

TROLLTUNE CORPORATION
2710 Thomas Avenue
Cheyenne, WY 82001

SUPPLEMENT NO. SFM7501-SW-R

FAA APPROVED

SUPPLEMENTAL AIRPLANE FLIGHT MANUAL

FOR

CESSNA 182P s/n 18262251 through 18263475

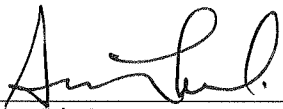
STC SA03608AT Maximum Gross Takeoff Weight Increase

Registration No. _____

Serial No. _____

This supplement must be used in conjunction with existing placards and material required to be furnished to the pilot under CAR Part 3 (as found in Cessna Owner's Manual for the 1973 to 1974 model years) whenever this aircraft is operated at weights above 2950 lbs. in accordance with Trolltune Corporation STC SA03608AT or EASA STC 10026913. The information contained in this document supplements or supersedes the Owner's Manual or placards only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic Owner's Manual, markings and operating placards.

FAA Approved

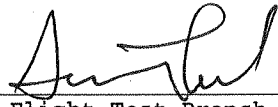


Manager, Flight Test Branch, ANM-160L
Federal Aviation Administration
Los Angeles Aircraft Certification Office
Transport Airplane Directorate

Date: May 13, 2011

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RECORD OF REVISIONS

| Rev No. | Page No. | Date | Description | FAA Approved |
|---------|----------|------------|---|---|
| I/R | All 1-14 | 22/08/2008 | Maximum Takeoff Gross Weight Increase to 3100 lbs. Initial Release | David Crew Manager, Flight Test Branch Federal Aviation Administration Atlanta Aircraft Certification Office Date: <u>22-August-2008</u> |
| 1 | 1 | 13/05/2011 | Added reference to EASA STC and changed FAA approval block and approval date. |  Manager, Flight Test Branch, ANM-160L Federal Aviation Administration Los Angeles Aircraft Certification office Transport Airplane Directorate Date: <u>5/13/2011</u> |
| | 2 | 13/05/2011 | Added Record of Revision page. | |
| | 3 | 13/05/2011 | Added performance and limitations note. | |
| | 4 | 13/05/2011 | Added limitation statement. | |
| | 1-16 | 13/05/2011 | Reformatted and incremented pages numbers. | |
| | | | | |

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SECTION I - OPERATING CHECKLIST

TAKE-OFF:

MAXIMUM PERFORMANCE TAKE-OFF, Flaps 20°, 3100 lbs.:
Climb Speed -- (until all obstacles are cleared): ... 63 MPH IAS

ENROUTE CLIMB:

MAXIMUM PERFORMANCE CLIMB, 3100 lbs.:
Airspeed -- (at sea level): 91 MPH IAS
Airspeed -- (at 10,000 feet): 87 MPH IAS

SECTION II - DESCRIPTION AND OPERATING DETAILS

NOTE: Changes in loadings, limitations, airspeeds, and other performance data due to the gross weight increase described in this SAFM were developed based upon the original airplane configuration as found in the basic Cessna Owner's Manual (OM) and approved placards. If other STCs (e.g., autopilot, aux fuel tanks, engine upgrades, etc.) have been incorporated, it is possible that their associated flight manual supplements describe different limitations or performance data from that shown here.

TAKE-OFF:

Airspeed - As per SECTION I of this Supplement

ENROUTE CLIMB:

Airspeed - Best rate of climb: 91 MPH IAS
(decrease 2 mph for each 5000 feet above sea level)

Airspeed - Best angle of climb, flaps up: 73 MPH IAS

CRUISE:

Performance - See SECTION VI of this Supplement

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SECTION II - DESCRIPTION AND OPERATING DETAILS (continued)

NOISE ABATEMENT:

The certificated noise level for the Model 182P at 3100 pounds maximum weight is 85.5 dB(A), determined according to Appendix G of 14 CFR Part 36 through Amendment 28. No determination has been made by the Federal Aviation Administration that the noise levels of this airplane are or should be acceptable or unacceptable for operation at, into, or out of, any airport.

SECTION III - EMERGENCY PROCEDURES

ENGINE FAILURE:

ENGINE FAILURE AFTER TAKE-OFF, 3100 lbs.:
Wing Flaps 0° - 20°: 85 MPH IAS

ENGINE FAILURE DURING FLIGHT, 3100 lbs.:
Maximum Glide: 86 MPH IAS

FORCED LANDINGS:

EMERGENCY LANDING WITHOUT ENGINE POWER, 3100 lbs.:
Wing Flaps Up: 85 MPH IAS
Wing Flaps Down: 80 MPH IAS

PRECAUTIONARY LANDING WITH ENGINE POWER, 3100 lbs.:
Wing Flaps Down: 80 MPH IAS

SECTION IV - OPERATING LIMITATIONS:

The limitations in this section may be further restricted by other installed STC(s), FAA Form 337, associated AFMS(s), or SAFM(s).

