

CARSON

HELICOPTERS, INC.



April 22, 2008

Mr. Chuck Taylor
National Helicopter Program Specialist
United States Forest Service
3833 South Development Avenue
Boise ID 83705-5398

Subject: Aircraft Authorized to use Carson Composite Main Rotor Blades HOGE charts.

Dear Mr. Taylor,

Following is a list of Sikorsky S-61 aircraft operators authorized to operate Carson Composite Main Rotor Blades and use the Hover Out of Ground Effect (HOGE) performance charts. The approved operators and aircraft are;

S-61N STC # SR01771NY Rotorcraft Flight Manual Supplement #5 (Short Body) Dated Oct. 6, 2003 (Amended April 11, 2005) * See Attached Exhibit A – *Limited to 9,000' D.A.*

- Helicopter Transport Services, Inc. –
 - N91158, Serial Number 61424
- Construction Helicopters, Inc. –
 - N905CH, Serial Number 61711
- Vancouver Island Helicopters, Inc. –
 - N301Y, Serial Number 61032
 - N4240S, Serial Number 61818

S-61A / V STC # SR01771NY Rotorcraft Flight Manual Supplement #6 Dated Oct. 6, 2003 (Amended August 11, 2006) * See Attached Exhibit B – *Limited to 9,000' D.A.*

- Carson Helicopters, Inc. –
 - N3173U, Serial Number 61186
- Billings Flying Service –
 - N81661, Serial Number 61272
 - N81697, Serial Number 61147
- Construction Helicopters, Inc. – N1043T, Serial Number 61083
- Siller Aviation – N45917, Serial Number 61271

CARSON

HELICOPTERS, INC.



S-61L, N, NM STC # SR02382NY Rotorcraft Flight Manual Supplement #6 Dated May 18, 2007 (modified Feb. 7, 2008 by STC # SR02507NY) * See Attached Exhibit C – *Limited to 14,000' D.A.*



- Carson Helicopters, Inc. –
 - N612RM Serial Number 61744
 - N7011M Serial Number 61216
 - N4503E Serial Number 61220
 - N116AZ, Serial Number 61242
 - N61NH Serial Number 61474
 - N103WF Serial Number 61766
 - N612AZ Serial Number 61297
 - N410GH Serial Number 61749
 - N905AL Serial Number 61717
 - N725JH Serial Number 61775

- Siller Aviation – N15456, Serial Number 61826

Note: Siller Aviation has two aircraft approved (N15456 and N45917), however they only possess one set of Composite Main Rotor Blades.

Please contact the undersigned with any questions.

Sincerely,

Steve Metheny
Vice President

United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SR02382NY

This certificate issued to Carson Helicopters, Inc.
32-H Blooming Glen Road
Perkasie, PA 18944

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 29 of the Federal Aviation Regulations.

Original Product Type Certificate Number: 1H15

Make: Sikorsky

Model: S-61L, S-61N, S-61NM

Description of Type Design Change:

Increase of Out of Ground Effect (OGE) and In Ground Effect (IGE) Hover Performance for the Sikorsky S-61L, S-61N and S-61NM Helicopters in accordance with Carson Helicopters, Inc. Report No. CHI-05-1000 Rev F, dated December 12, 2006.

Limitations and Conditions:

1. S-61 Models effected by this STC are required to be configured with the following:
 - CT58-140-1 Engines or — 2 Engines
 - S61 Long or Short Fuselage Aircraft
 - Main Gear Box (P/N S6135-20600-039 and subsequent).
 - Ribbed pocket tail rotor blades (P/N S6117-30101-043 and subsequent).
 - Bifilar assembly (P/N S6112-23039-017 or -018).
 - Beam Pitch Control Tail Gear Box (P/N S6135-66705-1 and subsequent).
 - Fixed Land Main Gear or Sponson Landing Gear.
 - STC SR1585NY (Composite Main Rotor Blades P/N 163-101-1).

