (step 5)          | <u>1268</u> | <u>122592</u> |
| Total, with full fuel: | <u>1406</u> | <u>133744</u> |

Locate this point on the chart of Page 17 of 17 , and label it 2-F. Note that it is within the design envelope.

Example #3.

CONFIGURATION:

180 lb. pilot plus 20 lb. parachute in aft seat; 140 lb. pilot plus 20 lb. parachute in front seat, no baggage.

Step 1. From bottom of Page 5 of 17 , equipped weight empty equals 1028 lb., and the corresponding moment is 89812 in-lb.

Step 2. From plot of Page 16 of 17 , for pilot plus chute of 200 lb. in aft seat read moment equals 17380 in-lb.

Step 3. Weight and moment from baggage: NONE

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

TO DETERMINE YOUR WEIGHT AND C.G.: (cont'd)

Example #3. (cont'd)

Step 4. Add the results of steps 1 thru 3:

|   | WEIGHT   | MOMENT   |
|---|----------|----------|
| Equipped, Empty                             | 1028     | 89812    |
| Fwd. Pilot                                  | 160      | 17380    |
| Aft Pilot                                   | 200      | 27320    |
| Baggage                                     | <u>0</u> | <u>0</u> |
| Airplane and contents,<br>zero usable fuel: | 1388     | 134512   |

Step 5. Locate the point of step 4, (1388 lb and 134512 in-lb), on the chart of Page 17 of 17. This point is labeled 3-E. Note that it is inside the design envelope.

Step 6. Weight and Moment from Fuel: (from plot, page 15 of 17).

|                        | WEIGHT      | MOMENT        |
|------------------------|-------------|---------------|
| Fuel (23 gal)          | 138         | 11152         |
| Plus (step 5)          | 1388        | 134512        |
| Total, with full fuel: | <u>1526</u> | <u>145664</u> |

Locate this point on the chart of Page 17 of 17, and label it 3-F. Note that it is outside the acrobatic design envelope.

Step 7. This step is necessary because if the airplane were loaded to maximum usable fuel it would be outside the acrobatic design envelope, at point 3-F. Locate point 3-N along the fuel burnoff line where it crosses the acrobatic forward C.G. limit. Note the total weight at 3-F is 1526 lbs., or 26 lbs. heavier than at 3-N, 1500 lbs. From the plot of Page 15, read 26 lbs. of fuel equals 4.4 gallons, or 3/16 tank. You must therefore plan your flight so as to fly in Normal Category (no acrobatic maneuvers) until you have between 7/8 and 3/4 tank of fuel on board, after which you may operate in Acrobatic Category.

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

B. STANDARD AND OPTIONAL EQUIPMENT LIST

The Pitts Model S-2A airplane empty weight includes the following items of installed equipment.

The following equipment was installed in this airplane as delivered from the factory and is included in the empty weight.

CHECK ITEMS INSTALLED

- |     |   |        |       |     |   |    |       |
|-----|---|--------|-------|-----|---|----|-------|
| (X) | 1. <u>AIRPEED INDICATOR</u> (rear panel only)<br>(PER TSO-C2(b) or equiv.)              | Weight | .75   | lb. | @ | FS | 124.5 |
| (X) | 2. <u>ALTIMETER</u> (rear panel only)<br>(PER TSO C10(b) or equiv.)                     | Weight | 1.00  | lb. | @ | FS | 124.5 |
| (X) | 3. <u>COMPASS</u> (1) (rear panel only)<br>(AIRPATH P/N C-2300)                         | Weight | .50   | lb. | @ | FS | 124.5 |
| (X) | 4. <u>BRAKE MASTER CYLINDERS</u> (2)<br>(Scott P/N 4408)<br>(or Cleveland Model 10-19)  | Weight | 1.00  | lb. | @ | FS | 102.0 |
|     | 5. <u>12 V. BATTERY</u>   |        |       |     |   |    |       |
| ( ) | a) AN 3153-1A   | Weight | 30.0  | lb. | @ | FS | 154.8 |
| ( ) | b) Rebat S-25 with<br>Pitts fiberglass box P/N 2-1008                                   | Weight | 30.0  | lb. | @ | FS | 154.8 |
| ( ) | c) GEL/CELL GC-6200 (2)<br>6V 20A Installed IAW<br>Pitts Drwg.                          | Weight | 20.0  | lb. | @ | FS | 154.8 |
| ( ) | d) GEL/CELL U-128<br>12V 28A Installed IAW<br>Pitts Drwg. 7602                          | Weight | 23.0  | lb. | @ | FS | 154.8 |
| (X) | 6. <u>STARTER SOLENOID</u><br>Filko P/N SW-97 or Echlin ST-81                           | Weight | .75   | lb. | @ | FS | 150.8 |
|     | 7. <u>ENGINE</u>  |        |       |     |   |    |       |
| ( ) | a) Lycoming IO-360-A1A<br>Serials 2001 thru 2085  | Weight | 324.0 | lb. | @ | FS | 51.50 |
| ( ) | b) Lycoming AEIO-360-A1A<br>Serials 2086 thru 2205                                      | Weight | 329.0 | lb. | @ | FS | 51.50 |
| ( ) | c) Lycoming AEIO-360-A1E<br>Serials 2206 and up   | Weight | 332.0 | lb. | @ | FS | 51.50 |
| ( ) | 8. <u>PROPELLER</u><br>Hartzell HC-C2YK-4/C7666A-2 or<br>Hartzell HC-C2YK-4AF/FC7666A-2 | Weight | 58.0  | lb. | @ | FS | 35.00 |