MANEUVERS - NORMAL CATEGORY:

Maximum Ramp Weight: 3110 lbs.
Maximum Takeoff Weight: 3100 lbs.
Maximum Landing Weight: 2950 lbs.

Note: A normal start, taxi and run-up time of ten minutes will consume approximately 10 lbs. of fuel. Normal landings must not be made at weights in excess of 2950 lbs. For a typical 3100 lbs. takeoff, climb, and cruise profile, this equates to a minimum flight duration of approximately one hour and forty-five minutes.

AIRSPPEED LIMITATIONS:

Maneuvering Speed 127 MPH CAS (128 MPH IAS)

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SECTION IV - OPERATING LIMITATIONS (continued)

WEIGHT AND BALANCE:

Center of gravity limitations and envelopes are changed for operation at weights above 2950 lbs. to and including 3100 lbs.

CENTER OF GRAVITY LIMITS:

Forward: 33.0 inches aft of datum at 2250 lbs. or less, with straight line variation to 40.9 inches aft of datum at 3100 lbs.

Aft: 48.5 inches aft of datum at all weights except 46.0 inches aft of datum at weights above 2950 lbs. to 3100 lbs.

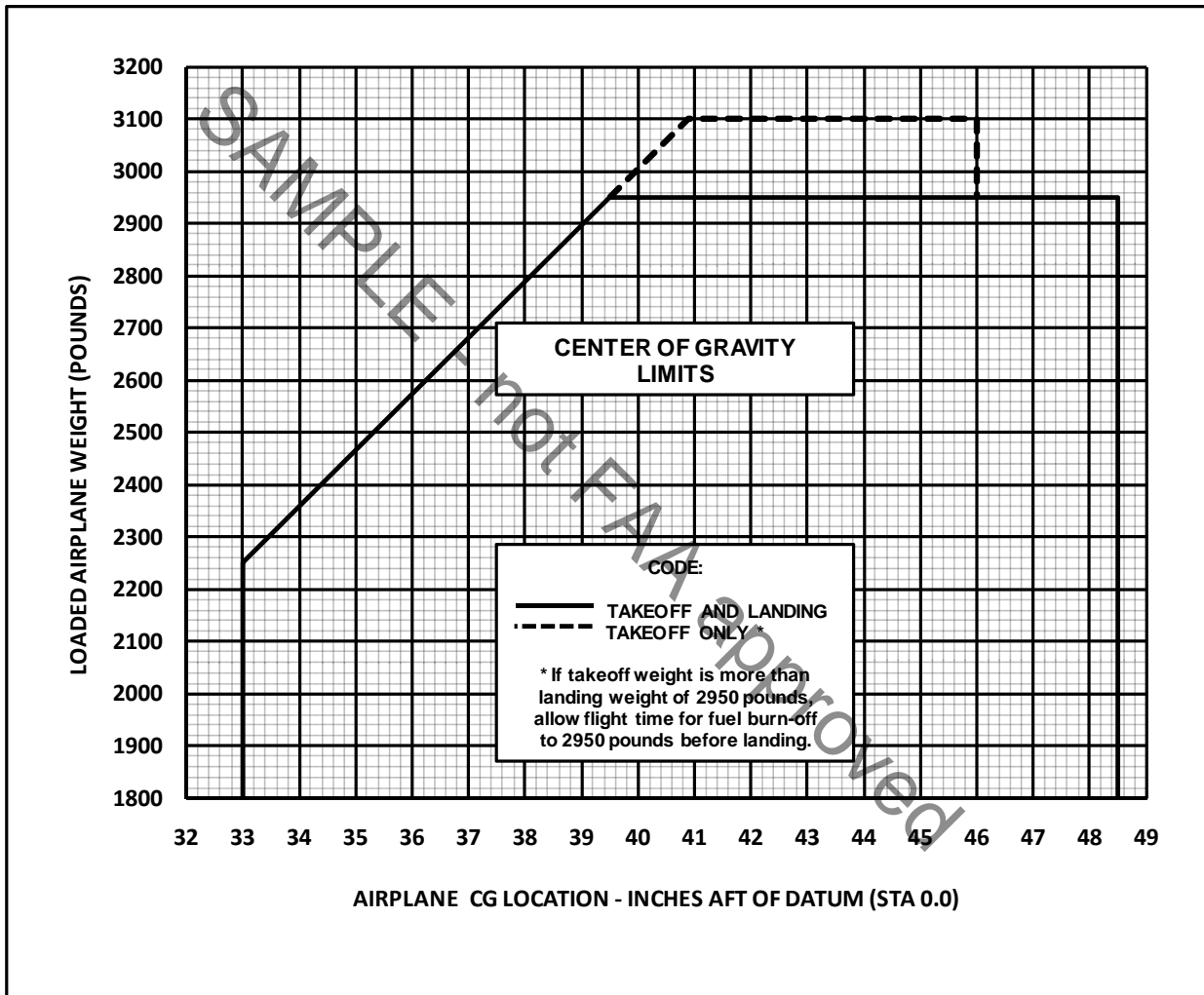
Use the following CG limit and moment envelopes:

SAMPLE - not FAA approved

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SECTION IV - OPERATING LIMITATIONS (continued)

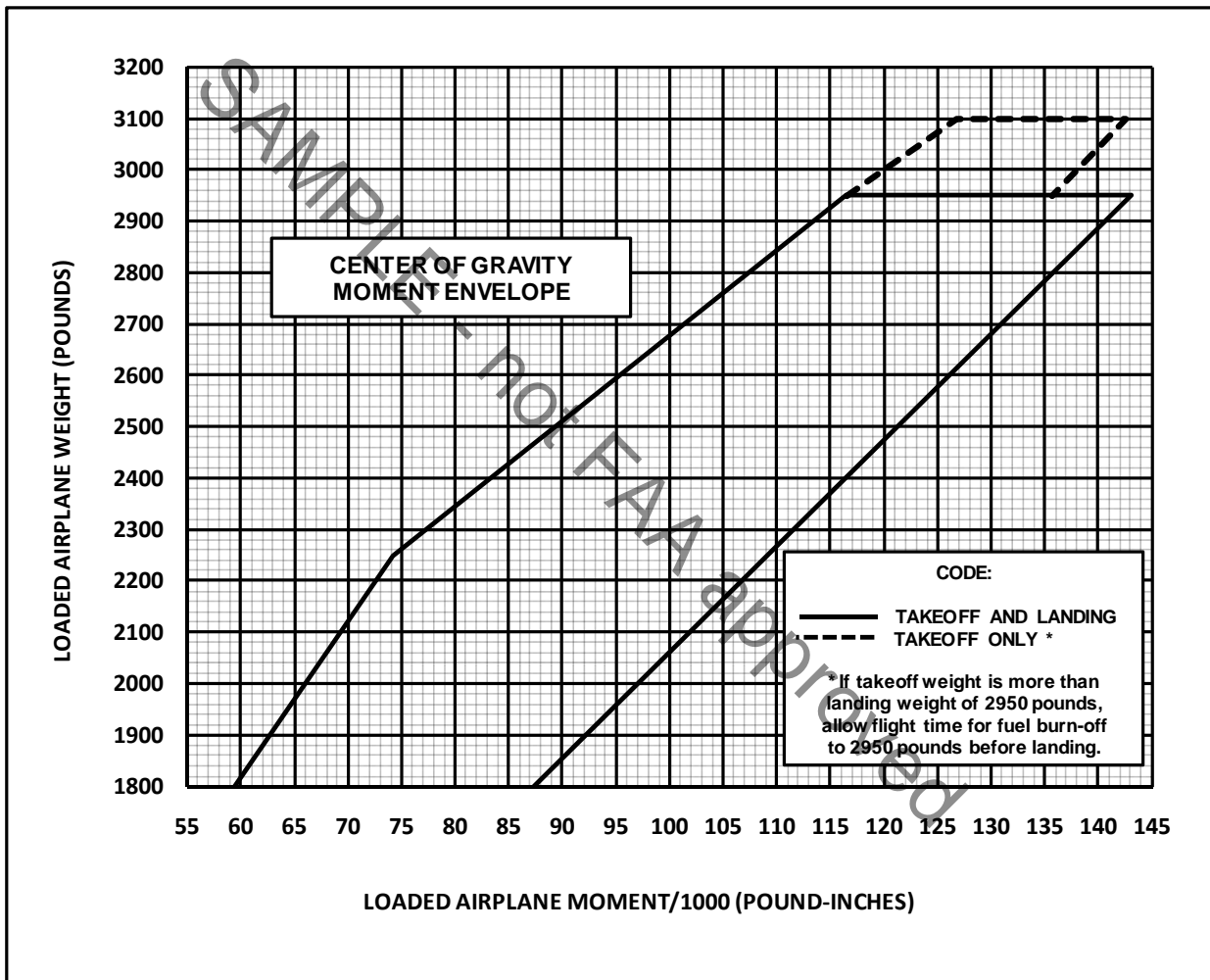
CENTER OF GRAVITY LIMITS: (continued)



