

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A46CE Revision 3 SYMPHONY AIRCRAFT INDUSTRIES INC. OMF-100-160 SA 160 May 2, 2005
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TYPE CERTIFICATION DATA SHEET NO. A46CE

This data sheet which is part of Type Certificate No. A46CE prescribes conditions and limitations under which the product for which the type certification was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Symphony Aircraft Industries Inc.
 3005 Lindbergh Street
 Trois-Rivières, QC
 G9A 5E1
 Canada

Type Certificate Holder Record Ostmecklenburgische Flugzeugbau GmbH
 Flughafenstraße
 17039 Trolenhagen
 Federal Republic of Germany

transferred TC A46CE to
 Symphony Aircraft Industries
 on February 15, 2005. See Note 6.

I. Model OMF-100-160, (Normal Category), approved April 9, 2001 (See Note 6)

II. Model SA 160, (Normal Category), approved May 2, 2005 (See Note 6)

<u>Engine</u>	One Lycoming O-320 D2A, TCDS 274																				
<u>Fuel</u>	100/100LL minimum grade aviation gasoline																				
<u>Engine Limits</u>	Maximum Take-Off, 2700 rpm (160 hp) Continuous Operation, 2700 rpm (160 hp)																				
<u>Propeller</u>	mt-propeller MT 186 R 140-3D P-244-3 TCDS P19BO																				
<u>Propeller Limits</u>	Diameter 73 inches (1854 mm)																				
<u>Airspeed Limits</u>	<table border="0"> <tr> <td>V_{NE}</td> <td>162 KIAS</td> <td>162 KCAS</td> <td></td> </tr> <tr> <td>V_A</td> <td>111 KIAS</td> <td>111 KCAS</td> <td>(MTOW 1960 pounds/ 889kg)</td> </tr> <tr> <td>V_A</td> <td>116 KIAS</td> <td>116 KCAS</td> <td>(MTOW 2150 pounds/ 975kg)</td> </tr> <tr> <td>V_{NO}</td> <td>130 KIAS</td> <td>130 KCAS</td> <td></td> </tr> <tr> <td>V_{FE}</td> <td>90 KIAS</td> <td>89 KCAS</td> <td></td> </tr> </table>	V _{NE}	162 KIAS	162 KCAS		V _A	111 KIAS	111 KCAS	(MTOW 1960 pounds/ 889kg)	V _A	116 KIAS	116 KCAS	(MTOW 2150 pounds/ 975kg)	V _{NO}	130 KIAS	130 KCAS		V _{FE}	90 KIAS	89 KCAS	
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<u>C.G. Range</u>	96.85 inches (2460 mm) to 102.56 in (2605 mm) aft of datum line (serials 0003 to 0022) 96.46 inches (2450 mm) to 102.36 in (2600 mm) aft of datum line (serials 0023 to 0042 and S-0001 and subsequent.)																				
<u>Reference Datum</u>	60.51 inches (1537 mm) front of firewall forward face																				
<u>Leveling Means</u>	Static port and marked hole on left rear fuselage level, refer to Section 6.3 of the Pilot's Operating Handbook.																				

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<u>Maximum Weight</u>	- Takeoff, Landing and Taxi 1960 pounds (889 kg) - Takeoff and Taxi 2150 pounds (975 kg), Landing 2042 pounds (926 kg) (Only if design change AM 1107/0002 Part 1 has been incorporated; only applicable to serial numbers 0013 and higher, this design change incorporated at the factory after serial 22. This also applies to serial number S-0001 (SA 160) and subsequent.)								
<u>Minimum Crew</u>	1								
<u>No. of Seats</u>	2 adjustable seats at 91.44 inches (232.25 cm) to 94.04 inches (238.86 cm).								
<u>Maximum Baggage</u>	<table border="0"> <tr> <td>Total maximum baggage</td> <td>165 lbs (75 kg)</td> </tr> <tr> <td>Maximum front baggage</td> <td>99 lbs (45 kg)</td> </tr> <tr> <td>Maximum aft baggage</td> <td>99 lbs (45 kg)</td> </tr> </table>	Total maximum baggage	165 lbs (75 kg)	Maximum front baggage	99 lbs (45 kg)	Maximum aft baggage	99 lbs (45 kg)		
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<u>Fuel Capacity</u>	<p><u>Serials 0003-0012:</u> 32.5 gallons (123 liters) total fuel in two wing tanks, two bleeder tanks and one feeder tank. 30.2 gallons (114 liters) usable.</p> <p><u>Serials 0013-0042:</u> <u>Serial S-0001 and subsequent:</u> 32.2 gallons (122 liters) total fuel in two wing tanks, two bleeder tanks and one feeder tank. 29.1 gallons (110 liters) usable.</p>								
<u>Oil Capacity</u>	<p>maximum 8 quarts (7.6 liters) minimum 2 quarts (1.9 liters) Aircraft oil (MIL-L-6082 or MIL-L-22851) in engine housing.</p>								
<u>Maximum Operating Altitude</u>	16,400 ft								
<u>Control Surface Movements</u>	<table border="0"> <tr> <td>Aileron</td> <td>trailing edge up 23° (+0°/-2°) trailing edge down 17° (+/-1°)</td> </tr> <tr> <td>Elevator</td> <td>trailing edge up 21° (+0°/-1°) trailing edge down 20° (+0°/-2°)</td> </tr> <tr> <td>Trim Tab</td> <td>trailing edge up 10° (+/-1°) trailing edge down 20° (+/-1°)</td> </tr> <tr> <td>Rudder</td> <td>left/right 21° (+0°/-1°)</td> </tr> </table>	Aileron	trailing edge up 23° (+0°/-2°) trailing edge down 17° (+/-1°)	Elevator	trailing edge up 21° (+0°/-1°) trailing edge down 20° (+0°/-2°)	Trim Tab	trailing edge up 10° (+/-1°) trailing edge down 20° (+/-1°)	Rudder	left/right 21° (+0°/-1°)
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<u>Manufacturer's Serial Numbers</u>	0003 to 0042 (OMF-100-160) S-0001 and subsequent (SA-160)								
<u>Import Requirements</u>	<p>a) A United States airworthiness certificate may be issued on the basis of a Canadian Certificate of Airworthiness for Export signed by a representative of Transport Canada, containing the following statement (in the English language): 'The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. type certificate No. A46CE and to be in a condition for safe operation.'</p> <p>b) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c).</p> <p>c) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Section 21.183(d) or 21.183(b).</p>								