(See Continuation Sheet 2)

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 7, 2005

Date received:

Date of issuance: May 18, 2007

Date amended:



By direction of the Administrator

(Signature)
Anthony Socias
Manager
New York 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.

United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SR02382NY

Limitations and Conditions (Continued):

2. Operation must be in accordance with Carson Helicopters, Inc. Rotorcraft Flight Manual Supplement No. 6, Rev. IR, dated May 18, 2007.
3. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.
4. The installer must determine whether this design change is compatible with previously approved modifications.

.....END.....

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

United States of America
Department of Transportation -- Federal Aviation Administration
Supplemental Type Certificate

Number SR01771NY

This certificate issued to Carson Helicopters, Inc.
32-H Blooming Glen Road
Perkasie, PA 18944

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

Original Product -- Type Certificate Number: * *See attached FAA Approved Model List (AML)
No. SR01771NY for list of approved aircraft
Make: * models and applicable airworthiness regulations.
Model: *

Description of Type Design Change:

Increase of Out of Ground Effect (OGE) Hover Performance for the Sikorsky S-61A and S-61N Helicopters in accordance with Carson Helicopters, Inc. Report No. CHI-03-1002 Rev IR dated March 24, 2003.

Limitations and Conditions:

1. S-61 Models effected by this STC are required to be configured with the following:
Gearbox, P/N S6135-20600-039 or subsequent
Ribbed pocket tail rotor blades, P/N S6117-30101-043 or S6117-30101-045
Bifilar assembly, P/N S6112-23039-017 or S6112-23039-018
Beam pitch control tail gearbox, P/N S6135-66705-1
Fixed Main Landing Gear
S-61N helicopters with a reduction in fuselage length by fifty inches (from station 110 to station 160).
2. A copy of this certificate and the FAA Approved Model List (AML) No. SR01771NY, issued October 6, 2003 or later FAA approved revisions, must be maintained as part of the permanent records for the modified aircraft.
3. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.
4. Compatibility of this design change with previously approved modifications must be determined by the installer.

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: October 23, 2002

Date reissued:

Date of issuance: October 6, 2003

Date amended: April 11, 2005, August 11, 2006



By direction of the Administrator

(Signature)

Anthony Socias
Manager
New York 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.

FAA APPROVED MODEL LIST (AML) No. SR01771NY

CARSON HELICOPTERS INCORPORATED

FOR

INCREASED OUT OF GROUND EFFECT (OGE) HOVER PERFORMANCE

Issue Date: October 6, 2003

PART	REGULATION	MAKE	MODEL	ORIGINAL PRODUCT TYPE CERTIFICATE DATA SHEET	PREREQUISITE STC's	REQUIRED DOCUMENTATION		AML AMENDMENT DATE
						ROTORCRAFT FLIGHT MANUAL SUPPLEMENT		
7	Civil Air	Sikorsky	S-61N	IH15	SH640NE (50" Reduced Length Fuselage)	CH-04, FAA approved October 6, 2003		N/A
7	Civil Air	Sikorsky	S-61N	IH15	SH640NE (50" Reduced Length Fuselage) SR01585NY (Composite Main Rotor Blades)	CH-05, FAA approved October 6, 2003		N/A
29	Federal Aviation	Sikorsky	S-61A	H2EA	SR00208NY (CTS8-140-1 Engines)	CH-05, FAA approved October 6, 2003		N/A
29	Federal Aviation	Sikorsky	S-61A S-61V S/N 61271	H2EA	SR00208NY (CT58-140-1 Engines) SR01585NY (Composite Main Rotor Blades)	CH-06, FAA approved August 11, 2006		August 11, 2006

FAA Approved:

Anthony Socias

Manager, New York Aircraft Certification Office

Date of Amendment: August 11, 2006

Exhibit B

Carson Helicopters Inc.
Perkasie PA, 18944
RFMS No. 6

1 of 4

Part 1, Section 1
Operating Limitations

Configuration

The following must be installed on the aircraft:

1. CT58-140-1 Engines (STC SR00208NY).
2. Main Gear Box (P/N S6135-20600-039 and subsequent)
3. Ribbed pocket tail Rotor Blades (P/N S6117-30101-045).
4. Bifilar assembly (P/N S6112-23039-017).
5. Beam Pitch Control Tail Gear Box (P/N S6135-66705-1).
6. Fixed Land Main Gear.
7. Composite Main Rotor Blades (P/N 163-101-1).