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SECTION IV - OPERATING LIMITATIONS (continued)

CENTER OF GRAVITY LIMITS: (continued)



SECTION V - CARE OF THE AIRPLANE

NO CHANGES

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SECTION VI - OPERATIONAL DATA

| STALL SPEEDS - MPH CAS (IAS) | | | | |
|-------------------------------|-----------|----------------|----------------|----------------|
| | CONDITION | ANGLE OF BANK | | |
| | | 0° | 30° | 60° |
| 3100 LBS. GROSS WEIGHT | FLAPS UP | 67 (58) | 73 (66) | 94 (92) |
| | FLAPS 20° | 61 (53) | 66 (60) | 86 (84) |
| | FLAPS 40° | 60 (50) | 64 (56) | 85 (82) |

| POWER OFF - AFT CG | | | | |
|--------------------|--|--|--|--|
|--------------------|--|--|--|--|

| TAKE-OFF DATA | | | | | | | | | | |
|---|---------------|-----------------|----------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
| TAKE-OFF DISTANCE WITH 20° FLAPS FROM HARD SURFACE RUNWAY | | | | | | | | | | |
| GROSS WEIGHT LBS. | IAS @ 50' MPH | HEAD WIND KNOTS | AT SEA LEVEL & 59°F. | | AT 2500 FT. & 50°F. | | AT 5000 FT. & 41°F. | | AT 7500 FT. & 32°F. | |
| | | | GROUND RUN | TOTAL TO CLEAR 50' OBS | GROUND RUN | TOTAL TO CLEAR 50' OBS | GROUND RUN | TOTAL TO CLEAR 50' OBS | GROUND RUN | TOTAL TO CLEAR 50' OBS |
| 3100 | 63 | 0 | 805 | 1540 | 965 | 1850 | 1155 | 2265 | 1415 | 2945 |
| | | 10 | 560 | 1170 | 680 | 1420 | 825 | 1765 | 1025 | 2325 |
| | | 20 | 355 | 845 | 440 | 1035 | 550 | 1310 | 700 | 1760 |

NOTES: 1. Increase distances 10% for each 25°F above standard temperature for particular altitude.
 2. For operation on a dry, grass runway, increase distances (both "ground run" and "total to clear 50 ft. obstacle") by 7% of the "total to clear 50 ft. obstacle" figure.

| MAXIMUM RATE-OF-CLIMB DATA | | | | | | | | | | | | | | | |
|----------------------------|----------------------|----------------------|-------------------|---------------------|----------------------|-------------------|-----------------------|----------------------|-------------------|----------------------|----------------------|-------------------|------------------------|----------------------|-------------------|
| GROSS WEIGHT LBS. | AT SEA LEVEL & 59°F. | | | AT 5000 FT. & 41°F. | | | AT 10,000 FT. & 23°F. | | | AT 15,000 FT. & 5°F. | | | AT 20,000 FT. & -12°F. | | |
| | IAS MPH | RATE OF CLIMB FT/MIN | GAL. OF FUEL USED | IAS MPH | RATE OF CLIMB FT/MIN | From SL FUEL USED | IAS MPH | RATE OF CLIMB FT/MIN | From SL FUEL USED | IAS MPH | RATE OF CLIMB FT/MIN | From SL FUEL USED | IAS MPH | RATE OF CLIMB FT/MIN | From SL FUEL USED |
| 3100 | 91 | 755 | 1.5 | 89 | 540 | 4.2 | 87 | 330 | 7.8 | 85 | 110 | 13.2 | --- | --- | --- |

NOTES: 1. Flaps up, full throttle, 2600 RPM, mixture leaned for smooth operation above 5000 ft.
 2. Fuel used includes warm-up and take-off allowance.
 3. For hot weather, decrease rate of climb 30 ft./min. for each 10°F above standard day temperature for particular altitude.