Rev. I



PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

## SECTION V WEIGHT AND BALANCE

B. STANDARD AND OPTIONAL EQUIPMENT LIST (cont'd)

- 9.
- ( ) a) AF B-7 GAUGE  
 (rear panel only)  
 Oil Temperature, Oil Pressure, Fuel Pressure  
 Weight 2.80 lb. @ FS 124.5
- ( ) b) OIL PRESS/OIL TEMP GAUGE  
 U.S. Gauge P/N 092738  
 Weight 1.40 lb. @ FS 124.5
- ( ) c) MANIFOLD PRESS/FUEL PRESSURE  
 Edo-Aire P/N IU 028-055-14  
 Weight 1.40 lb. @ FS 124.5
- (X) 10. TACHOMETER (rear panel only)  
 AC Division of GM  
 P/N RT7  
 Weight .75 lb. @ FS 124.5
- (X) 11. AUXILIARY BOOST PUMP  
 Weldon Mfg. Co. P/N B-8100-C  
 or C-8100-C or C-8100-E  
 Weight 3.25 lb. @ FS 71.0
- (X) 12. MAIN GEAR WHEELS (2)  
 Cleveland P/N 40-78 or P/N 40-78B (PER TSO-C26(a): 500x5  
 Weight 8.00 lb. @ FS 78.2
- (X) 13. MAIN GEAR BRAKES (2)  
 Cleveland P/N 30-9  
 Weight 3.0 lb. @ FS 78.2
- (X) 14. MAIN GEAR TIRES (2)  
 5.00 x 5, 6 ply rating, type III, Tube Type  
 Weight 14.0 lb. @ FS 78.2
- (X) 15. TAILWHEEL UNIT  
 Maule SFS-1-4  
 Weight 9.5 lb. @ FS 230.0
- (X) 16. STALL WARNING INDICATOR UNIT  
 Safe-Flight No. 146  
 Weight 2 oz. @ FS 98.81

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

B. STANDARD AND OPTIONAL EQUIPMENT LIST (cont'd)

- (X) 17. STALL WARNING HORN (rear panel only)  
Safe-Flight Model "R" Weight 4 oz. @ FS 124.5
- ( ) 18. MANIFOLD PRESSURE GAUGE (rear panel only)  
AN 5770-1 Weight .50 lb. @ FS 124.5
19. CRASH LOCATOR BEACON  
 ( ) a) EB-2BCD, Dayton Aircraft Products  
 ( ) b) LEFT-1005-P, Larago Electronics  
 ( ) c) EBC-102A, Emergency Beacon Corp.  
 Weight 3.0 lb. @ FS 155.0
- ( ) 20. PROPELLER SPINNER  
Hartzell P/N 836-60 Weight 4.5 lb. @ FS 34.16
21. RADIO (aft side of front seat)  
 ( ) a) Genave Alpha 200 B Weight 5.0 lb. @ FS 120.0  
 ( ) b) Narco Escort 110 Weight 5.0 lb. @ FS 120.0  
 ( ) c) ----- Weight ----- lb. @ FS 120.0
22. ACCELEROMETER  
 ( ) a) Front Panel  
(AN 5745-2 or equiv.) Weight 1.0 lb. @ FS 97.5  
 ( ) b) Rear Panel  
(AN 5745-2 or equiv.) Weight 1.0 lb. @ FS 124.5
- ( ) 23. AIRSPPEED INDICATOR (Fwd. Panel)  
PER TSO C2b or equiv.) Weight .75 lb. @ FS 97.5
- ( ) 24. ALTIMETER (fwd. Panel)  
PER TSO C10b or equiv.) Weight 1.0 lb. @ FS 97.5
25. INTERCOM  
 ( ) a) PER Pitts drwg. 2-218 Weight (Neglig.) lb. @ FS 122.6  
 ( ) b) SIGTRONICS Weight ----- lb. @ FS -----
- ( ) 26. TACHOMETER (Fwd. Panel)  
A.C. Division of G.M. P/N RT7  
 Weight .75 lb. @ FS 97.5
- ( ) 27. COMPASS (fwd. panel)  
Airpath P/N C-2300 Weight .50 lb. @ FS 97.5