Altitude Limits

Takeoff and Landing, Category B: 12,000 feet density altitude.

Enroute Altitude: 14,000 feet density altitude.

Class B External Load Operations

Altitude: 9,000 feet density altitude

Part 1, Section 4
Performance

When conducting OGE hovering operations, use the data presented in this Performance Section, which supercedes that of the NATOPS flight manual and Carson Services, Inc. Supplement No. 4.

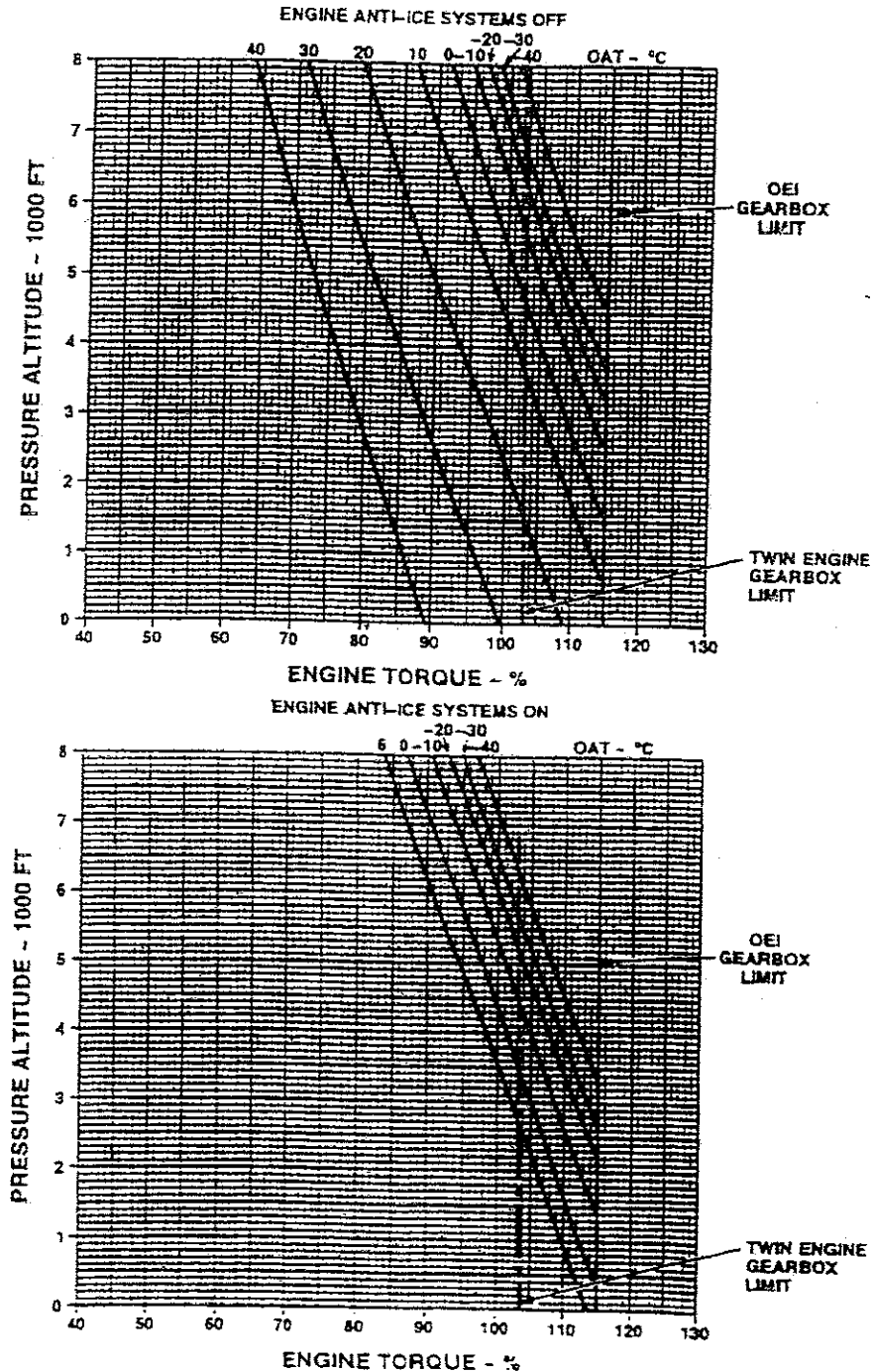
FAA Approved: _____

Date: OCT - 5 2003

Revision: _____

Carson Helicopters Inc.
Perkasie, Pa 18944
RFMS # 6

S61A
POWER AVAILABLE
TAKEOFF POWER (5 MIN TWIN, 30 MIN OEI)
CT58-140-1
100% NR
SPECIFICATION POWER