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SECTION VI - OPERATIONAL DATA (continued)

| CRUISE PERFORMANCE | | | | | | | | |
|---|-----------|------------------|--------------------|----------------------|----------------------------|------------------------|----------------------------|------------------------|
| EXTENDED RANGE MIXTURE | | | | | | | | |
| Standard Conditions - Zero Wind - Gross Weight - 3100 Pounds | | | | | | | | |
| 2500 FEET | | | | | | | | |
| RPM | MP | % BHP | TAS MPH | GAL/ HOUR | 56 GAL (NO RESERVE) | | 75 GAL (NO RESERVE) | |
| | | | | | ENDR. HOURS | RANGE MILES | ENDR. HOURS | RANGE MILES |
| 2450 | 23 | 76 | 154 | 14.2 | 3.9 | 600 | 5.3 | 810 |
| | 22 | 72 | 151 | 13.4 | 4.2 | 630 | 5.5 | 835 |
| | 21 | 68 | 146 | 12.7 | 4.4 | 635 | 5.8 | 850 |
| | 20 | 63 | 141 | 12.0 | 4.7 | 655 | 6.2 | 870 |
| 2300 | 23 | 71 | 148 | 13.1 | 4.3 | 630 | 5.6 | 830 |
| | 22 | 67 | 145 | 12.2 | 4.6 | 660 | 6.1 | 885 |
| | 21 | 62 | 140 | 11.5 | 4.8 | 675 | 6.5 | 905 |
| | 20 | 59 | 137 | 11.0 | 5.1 | 700 | 6.8 | 925 |
| 2200 | 23 | 67 | 145 | 12.1 | 4.7 | 670 | 6.1 | 885 |
| | 22 | 63 | 141 | 11.4 | 4.9 | 690 | 6.5 | 910 |
| | 21 | 59 | 137 | 10.8 | 5.2 | 710 | 6.9 | 940 |
| | 20 | 55 | 132 | 10.2 | 5.5 | 720 | 7.2 | 955 |
| 2000* | 20 | 47 | 119 | 8.7 | 6.4 | 760 | 8.6 | 1015 |
| | 19 | 43 | 113 | 8.2 | 6.8 | 765 | 9.0 | 1015 |
| | 18 | 39 | 106 | 7.5 | 7.4 | 785 | 9.9 | 1045 |
| | 17 | 35 | 96 | 7.0 | 8.0 | 765 | 10.6 | 1015 |

*Power settings in this block represent maximum range settings

SUPPLEMENT NO. SFM7501-SW-R

SECTION VI - OPERATIONAL DATA (continued)

| CRUISE PERFORMANCE | | | | | | | | |
|--|----|-------|---------|----------|---------------------|-------------|---------------------|-------------|
| EXTENDED RANGE MIXTURE | | | | | | | | |
| Standard Conditions - Zero Wind - Gross Weight - 3100 Pounds | | | | | | | | |
| 5000 FEET | | | | | | | | |
| RPM | MP | % BHP | TAS MPH | GAL/HOUR | 56 GAL (NO RESERVE) | | 75 GAL (NO RESERVE) | |
| | | | | | ENDR. HOURS | RANGE MILES | ENDR. HOURS | RANGE MILES |
| 2450 | 23 | 78 | 158 | 14.5 | 3.8 | 600 | 5.1 | 800 |
| | 22 | 73 | 154 | 13.6 | 4.1 | 630 | 5.5 | 835 |
| | 21 | 70 | 150 | 13.0 | 4.3 | 640 | 5.7 | 860 |
| | 20 | 65 | 146 | 12.2 | 4.6 | 665 | 6.1 | 890 |
| 2300 | 23 | 73 | 154 | 13.4 | 4.2 | 640 | 5.5 | 850 |
| | 22 | 69 | 149 | 12.6 | 4.5 | 665 | 5.9 | 880 |
| | 21 | 64 | 145 | 11.9 | 4.7 | 670 | 6.2 | 895 |
| | 20 | 60 | 141 | 11.2 | 5.0 | 705 | 6.7 | 940 |
| 2200 | 23 | 68 | 148 | 12.4 | 4.5 | 660 | 6.0 | 890 |
| | 22 | 64 | 145 | 11.7 | 4.7 | 685 | 6.4 | 925 |
| | 21 | 60 | 141 | 11.0 | 5.1 | 720 | 6.8 | 950 |
| | 20 | 57 | 136 | 10.5 | 5.3 | 720 | 7.1 | 955 |
| 2000* | 20 | 48 | 124 | 9.0 | 6.2 | 770 | 8.3 | 1025 |
| | 19 | 45 | 117 | 8.5 | 6.6 | 770 | 8.7 | 1020 |
| | 18 | 41 | 109 | 7.9 | 7.1 | 770 | 9.4 | 1020 |
| | 17 | 37 | 100 | 7.3 | 7.6 | 760 | 10.2 | 1015 |