PITTS AVIATION ENTERPRISES, INC.  
 AIRPLANE FLIGHT MANUAL  
 MODEL S-2A AIRPLANE

SECTION V WEIGHT AND BALANCE

B. STANDARD AND OPTIONAL EQUIPMENT LIST (cont'd)

"OPTIONAL EQUIPMENT"

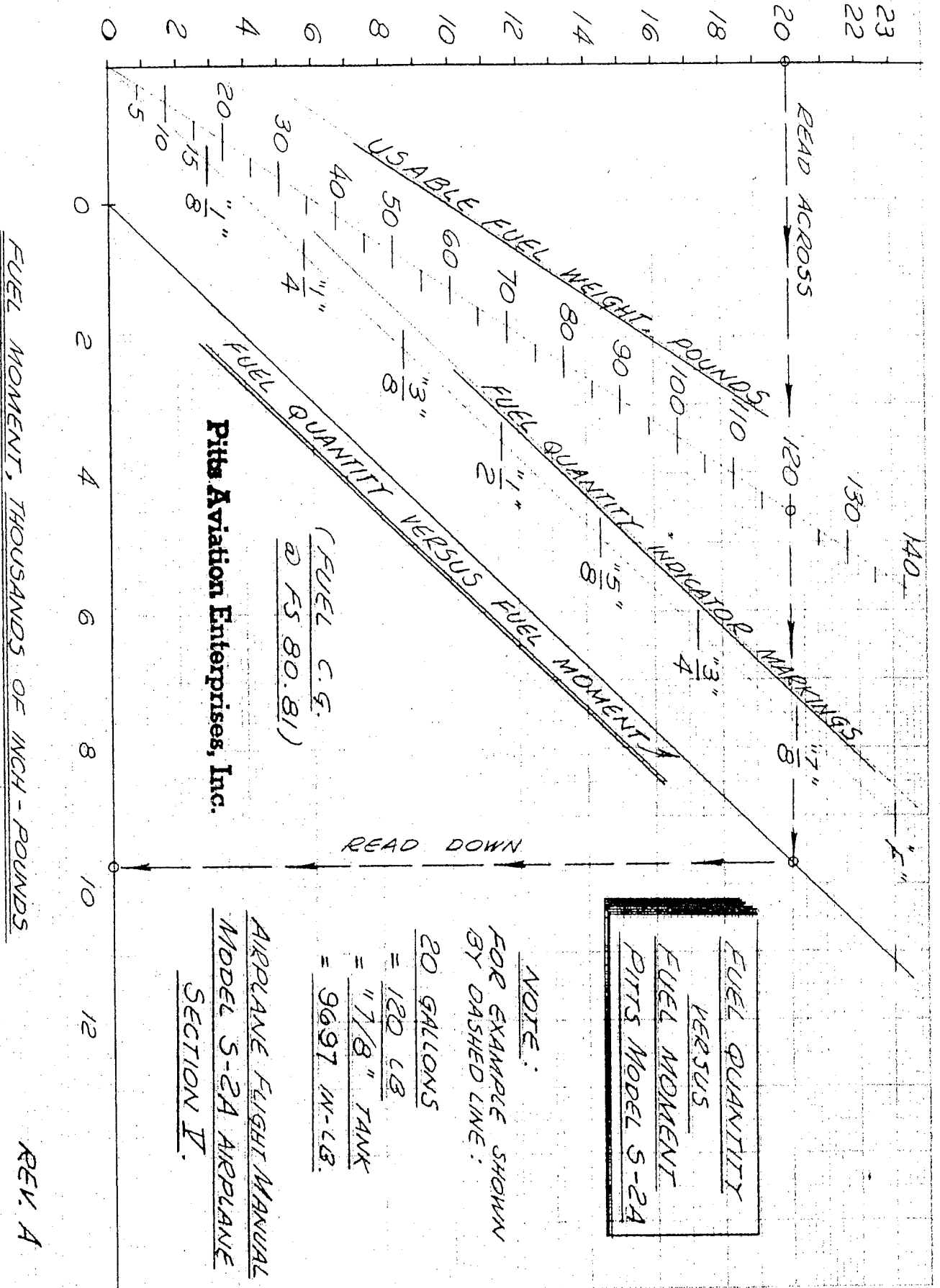
- ( ) 28. MANIFOLD PRESSURE GAUGE (fwd. panel)  
AN5770-1 or EDOAire P/NIU028-005-14  
 Weight .50 lb. @ FS 97.5
- ( ) 29. CANOPY (optional), AFT COCKPIT  
(Drwg. No. 2-1007) Weight 9.0 lb. @ FS 137.0
- ( ) 30. RUDDER PEDAL EXTENSIONS (rear cockpit only)  
(Drwg. No. Pitts 2-1006) Weight 0.3 lb. @ FS 102.0
- ( ) 31. FIBERGLASS BATTERY BOX  
(Pitts Drwg. No. 2-1008) (see note)  
 Weight (Neglig.) lb. @ FS 154.8
- ( ) 32. SWITCH INSTL-THROTTLE HANDLE  
(Pitts Drwg. No. 2-1009) Weight (Neglig.) lb. @ FS 122.6
- ( ) 33. ALUMINUM MAIN GEAR LEG FAIRINGS  
(Pitts Drwg. No. 2-2303) Weight (Neglig.) lb. @ FS 78.2
- ( ) 34. FRONT COCKPIT COVER  
(Pitts Drwg. No. 2-1005) Weight (Neglig.) lb. @ FS 111.0
- ( ) 35. TWO PLACE CANOPY  
(Pitts Drwg. No. 2-8000) Weight 12.5 lb. @ FS 125.0