Certification Basis

Code of Federal Regulations (CFR),
14 CFR 23 effective February 1, 1965, including Amendments 23-1 through 23-53
14 CFR 36 effective November 18, 1969, including Amendments 36-1 through 36-22

No Special Conditions and no ELOS findings were identified.

Type Certificate No. A46CE was issued April 9, 2001.
Date of Application for Type Certificate was August 19, 1999.
Type Certificate No. A46CE was reissued on May 2, 2005 to the new owner. The original certificate issued on April 9, 2001 was not located and is considered null and void.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification

In addition, the following items of equipment are required:

S/N 0003 to 0012:

Aircraft Flight Manual document number OMF-160-160, issued July 2000, LBA approved August 25, 2000 or later approved issue.

S/N 0013 to 0022:

Aircraft Flight Manual document number AM-OMF-100-101001-D, LBA approved May 31, 2002 or later approved issue.

S/N 0023 to 0042:S/N S-0001 and subsequent:

Aircraft Flight Manual document number AFM-SAI-SA-160-101001-E, Transport Canada approved February 25, 2005 or later approved issue.

NOTE 1: Weight and Balance

A current weight and balance report including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include full oil and unusable fuel.

NOTE 2: The placards specified in the LBA/Transport Canada approved Pilot's Operating Handbook must be displayed

NOTE 3: Instructions for Continued Airworthiness and Service Life Limited components are included in the Maintenance Manual OMF Document No. MM-OMF100-050000 Revision 3 (or later issue), (Chapter 4 and 5). Revisions to Airworthiness Limitations must be Transport Canada approved for the FAA.

NOTE 4: Reserved.

NOTE 5: - S/N 0003 to 0012 approved for Day-VFR operations only.

- S/N 0013 to 0022 approved for Day/Night-VFR operations, if design change AM 1107/0002 part 3a has been incorporated;
approved for IFR if design change AM 1107/0002 part 3b has been incorporated.

- S/N 0023 to 0042; S/N S-0001 and subsequent approved for Day/Night-VFR operations.

NOTE 6: The OMF-100-160 model encompasses serial numbers 0003 through 0042.
The SA 160 model encompasses serial numbers S-0001 and subsequent.

Effective February 15, 2005 design responsibility for the model OMF-160-100 airplane was transferred from OMF Flugzeugwerke GmbH, Flughafenstrasse, 17039 Trollenhagen, Germany and the LBA, to Symphony Aircraft Industries Inc., Trois-Rivières, Canada and Department of Transport (DOT) (Transport Canada).

NOTE 6: Model OMF-100-160 airplanes, serial numbers 0003 to 0041 were manufactured by Ostmecklenburgische Flugzeugbau GmbH, Germany, under LBA type certificate No. 1107.
(contd)

Model OMF-100-160 airplane, serial number 0042 was manufactured by OMF Flugzeugwerke GmbH, Germany, under LBA type certificate No. 1107.

The differences between the SA 160 airplane and the OMF-100-160 are that the SA 160 has the provisions of:

Engineering Order 43002 Revision 2 (instrument panel lighting upgrade) and;
Engineering Order 43017 Revision 2 (alternate stall warning buzzer).

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