*Power settings in this block represent maximum range settings

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SECTION VI - OPERATIONAL DATA (continued)

| CRUISE PERFORMANCE | | | | | | | | |
|--|----|-------|---------|----------|---------------------|-------------|---------------------|-------------|
| EXTENDED RANGE MIXTURE | | | | | | | | |
| Standard Conditions - Zero Wind - Gross Weight - 3100 Pounds | | | | | | | | |
| 7500 FEET | | | | | | | | |
| RPM | MP | % BHP | TAS MPH | GAL/HOUR | 56 GAL (NO RESERVE) | | 75 GAL (NO RESERVE) | |
| | | | | | ENDR. HOURS | RANGE MILES | ENDR. HOURS | RANGE MILES |
| 2450 | 21 | 71 | 154 | 13.1 | 4.3 | 655 | 5.6 | 865 |
| | 20 | 67 | 151 | 12.4 | 4.5 | 670 | 6.0 | 905 |
| | 19 | 62 | 146 | 11.7 | 4.7 | 690 | 6.4 | 930 |
| | 18 | 58 | 140 | 11.0 | 5.1 | 715 | 6.8 | 945 |
| 2300 | 21 | 66 | 150 | 12.2 | 4.6 | 680 | 6.1 | 915 |
| | 20 | 62 | 146 | 11.6 | 4.8 | 705 | 6.4 | 930 |
| | 19 | 58 | 140 | 11.0 | 5.1 | 715 | 6.8 | 945 |
| | 18 | 54 | 135 | 10.5 | 5.3 | 715 | 7.1 | 950 |
| 2200 | 21 | 62 | 146 | 11.4 | 4.9 | 715 | 6.5 | 945 |
| | 20 | 58 | 140 | 10.7 | 5.2 | 725 | 7.0 | 970 |
| | 19 | 54 | 135 | 10.2 | 5.5 | 740 | 7.2 | 975 |
| | 18 | 51 | 129 | 9.7 | 5.8 | 740 | 7.6 | 980 |
| 2000* | 20 | 50 | 128 | 9.2 | 6.0 | 770 | 8.1 | 1030 |
| | 19 | 47 | 122 | 8.7 | 6.4 | 780 | 8.6 | 1040 |
| | 18 | 43 | 113 | 8.1 | 6.9 | 775 | 9.2 | 1040 |
| | 17 | 39 | 105 | 7.6 | 7.3 | 770 | 9.8 | 1025 |

*Power settings in this block represent maximum range settings

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SECTION VI - OPERATIONAL DATA (continued)

| CRUISE PERFORMANCE | | | | | | | | |
|--|----|-------|---------|----------|---------------------|-------------|---------------------|-------------|
| EXTENDED RANGE MIXTURE | | | | | | | | |
| Standard Conditions - Zero Wind - Gross Weight - 3100 Pounds | | | | | | | | |
| 10,000 FEET | | | | | | | | |
| RPM | MP | % BHP | TAS MPH | GAL/HOUR | 56 GAL (NO RESERVE) | | 75 GAL (NO RESERVE) | |
| | | | | | ENDR. HOURS | RANGE MILES | ENDR. HOURS | RANGE MILES |
| 2450 | 19 | 63 | 151 | 11.9 | 4.7 | 700 | 6.2 | 935 |
| | 18 | 60 | 145 | 11.2 | 5.0 | 725 | 6.7 | 965 |
| | 17 | 55 | 139 | 10.6 | 5.3 | 735 | 7.1 | 975 |
| | 16 | 51 | 133 | 10.0 | 5.6 | 740 | 7.4 | 985 |
| 2300 | 19 | 60 | 145 | 11.1 | 5.0 | 725 | 6.7 | 965 |
| | 18 | 56 | 140 | 10.5 | 5.3 | 740 | 7.1 | 985 |
| | 17 | 51 | 133 | 9.8 | 5.7 | 750 | 7.6 | 1010 |
| | 16 | 47 | 125 | 9.2 | 6.0 | 755 | 8.1 | 1010 |
| 2200 | 19 | 56 | 140 | 10.4 | 5.4 | 755 | 7.1 | 1000 |
| | 18 | 52 | 134 | 9.8 | 5.7 | 760 | 7.6 | 1020 |
| | 17 | 49 | 127 | 9.3 | 6.0 | 765 | 8.0 | 1010 |
| | 16 | 45 | 119 | 8.7 | 6.4 | 760 | 8.6 | 1015 |
| 2000* | 19 | 48 | 125 | 8.9 | 6.2 | 775 | 8.4 | 1045 |
| | 18 | 44 | 118 | 8.4 | 6.6 | 775 | 8.8 | 1040 |
| | 17 | 40 | 110 | 7.8 | 7.2 | 785 | 9.5 | 1040 |
| | 16 | 38 | 95 | 7.4 | 7.5 | 715 | 10.1 | 955 |