NOTE: The following batteries are eligible for use with the 2-1008 fiberglass battery box.

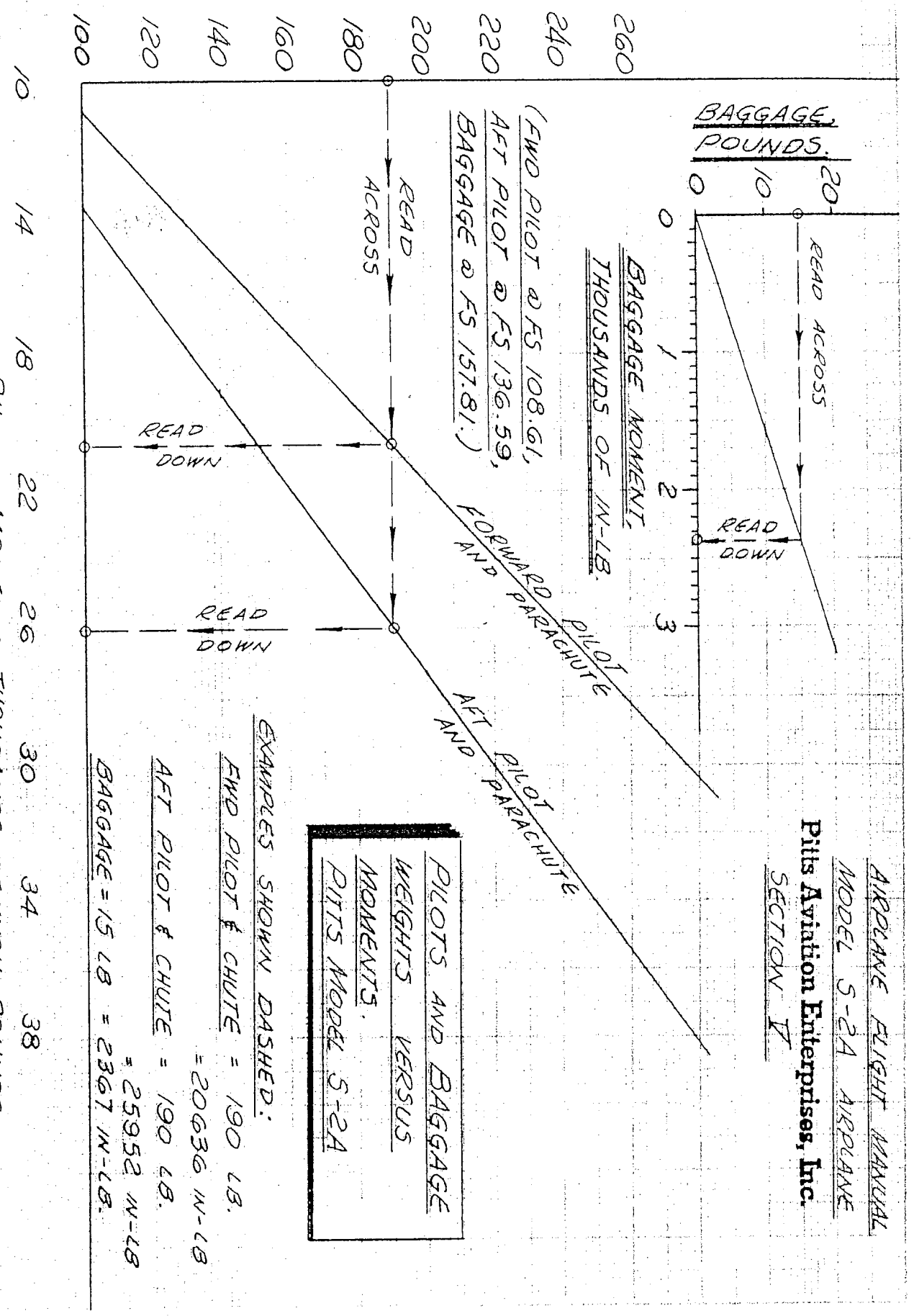
|         |       |
|---------|-------|
| REBAT   | S-25  |
| EXIDE   | AC-25 |
| WILLARD | W-25  |

