This document includes material required to be furnished to the pilot by FAR Part 3. It also contains supplemental data supplied by Sierra Industries, Inc.

This document must be carried in the airplane at all times when the airplane is Sierra-equipped in accordance with Supplemental Type Certificate No. SA1525WE.

The information contained in this document supersedes the basic Pilot's Operating Handbook only where specifically covered by the items contained herein. For Limitations, Procedures, and Performance not contained in this Supplement, consult the basic Handbook.

APPROVED

DATE 8-10-90

Sierra Industries, Inc.
Uvalde, Texas 78801

SIERRA INDUSTRIES, INC.
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<td>A</td>
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# CONTENTS

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<tr>
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<td>1</td>
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<td>10</td>
</tr>
</tbody>
</table>
1. GENERAL

No changes

2. LIMITATIONS

No changes Except:

AIRSPEED LIMITATIONS

Maximum Flaps Extended Speed
  to 10°  140 KIAS
  10° to 30°  85 KIAS

<table>
<thead>
<tr>
<th>AIRSPEED INDICATOR MARKINGS</th>
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</thead>
<tbody>
<tr>
<td>White Arc</td>
</tr>
<tr>
<td>85 to 50 KIAS</td>
</tr>
<tr>
<td>Full Flap Operating Range</td>
</tr>
</tbody>
</table>

PLACARDS:

Adjacent to Wing Flap Position Switch

WHITE SEGMENT - "85 KIAS 10° TO 30°"

3. EMERGENCY PROCEDURES

AIRSPEED FOR EMERGENCY OPERATION

No changes Except:

<table>
<thead>
<tr>
<th>ENGINE FAILURE AFTER TAKEOFF:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps - UP</td>
</tr>
<tr>
<td>Wing Flaps - DOWN</td>
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<tr>
<td>PRECAUTIONARY LANDING WITH ENGINE</td>
</tr>
<tr>
<td>POWER AND FLAPS</td>
</tr>
<tr>
<td>LANDING WITHOUT ENGINE POWER:</td>
</tr>
<tr>
<td>Wing Flaps - UP</td>
</tr>
<tr>
<td>Wing Flaps - DOWN</td>
</tr>
</tbody>
</table>

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3. EMERGENCY PROCEDURES (Cont.)

ABBREVIATED CHECKLIST

ENGINE FAILURE DURING TAKEOFF RUN

No Changes

ENGINE FAILURE SHORTLY AFTER TAKEOFF

(1) Airspeed Flaps - UP 85 KIAS
    Flaps - 20° 69 KIAS
(2) Mixture - IDLE CUT-OFF
(3) Fuel Selector Valve - OFF
(4) Ignition Switch - OFF
(5) Wing Flaps - AS REQUIRED (Flaps - 30° and 69 KIAS recommended)
(6) Master Switch - OFF

ENGINE FAILURE DURING FLIGHT

(1) Airspeed - 85 KIAS (Flaps UP, Gross Weight Best Glide Speed)
(2) Fuel Quantity - CHECK
(3) Fuel Selector Valve - FULLEST TANK
(4) Mixture - RICH
(5) Auxiliary Fuel Pump - ON (for 3 to 5 seconds with Throttle 1/2 OPEN, then OFF)
(6) Ignition Switch - BOTH (or START if Propeller is stopped)
(7) Throttle - ADVANCE - Slowly

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

(1) Airspeed Flaps - UP 90 KIAS
    Flaps - DOWN 69 KIAS
(2) Mixture - IDLE CUT-OFF
(3) Fuel Selector Valve - OFF
(4) Ignition Switch - OFF
(5) Landing Gear - DOWN (UP if terrain is rough or soft)
(6) Wing Flaps - 30° - on Final Approach
(7) Airspeed - 69 KIAS
(8) Master Switch - OFF
(9) Doors - UNLATCH - Prior to Touchdown
(10) Touchdown - SLIGHTLY TAIL LOW
(11) Ignition Switch - OFF
(12) Brakes - APPLY HEAVILY
3. EMERGENCY PROCEDURES (Cont.)