*Power settings in this block represent maximum range settings

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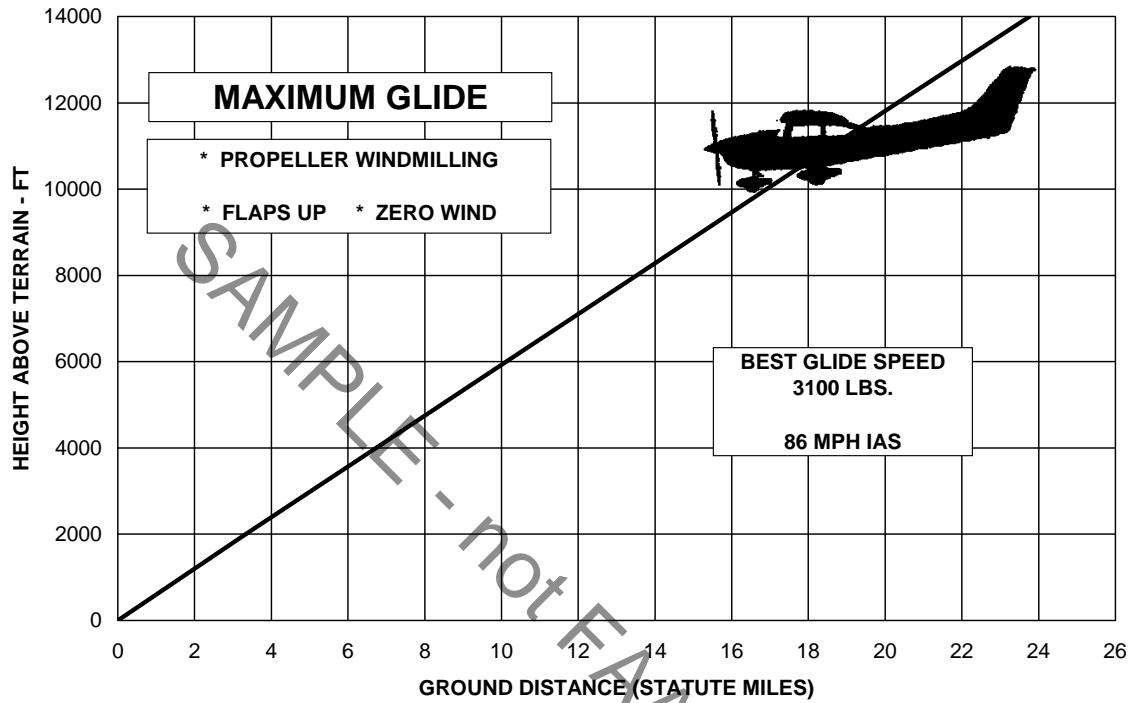
SECTION VI - OPERATIONAL DATA (continued)

| CRUISE PERFORMANCE | | | | | | | | |
|--|----|-------|---------|----------|---------------------|-------------|---------------------|-------------|
| EXTENDED RANGE MIXTURE | | | | | | | | |
| Standard Conditions - Zero Wind - Gross Weight - 3100 Pounds | | | | | | | | |
| 15,000 FEET | | | | | | | | |
| RPM | MP | % BHP | TAS MPH | GAL/HOUR | 56 GAL (NO RESERVE) | | 75 GAL (NO RESERVE) | |
| | | | | | ENDR. HOURS | RANGE MILES | ENDR. HOURS | RANGE MILES |
| 2450 | 16 | 54 | 140 | 10.4 | 5.4 | 755 | 7.1 | 1000 |
| | 15 | 50 | 134 | 9.8 | 5.7 | 760 | 7.6 | 1020 |
| | 14 | 46 | 120 | 9.2 | 6.0 | 725 | 8.1 | 970 |
| 2300 | 16 | 50 | 134 | 9.6 | 5.8 | 770 | 7.7 | 1030 |
| | 15 | 47 | 125 | 9.1 | 6.1 | 765 | 8.2 | 1020 |
| | 14 | 42 | 107 | 8.5 | 6.6 | 705 | 8.7 | 935 |
| 2200 | 16 | 47 | 125 | 9.1 | 6.1 | 765 | 8.2 | 1020 |
| | 15 | 44 | 114 | 8.6 | 6.5 | 740 | 8.6 | 985 |
| | 14 | 40 | 99 | 8.0 | 7.0 | 690 | 9.3 | 920 |
| 2000 | 16 | 40 | 99 | 7.8 | 7.2 | 705 | 9.5 | 935 |
| | 15 | 37 | 90 | 7.3 | 7.6 | 685 | 10.2 | 910 |

Note: Range and endurance values in the cruise performance tables above take into account corrections to the basic Cessna Owner's Manual per AD 75-16-01 and Cessna Service Letter SE 75-7 regarding amendment of usable fuel quantities.