These batteries are 12 volt, 25 amper-hours, and when installed per 2-1008 there is no significant weight or moment change from the AN3153-1A installation.

USABLE FUEL QUANTITY, GALLONS



PILOTS WEIGHT WITH PARACHUTE, LBS.



AIRCRAFT FLIGHT MANUAL  
 MODEL S-2A AIRPLANE  
 Pitts Aviation Enterprises, Inc.  
 SECTION IV

BAGGAGE MOMENT, THOUSANDS OF IN-LB.  
 BAGGAGE ACROSS  
 READ DOWN  
 FORWARD PARACHUTE  
 PILOT AND PARACHUTE  
 AFT PILOT AND PARACHUTE

(FWD PILOT @ FS 108.61,  
 AFT PILOT @ FS 136.59,  
 BAGGAGE @ FS 157.81.)

PILOTS AND BAGGAGE WEIGHTS VERSUS MOMENTS.  
 PITTS MODEL S-2A

EXAMPLES SHOWN DASHED:

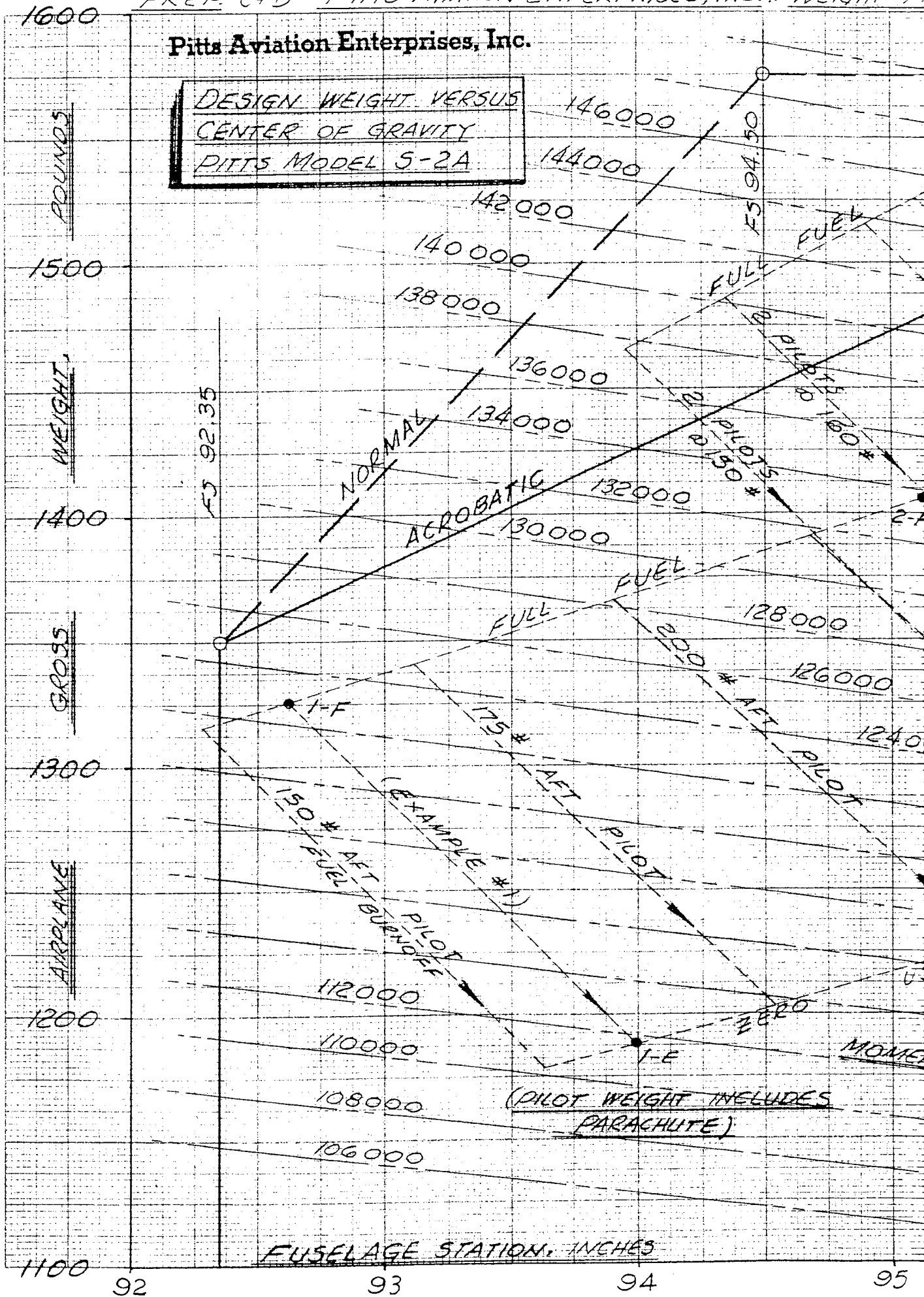
FWD PILOT & CHUTE = 190 LB.  
 = 20636 IN-LB.  
 AFT PILOT & CHUTE = 190 LB.  
 = 25952 IN-LB.  
 BAGGAGE = 15 LB = 2367 IN-LB.