DITCHING

(1) Radio - TRANSMIT MAYDAY on 121.5 MHZ - Give Location and Intentions

(2) Heavy Objects in Baggage Area - SECURE or JETTISON

(3) Landing Gear - UP

(4) Wing Flaps - 30°

(5) Power - ESTABLISH 300 FT/MIN DESCENT at 58 KIAS

(6) Approach - High Winds, Heavy Seas - INTO THE WIND

- Light Winds, Heavy Swells - PARALLEL TO THE SWELLS

NOTE

If no power is available, approach at 85 KIAS with Flaps UP or at 69 KIAS with Flaps 10°.

(7) Cabin Doors - UNLATCH

(8) Touchdown - LEVEL ATTITUDE - 300 FT/MIN DESCENT

(9) Face - CUSHION - at Touchdown with folded Coat or Seat Cushion

(10) Airplane - EVACUATE - through Cabin Doors. If necessary, OPEN Vent Window to equalize pressure so Doors can be opened.

(11) Life Vests and Raft - INFLATE

4. NORMAL PROCEDURES

BEFORE ENTERING THE AIRPLANE

(1) Make an Exterior Inspection in accordance with Figure 1-1

BEFORE STARTING THE ENGINE

(1) Pilot's Check List - REVIEW Check List on Left Front Door Post

(2) Seats and Seat Belts - ADJUST and LOCK

(3) Brakes - TEST and SET

(4) Cowl Flaps - OPEN (move Lever out of Locking Hole to reposition)

(5) Fuel Selector - FULLEST TANK

(6) Radios and Electrical Equipment - OFF

(7) Landing Gear Handle - DOWN

(8) Master Switch - ON

(9) Landing Gear Lights and Horn - PRESS TO TEST
4. NORMAL PROCEDURES (Cont.)

STARTING THE ENGINE

(1) Mixture - RICH
(2) Propeller - HIGH RPM
(3) Throttle - CLOSED
(4) Auxiliary Fuel Pump Switch - ON
(5) Throttle - ADVANCE to obtain 50 - 60 Lbs/Hr Fuel Flow, then return to IDLE position
(6) Auxiliary Fuel Pump Switch - OFF
(7) Propeller Area - CLEAR
(8) Ignition Switch - START
(9) Throttle - ADVANCE, slowly
(10) Ignition Switch - RELEASE when engine starts

NOTE

The engine should start in two to three revolutions. If it does not continue running, start again at Step 3. If the engine does not start, leave the Auxiliary Fuel Pump Switch OFF, Set Mixture to IDLE CUT-OFF, open Throttle and crank engine until it fires (or for approximately 15 seconds). If still unsuccessful, allow the starter motor to cool, then start again using the normal starting procedure.

(11) Throttle - RESET to desired idle speed
(12) Oil Pressure - CHECK

BEFORE TAKEOFF

(1) Parking Brake - SET
(2) Cowl Flaps - FULL OPEN
(3) Flight Controls - FREE and CORRECT
(4) Elevator and Rudder Trim - TAKEOFF
(5) Mixture - RICH (below 3000 feet)
(6) Throttle
a. Magnetos - CHECK (RPM drop should not exceed 150 RPM on either magneto or 50 RPM differential between magnetos)

b. Propeller - CYCLE from high to low RPM - return to high RPM (full forward)

c. Engine Instruments and Ammeter - CHECK

d. Suction Gauge - CHECK in green arc
(7) Cabin Doors and Windows - CLOSED and LOCKED
(8) Flight Instruments and Radios - SET
(9) Autopilot (if installed) - OFF
(10) Flashing Beacon, Navigation Lights and/or Strobe Lights - ON as required
(11) Throttle Friction Lock - ADJUST
4. NORMAL PROCEDURES (Cont.)

TAKEOFF

(1) Wing Flaps - 20°
(2) Elevator Trim - TAKEOFF
(3) Rudder Trim - 1/2 RIGHT
(4) Cowl Flaps - OPEN
(5) Brakes - APPLY
(6) Power - FULL THROTTLE and 2850 RPM
(7) Mixture - LEAN for Field Elevation per Fuel Flow Indicator Placard
(8) Brakes - RELEASE
(9) Elevator Control - ROTATE at 52 KIAS
(10) Initial Climb - 60 KIAS while clearing Obstacles
(11) After Clearing Obstacles - ACCELERATE to 78 KIAS
(12) Landing Gear - RETRACT in Climb Out
(13) Flaps - RETRACT
(14) Enroute Climb - STANDARD PROCEDURES

NORMAL CLIMB

(1) Airspeed - 104 to 113 KIAS
(2) Power - 25 INCHES Hg and 2550 RPM
(3) Mixture - LEAN to 108 Lbs./Hr Fuel Flow
(4) Cowl Flaps - OPEN as required

MAXIMUM PERFORMANCE CLIMB - Sea Level to 19,000 Ft.