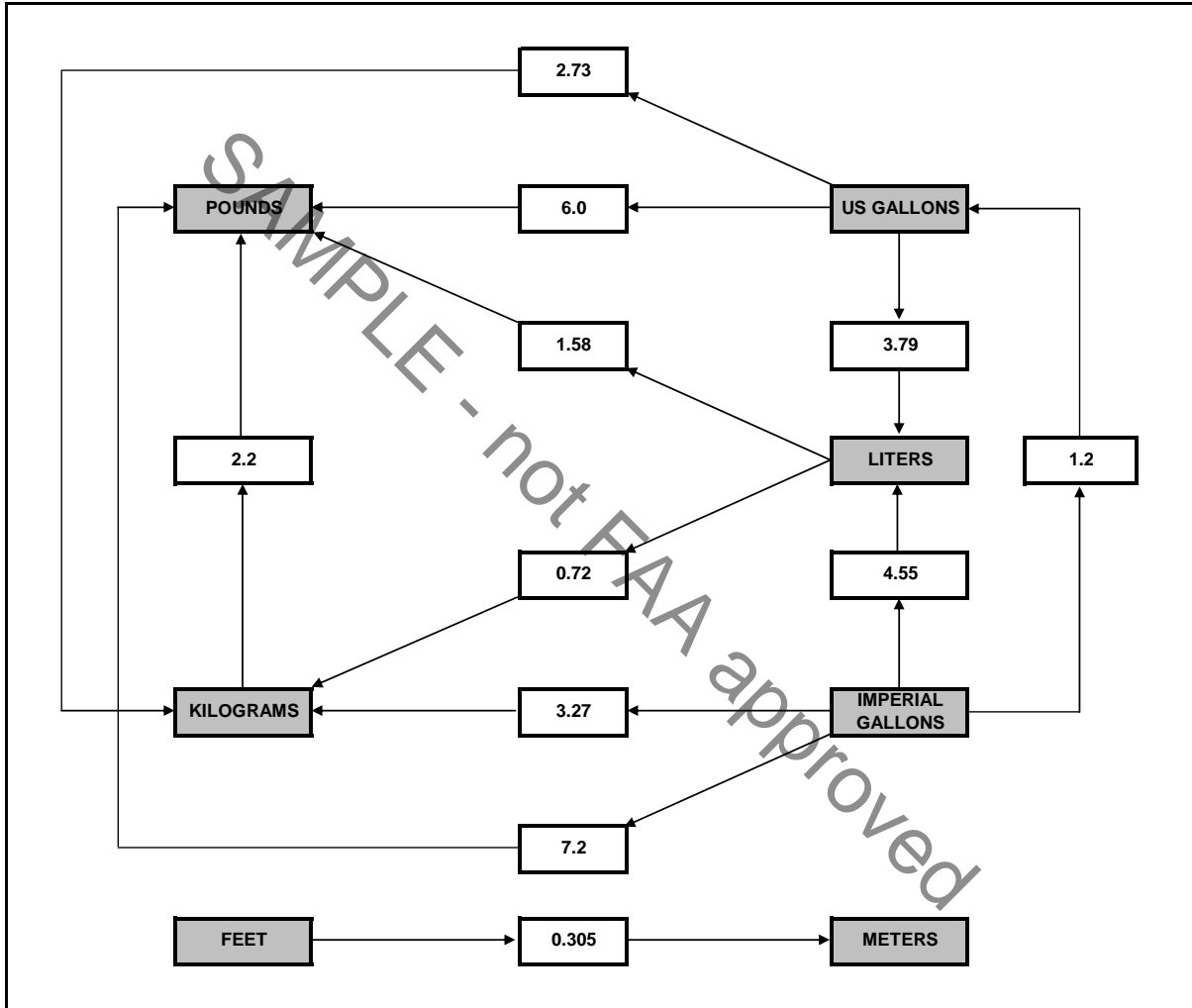
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SECTION VI - OPERATIONAL DATA (continued)



SUPPLEMENT NO. SFM7501-SW-R

SECTION VI - OPERATIONAL DATA (continued)



Metric / Imperial / US Units Conversion Chart

TROLLTUNE CORPORATION
2710 Thomes Avenue
Cheyenne, WY 82001

SUPPLEMENT AIRPLANE FLIGHT MANUAL FOR
CESSNA 182P
MAXIMUM GROSS WEIGHT INCREASE
STC No. SA03608AT

SUPPLEMENT NO. SFM7501-SW-R

SECTION VII - OPTIONAL SYSTEMS

NO CHANGES

ALPHABETICAL INDEX

NO CHANGES

SERVICING REQUIREMENTS

NO CHANGES

SAMPLE - not FAA approved