PILOTS MOMENTS, THOUSANDS OF INCH-POUNDS

REV. A

### Pitts Aviation Enterprises, Inc.

**DESIGN WEIGHT VERSUS  
CENTER OF GRAVITY  
PITTS MODEL 5-2A**

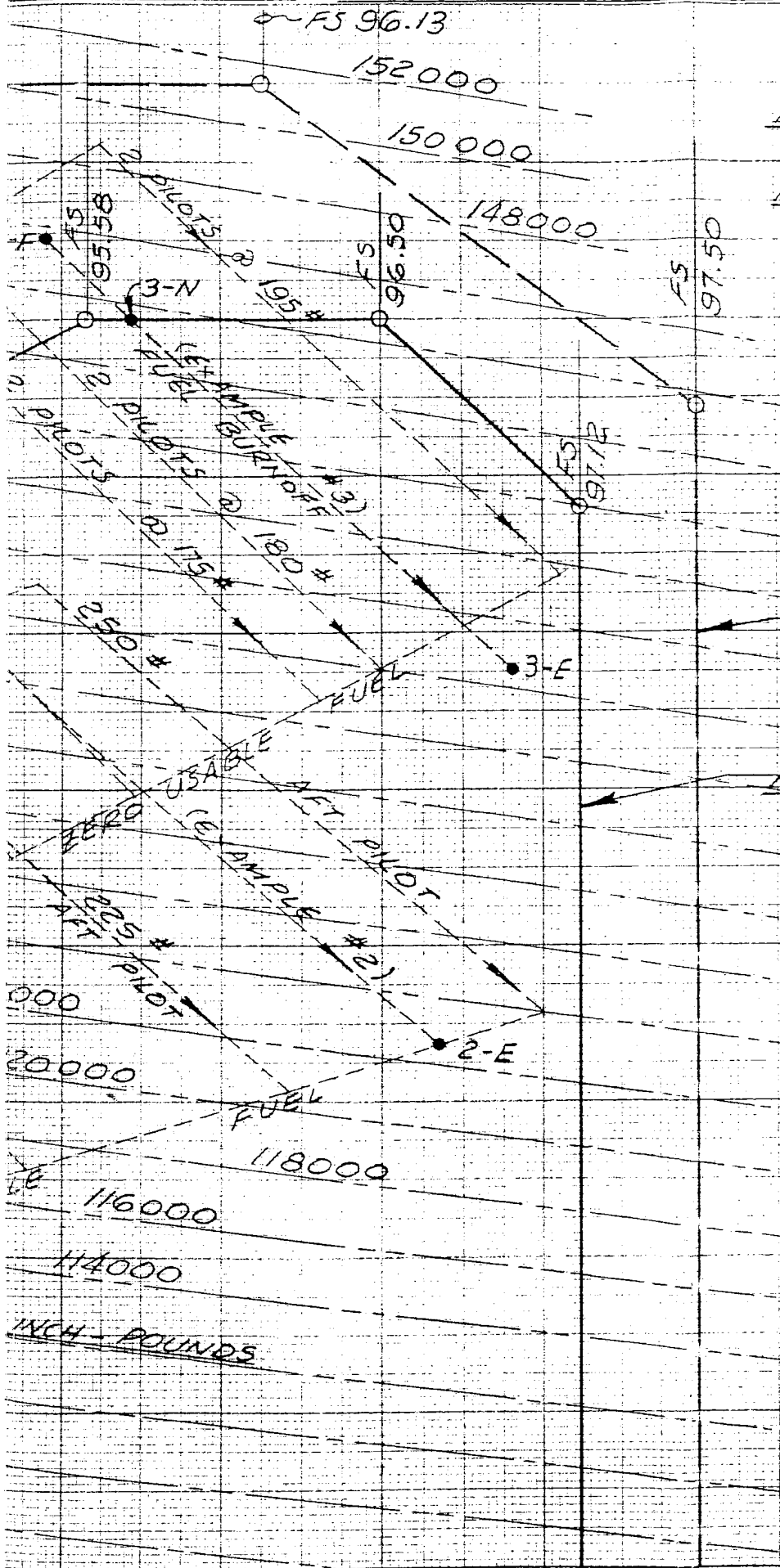


AIRPLANE FLIGHT  
MANUAL  
MODEL S-2A  
AIRPLANE  
SECTION II

(DATUM IS 97.81 IN.  
END OF LOWER WING  
LEADING EDGE;  
LEADING EDGE OF  
MAC IS 86.07 IN.  
AFT OF DATUM;  
MAC IS 38.51 INCHES.)

NORMAL CATEGORY  
ENVELOPE

ACROBATIC CATEGORY  
ENVELOPE



96

97

98

REV. A

Pitts Aviation Enterprises, Inc.  
Homestead, Florida

FAA APPROVED  
AIRPLANE FLIGHT MANUAL SUPPLEMENT  
FOR  
PITTS MODEL S-2A AIRPLANE

Registration No. \_\_\_\_\_

Serial No. \_\_\_\_\_

This supplement must be attached to the F.A.A. Approved Airplane Flight manual dated 11 June, 1971, when the aft cockpit sliding canopy is installed in accordance with Pitts Drawing No. 2-1007, dated 11-10-75. The information contained here in supplements the information of the basic Airplane Flight Manual; for limitations, procedures, and performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

F.A.A. APPROVED:

John F. Vogel  
John F. Vogel, Chief,  
Engineering & Mfg. Branch  
Southern Region F.A.A.

DATE: December 18, 1975



I. OPERATING LIMITATIONS:

Do not open canopy past first notch above 120 MPH IAS.

II. OPERATING PROCEDURES:

A. Normal Procedures

a) to open canopy from the outside, pull up on the canopy latch tabs located at the lower front edge of the canopy, and slide the canopy off.

b) to open canopy from the inside, pull aft on cable latch release located at top forward center of canopy.

B. Emergency Procedures:

In case of emergency bailout, pull canopy full aft prior to bailing out.