(1) Airspeed - 97 KIAS at Sea Level to 90 KIAS at 10,000 Ft.
(2) Power - FULL THROTTLE and 2700 RPM
(3) Mixture - LEAN per Fuel Flow Indicator Placard
(4) Cowl Flaps - FULL OPEN

CRUISING

(1) Power - 15 to 25 INCHES Hg and 2200 to 2550 RPM
(2) Cowl Flaps - OPEN as required
(3) Elevator and Rudder Trim - ADJUST
(4) Mixture - LEAN for Cruise Fuel Flow per the Cessna Power Computer or per the CRUISE PERFORMANCE in Section 5

LETDOWN

(1) Power - AS DESIRED
(2) Mixture - LEAN for smooth performance in Power Descents
(3) Cowl Flaps - FULL RICH for Idle Power

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4. NORMAL PROCEDURES (Cont.)

BEFORE LANDING

1. Fuel Selector - FULLEST TANK
2. Landing Gear Lever - DOWN (below 140 KIAS)
3. Landing Gear Light - GREEN
4. Mixture - RICH
5. Propeller - HIGH RPM
6. Wing Flaps - DOWN 0° to 10° (below 140 KIAS)
   - 10° to 30° (below 85 KIAS)
7. Initial Approach - FLAPS 20° at 85 KIAS
8. Final Approach - FLAPS 30° at 58 KIAS
9. Elevator Trim - ADJUST

BALED LANDING

1. Power - FULL THROTTLE and 2850 RPM
2. Wing Flaps - RETRACT IMMEDIATELY to 20°
3. Climb Past Obstacles at - 60 KIAS

4. Accelerate to - 78 KIAS
5. Flaps - RETRACT SLOWLY
6. Cowl Flaps - OPEN

LANDING

1. Power - AS REQUIRED for NORMAL RATE OF DESCENT
2. Elevator and Rudder Trim - AS REQUIRED
3. Touchdown - MAIN WHEELS FIRST
4. Touchdown Speed - 46 KIAS
5. Deceleration - CLOSE THROTTLE - RETRACT FLAPS - APPLY BRAKES

AFTER LANDING

1. Cowl Flaps - OPEN
2. Wing Flaps - RETRACT

SECURING AIRCRAFT

1. Parking Brake - SET
2. Radios and Electrical Equipment - OFF
3. Mixture - IDLE CUT-OFF (pulled full out)
4. Ignition and Master Switch - OFF
5. Control Lock - INSTALLED
5. PERFORMANCE

No change except:

The minimum performance required by the applicable certification regulations has been demonstrated to the FAA. However, the precise performance information in the basic Pilot's Operating Handbook may or may not be affected by the modification.

<table>
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<tr>
<th>AIRSPEED CALIBRATION</th>
<th>Figure 5-1</th>
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<td>Figure 5-2</td>
</tr>
<tr>
<td>TAKEOFF</td>
<td>Figure 5-3</td>
</tr>
<tr>
<td>LANDING</td>
<td>Figure 5-4</td>
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</table>

**AIRSPEED CORRECTION TABLE**

GROSS WEIGHT 3800 LBS.

<table>
<thead>
<tr>
<th>Flaps 0°</th>
<th>IAS - MPH</th>
<th>CAS - MPH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 60 80 100 120 140 160</td>
<td>44 64 79 98 118 137 157</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flaps 20° &amp; 30°</th>
<th>IAS - MPH</th>
<th>CAS - MPH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 40 50 60 70 80 90 100</td>
<td>45 48 53 61 70 80 90 100</td>
</tr>
</tbody>
</table>

**MAXIMUM FLAP SPEEDS**

<table>
<thead>
<tr>
<th>FLAPS 0° TO 10° - 140 KIAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAPS 10° TO 30° - 85 KIAS</td>
</tr>
</tbody>
</table>

**STALL SPEEDS - ZERO THRUST**

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>ANGLE OF BANK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0°  20°  40°  60°</td>
</tr>
<tr>
<td>3800 LBS GROSS WEIGHT</td>
<td>FLAPS UP</td>
</tr>
<tr>
<td></td>
<td>FLAPS 20°</td>
</tr>
<tr>
<td></td>
<td>FLAPS 30°</td>
</tr>
</tbody>
</table>

**SPEEDS ARE KIAS**

Figure 5-1

Figure 5-2

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### SIERRA TAKEOFF DATA - SIERRA R/STOL CESSNA 210L CENTURION

Takeoff Distance With 20° Flaps From Hard Surfed Runway (FT.)