FAA Approved: _____
Date: OCT - 6 2003
Revision: _____

Takeoff power available at 100%

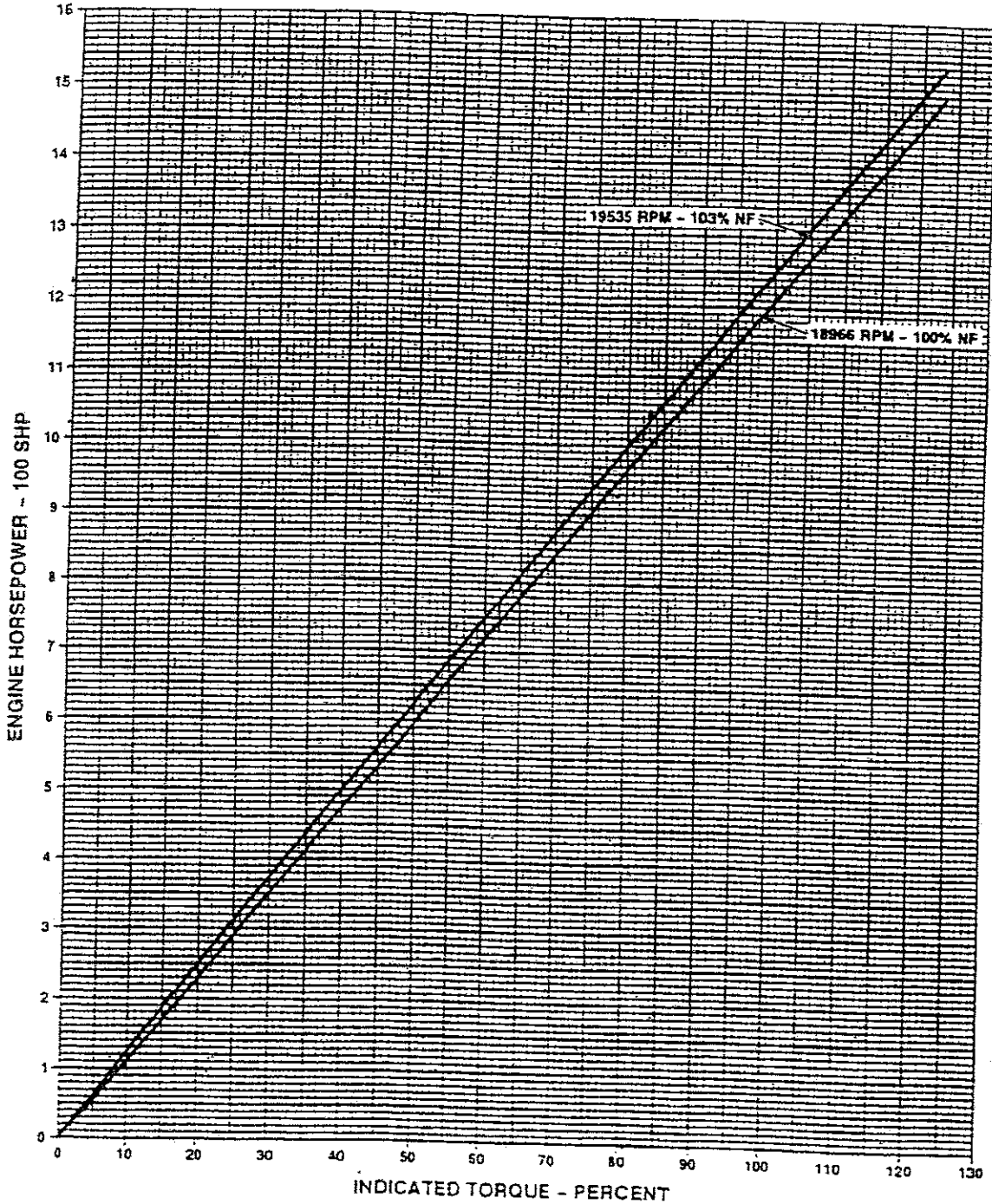
Figure 1

Exhibit B
3 of 4

Carson Helicopters Inc.
Perkasie, Pa 18944
RFMS # 6
S61A

INDICATED TORQUE VS ENGINE SHAFT HORSEPOWER

CT58-140 ENGINES



FAA Approved: _____
Date: OCT - 6 2003
Revision: _____

Indicated torque vs engine shaft horsepower

Figure 3

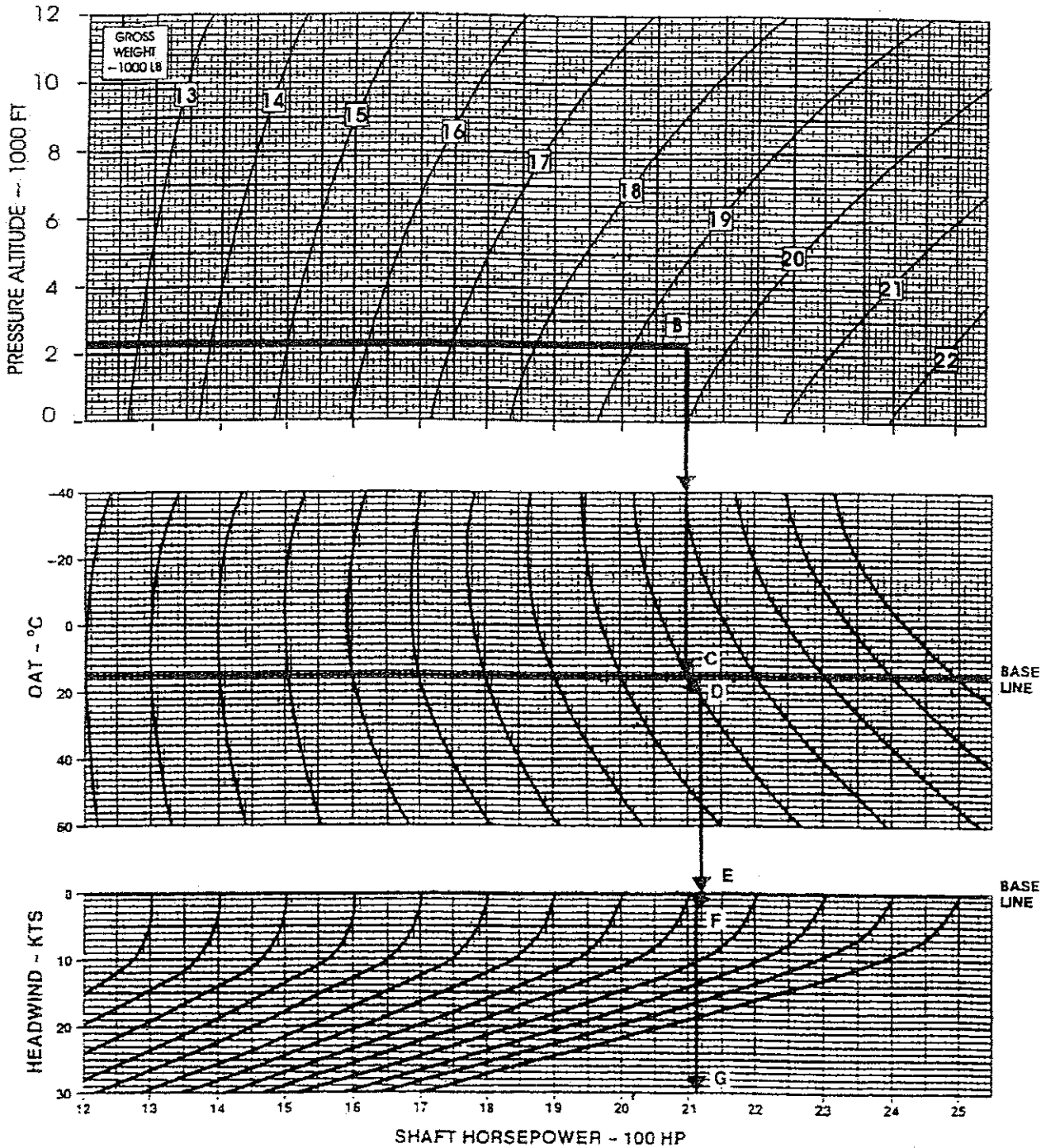
Exhibit B
4 of 4

Garson Helicopters Inc.
Perkasie, Pa 18944
RFMS # 6

NO ICE SHIELD
SOURCE:
FLT TEST

S61A
POWER REQUIRED TO HOVER
OUT OF GROUND EFFECT
COMPOSITE BLADES
103% NR

FIXED LANDING GEAR
10 KVA GENERATOR LOAD
CT58-140-1