III. PERFORMANCE INFORMATION:

No change.

IV. PLACARDS:

A. On top centerline of canopy at forward edge: "PULL AFT TO OPEN"

B. On right hand forward inside lower corner of canopy: "DO NOT OPEN PAST FIRST NOTCH ABOVE 120 MPH IAS."

C. On outside lower forward corners of canopy bubble (both sides):  
"TO OPEN: LIFT TAB  SLIDE AFT (BOTH SIDES)".

F.A.A. APPROVED

DATE: December 18, 1975

PITTS AEROBATICS  
AFTON, WYOMING

FAA APPROVED


AIRPLANE FLIGHT MANUAL SUPPLEMENT  
FOR  
PITTS MODEL S-2 and S-2A

Registration No. \_\_\_\_\_

Serial No. \_\_\_\_\_

This supplement must be attached to the F.A.A. Approved Airplane Flight Manual dated 8 March 1971 for the S-2, or 11 June 1971 for the S-2A, when the upper wing auxiliary fuel tank is installed in accordance with Pitts Drawing No's. 2-4100, Rev. L, dated 20 Nov. 1977, and 2-1020, dated 15 April 1978, "Optional Center Section Tank Installation". The information contained herein supplements the information contained in the basic Airplane Flight Manual only in those areas specified; for limitations, procedures and performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

F.A.A. APPROVED:

  
Lester H. Berven

Acting Chief, Engineering and Manufacturing Branch  
Federal Aviation Administration  
Rocky Mountain Region, Aurora, Colorado 80010

Date: April 18, 1978

PITTS AEROBATICS  
AFTON, WYOMING

I OPERATING LIMITATIONS:

- a) Auxiliary fuel valve must be off before filling auxiliary tank.
- b) 100/130 octane minimum fuel.
- c) Transfer fuel from auxiliary to main tank in level flight only.
- d) Do not transfer auxiliary fuel until main tank is 1/2 full or less.