<table>
<thead>
<tr>
<th>WT. LBS</th>
<th>@ 50 FT.</th>
<th>KIAS KTS</th>
<th>SEA LEVEL 59°F</th>
<th>2500 FT. 50°F</th>
<th>5000 FT. 41°F</th>
<th>7500 FT. 32°F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>GRND RUN</td>
<td>TOTAL TO 50 FT.</td>
<td>GRND RUN</td>
<td>TOTAL TO 50 FT.</td>
</tr>
<tr>
<td>3800</td>
<td>60</td>
<td>0</td>
<td>715</td>
<td>1232</td>
<td>860</td>
<td>1495</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>535</td>
<td>975</td>
<td>650</td>
<td>1195</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>373</td>
<td>745</td>
<td>465</td>
<td>925</td>
</tr>
<tr>
<td>3400</td>
<td>56</td>
<td>0</td>
<td>555</td>
<td>975</td>
<td>665</td>
<td>1155</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>405</td>
<td>765</td>
<td>490</td>
<td>910</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>280</td>
<td>570</td>
<td>345</td>
<td>690</td>
</tr>
<tr>
<td>3000</td>
<td>51</td>
<td>0</td>
<td>415</td>
<td>775</td>
<td>500</td>
<td>895</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>295</td>
<td>600</td>
<td>360</td>
<td>695</td>
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<tr>
<td></td>
<td></td>
<td>20</td>
<td>200</td>
<td>440</td>
<td>245</td>
<td>520</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Increase Distances 10% for each 20°F above Standard Temperature for particular altitude.

2. For takeoff on a dry, grassy runway, increase Distances (both "Ground Run" and "Total to 50 FT.") by 5% of the "Total to 50 FT." Distance.

3. For operations in severe or gusty crosswind conditions, increase speeds 4 KIAS for each 10 knots of wind increment.

---

Figure 5-3

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### SIERRA LANDING DATA

**SIERRA R/STOL CESSNA 210L CENTURION**

Landing Distance With 30° Flaps
On Hard Surfaced Runway (Feet)

<table>
<thead>
<tr>
<th>GROSS WT. (LBS)</th>
<th>KIAS @ 50 FT</th>
<th>SEA LEVEL 59°F</th>
<th>2500 FT. 50°F</th>
<th>5000 FT. 41°F</th>
<th>7500 FT. 32°F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GRND ROLL</td>
<td>TOTAL CLEAR 50 FT</td>
<td>GRND ROLL</td>
<td>TOTAL CLEAR 50 FT</td>
<td>GRND ROLL</td>
</tr>
<tr>
<td>3800</td>
<td>57</td>
<td>490</td>
<td>960</td>
<td>525</td>
<td>1020</td>
</tr>
<tr>
<td>3400</td>
<td>53</td>
<td>440</td>
<td>905</td>
<td>470</td>
<td>955</td>
</tr>
<tr>
<td>3000</td>
<td>49</td>
<td>390</td>
<td>845</td>
<td>415</td>
<td>890</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Distances shown are based on zero wind, power off, and heavy braking.
2. Reduce Landing Distances 10% for each 5 knots headwind.
3. For operation on a dry, grassy runway, increase distances (both "Ground Roll" and "Total to Clear 50 Ft") by 20% of the "Total to Clear 50 Ft" figure.
4. For operating in gusty or severe crosswind conditions, increase speeds 4 KIAS for each 10 knot wind increment.

Figure 5-4
6. SUPPLEMENTS

No changes

7. WEIGHT AND BALANCE

See FAA Form 337 in the airplane records for the weight and C.G. of the weight added for this modification.

AIRPLANE SYSTEMS AND DESCRIPTIONS

No change

HANDLING, SERVICE AND MAINTENANCE

No Change