

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SA00202SE

This certificate, issued to

**BLR Aerospace, LLC
3102 100th Street SW
Everett, WA 98204**

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations.

Original Product—Type Certificate Number: A20SO
Make: Piper
Model: PA-31-350

Description of the Type Design Change: Installation of the Super Chieftain II landing weight increase kit in accordance with Installation Manual BL1245, Revision B, dated May 01, 1996, and Drawing List BL 1244, Revision A, dated April 11, 1996, or later FAA-approved revisions.

Note: This STC requires the installation of the takeoff weight increase kit per STC SA00192SE or STC SA00039SE.

Limitations and Conditions: Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate, dated August 02, 1995, the two Continuation Sheets, and the Flight Manual Supplement specified on the continuation sheets must be maintained as part of the permanent records for the modified aircraft.

(See Continuation Sheets Pages 3 through 6)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: April 21, 1994 *Date reissued:* November 23, 2009, July 21, 2015
Date of issuance: August 02, 1995 *Date amended:* February 07, 1996; May 08, 1996



By direction of the Administrator

(Signature)

Manager, Seattle Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

Supplemental Type Certificate

(Continuation Sheet)

Number SA00202SE

BLR Aerospace, LLC

Issued: August 02, 1995
Reissued: November 23, 2009, July 21, 2015
Amended: February 07, 1996; May 08, 1996

Limitations and Conditions continued:

This Continuation Sheet, which is part of STC SA00202SE, prescribes the conditions and limitations under which the product for which the STC was issued meets the standards for airworthiness of the Federal Aviation Regulations.

The conditions and limitations of Type Certificate Data Sheet Number A20SO apply except where superseded by the following:

The following limitations pertain to airplanes with modifications per STC SA00192SE.

The aerodynamic modification consists of 88 vortex generators on the wing and vertical tail of the airplane and 2 strakes on each engine nacelle. Replacement vortex generators must be installed if more than four vortex generators are missing from the wing and/or vertical tail. If any of the 88 vortex generators are missing, the airplane must be operated within the limitations of the basic airplane flight manual.

- Flight Manual Supplement:** Document No. AFMS-PCH-5 Revision IR, dated June 19, 1995, or later FAA- approved revision.
- Airspeed Limits (CAS):**
 - Maneuvering Speed..... 161 knots
 - Minimum Single-Engine Control Speed (Red Radial)..... 74 knots
 - Minimum Single-Engine Control Speed, V_{MCA} (Flaps 15°) 69 knots
- Airspeed Indicator Markings (IAS):**
 - Normal operating range (green arc)..... 71 to 185 knots
 - Flaps operating range (white arc) 67 to 132 knots
 - Best rate-of-climb speed – Single engine (blue radial) 107 knots
 - Minimum Single-Engine Control Speed V_{MCA} 72 knots
- CG Range:**
 - Takeoff and Flight
 - +127.8 inches to +135.0 inches at 7368 pounds
 - +126.0 inches to +135.0 inches at 7000 pounds
 - +122.0 inches to +135.0 inches at 6200 pounds
 - +120.0 inches to +135.0 inches at 5200 pounds or less
 - Straight line variation between points given
- Placards:**
 - Change all references to V_{MCA} values on placards to 72 KIAS.
 - Change all references to V_P values on placards to 159 KIAS.
- Maximum Weights:**
 - Ramp..... 7448 pounds
 - Takeoff 7368 pounds
 - Landing..... 7368 pounds

(See Continuation Sheets Pages 4 through 6)

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Supplemental Type Certificate (Continuation Sheet)

Number SA00202SE

BLR Aerospace, LLC

Issued: August 02, 1995
Reissued: November 23, 2009, July 21, 2015
Amended: February 07, 1996; May 08, 1996

Limitations and Conditions continued:

The following limitations pertain to airplanes with modifications per STC SA00192SE. (continued)

Engine Limits:

Maximum takeoff power (MTOP):
Maximum RPM..... 2575 RPM
Maximum horsepower..... 350 hp
Maximum manifold pressure (inches of mercury)
At and below 15,000 feet..... 49.0
At 22,300 feet 44.3
At 24,000 feet 40.5
Straight line variation between points given.

Maximum continuous power (MCP):
Maximum RPM..... 2400 RPM
Maximum horsepower..... 315 hp
Maximum manifold pressure (inches of mercury)
At and below 18,700 feet..... 40.0
At 24,000 feet 31.0
Straight line variation between points given.

Engine Instrument Markings:

Tachometer
Normal operating range (green arc)..... 500 to 2400 RPM
Maximum (red radial) 2575 RPM

Manifold Pressure
Normal operating range (green arc)..... 18 to 40 inches of mercury
Maximum (red radial) 49 inches of mercury

Load Factor Limits (g's):

Flaps up..... +3.47, -1.39
Flaps down (all settings) +2.00

(See Continuation Sheets Pages 5 through 6)

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Supplemental Type Certificate (Continuation Sheet)

Number SA00202SE

BLR Aerospace, LLC

Issued: August 02, 1995
Reissued: November 23, 2009, July 21, 2015
Amended: February 07, 1996; May 08, 1996

Limitations and Conditions continued:

The following limitations pertain to airplanes with modifications per STC SA00039SE. (continued)

The aerodynamic modification consists of 86 vortex generators on the wing and vertical tail of the airplane, two stall fences (one on each wing), and four strakes (two on each nacelle). Replacement vortex generators must be installed if more than four vortex generators are missing from the wing and/or vertical tail. If any of the 86 vortex generators are missing, the airplane must be operated within the limitations of the basic airplane flight manual.

Flight Manual Supplement: Document Number AFMS-PCH-6, Revision IR, dated May 08, 1996 or later FAA-approved revision.

Airspeed Limits (CAS): Maneuvering Speed 156 knots
Never Exceed Speed 226 knots

Airspeed indicator Markings (IAS): Normal operating range (green arc) 73 to 185 knots
Flaps operating range (white arc) 68 to 132 knots
Caution range – Smooth Air (yellow arc) 185 to 226 knots
Never exceed speed (red radial) 226 knots

CG Range: Takeoff and Flight
+130.4 inches to +135.0 inches at 7200 pounds
+126.0 inches to +135.0 inches at 7000 pounds
+122.0 inches to +135.0 inches at 6200 pounds
+120.0 inches to +135.0 inches at 5200 pounds or less
Straight line variation between points given.

Maximum Weights: Ramp 7245 pounds
Takeoff 7200 pounds
Landing 7200 pounds
Zero Fuel 7000 pounds

(See Continuation Sheet Pages 6)

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Supplemental Type Certificate (Continuation Sheet)

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Issued: August 02, 1995
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Limitations and Conditions continued:

The following limitations pertain to airplanes with modifications per STC SA00039SE. (continued)

Engine Limits:

Maximum takeoff power (MTO):
Maximum RPM..... 2575 RPM
Maximum horsepower..... 350 hp
Maximum manifold pressure (inches of mercury)
At and below 15,000 feet..... 49.0
At 22,300 feet 44.3
At 24,000 feet 40.5
Straight line variation between points given.

Maximum continuous power (MCP):
Maximum RPM..... 2400 RPM
Maximum horsepower..... 315 hp
Maximum manifold pressure (inches of mercury)
At and below 18,700 feet..... 40.0
At 24,000 feet 31.0
Straight line variation between points given.

**Load Factor
Limits (g's):**

Positive Maneuvers..... +3.50
Negative Maneuvers -1.40

- END -

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