II OPERATING PROCEDURES:

A. NORMAL PROCEDURES:

- 1) During fuel transfer from auxiliary tank, main fuel gauge will read full. When transfer is complete (approx. 12 minutes), main fuel gauge will return to correct reading.

B. EMERGENCY PROCEDURES:  
No change.

III PERFORMANCE INFORMATION:  
No change.

IV PLACARDS:

- a) On right side of cockpit adjacent to auxiliary fuel valve: "Aux. fuel valve"; "On"; "Off"; "Transfer fuel in level flight only. Do not transfer aux. fuel until main tank is 1/2 full or less."
- b) On upper surface of upper wing adjacent to auxiliary tank filler neck: "5 gals. capacity. 100/130 octane min. Aux. fuel valve must be off before filling."

FAA APPROVED

DATE: April 18, 1978

PITTS AEROBATICS  
AFTON, WYOMING

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

PITTS MODEL S-2 & S-2A AIRPLANE

Registration No. \_\_\_\_\_

Serial No. \_\_\_\_\_

This supplement must be attached to the FAA Approved Airplane Flight Manual, dated 8 March 1971 for the S-2, or the FAA Approved Airplane Flight Manual, dated 11 June 1971 for the S-2A when the two place canopy is installed in accordance with Pitts Drawing No. 2-8000, dated 2/24/75. The information contained herein supplements the information of the basic Airplane Flight Manual; for limitations, procedures, and performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

FAA APPROVED: Gerald E. Goodblood

Gerald E. Goodblood, Chief,  
Engineering and Manufacturing Branch  
Rocky Mountain Region, F.A.A.

DATE: MAR 7 1978

I OPERATING LIMITATIONS:

Do not open canopy in flight.

II OPERATING PROCEDURES:

A. NORMAL PROCEDURES:

- a) To open canopy from outside, operate canopy latch at lower left front corner of canopy on outside, slide canopy aft to stop, and swing canopy open to right.
- b) To open canopy from the inside, operate canopy latch knob on centerline of airplane immediately in front of pilot, slide canopy aft to stop, and swing canopy open to right.

B. EMERGENCY PROCEDURES:

In case of emergency bailout, push red jettison knob on lower right of canopy, operate canopy latch knob, slide canopy aft to stop, at which time the canopy will leave the airplane.

III PERFORMANCE INFORMATION:

No change

IV PLACARDS:

A. At lower left front corner of canopy on inside

|                                |       |      |
|--------------------------------|-------|------|
| CANOPY                         |       |      |
| 1. OPEN                        | LATCH | LOCK |
| 2. <u>SLIDE AFT TO STOP</u>    |       |      |
| 3. <u>SWING OPEN TO RIGHT</u>  |       |      |
| CAUTION: DO NOT OPEN IN FLIGHT |       |      |

B. At lower left front corner of canopy on outside

|      |                                       |
|------|---------------------------------------|
|      | TO OPEN CANOPY                        |
| LOCK | 1. ROTATE LATCH KNOB TO OPEN POSITION |
|      | 2. <u>SLIDE AFT TO STOP</u>           |
| OPEN | 3. <u>SWING OPEN TO RIGHT</u>         |

C. On centerline of canopy frame immediately in front of aft pilot

|                                |       |      |
|--------------------------------|-------|------|
| CANOPY                         |       |      |
| 1. OPEN                        | LATCH | LOCK |
| 2. <u>SLIDE AFT TO STOP</u>    |       |      |
| 3. <u>SWING OPEN TO RIGHT</u>  |       |      |
| CAUTION: DO NOT OPEN IN FLIGHT |       |      |

D. By each red jettison knob at lower right side of canopy

|  |                            |
|--|----------------------------|
| TO JETTISON CANOPY IN EMERGENCY                |                            |
| 1.   | PUSH RED KNOB FORWARD      |
| 2.   | UNLATCH CANOPY             |
| 3.   | PULL CANOPY AFT FORCEFULLY |
| Canopy Will Leave Airplane at Full Rear Travel |                            |

FAA APPROVED  
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