SHAFT HORSEPOWER - 100 HP

Power Required To
Hover OGE, 103% NR

FAA Approved: _____
Date: OCT - 5 2003
Revision:

Figure 5

Part 1, Section 1
Operating Limitations

Configuration

The following must be installed on the aircraft:

1. CT58-140-1 Engines or -2 Engines
2. S61 Long or Short Fuselage Aircraft
3. Main Gear Box (P/N S6135-20600-039 and subsequent).
4. Ribbed pocket tail rotor blades (P/N S6117-30101-043 and subsequent).
5. Bilhar assembly (P/N S6112-23039-017 or -018).
6. Beam Fitch Control Tail Gear Box (P/N S6135-66705-1 and subsequent).
7. Fixed Land Main Gear or Sponson Landing Gear.
8. STC SR1585NY (Composite Main Rotor Blades P/N 163-101-1).

Altitude Limits

Takeoff and Landing, Category B: 12,000 feet density altitude.
Enroute Altitude: 14,000 feet density altitude.

Class B External Load Operations

Altitude: 14,000 feet density altitude

Part 1, Section 4
Performance

When conducting IGE/CGH hovering operations, use the data presented in this Performance Section, which supersedes that of the basic flight manual and Sikorsky Supplements No. 6, S61L and 15 and 16, S61N/NM.

FAA Approved: _____
Date: _____
Revision: IR

Exhibit C
2 of 5

CARSON HELICOPTERS, INC.
PERKASIE, PA 18944
RFMS # 5
S61LN

POWER AVAILABLE
TAKEOFF POWER (5 MIN TWIN, 30 MIN OEI)
CT58-140-1, -2 ENGINE(S)
103% NR
SPECIFICATION POWER

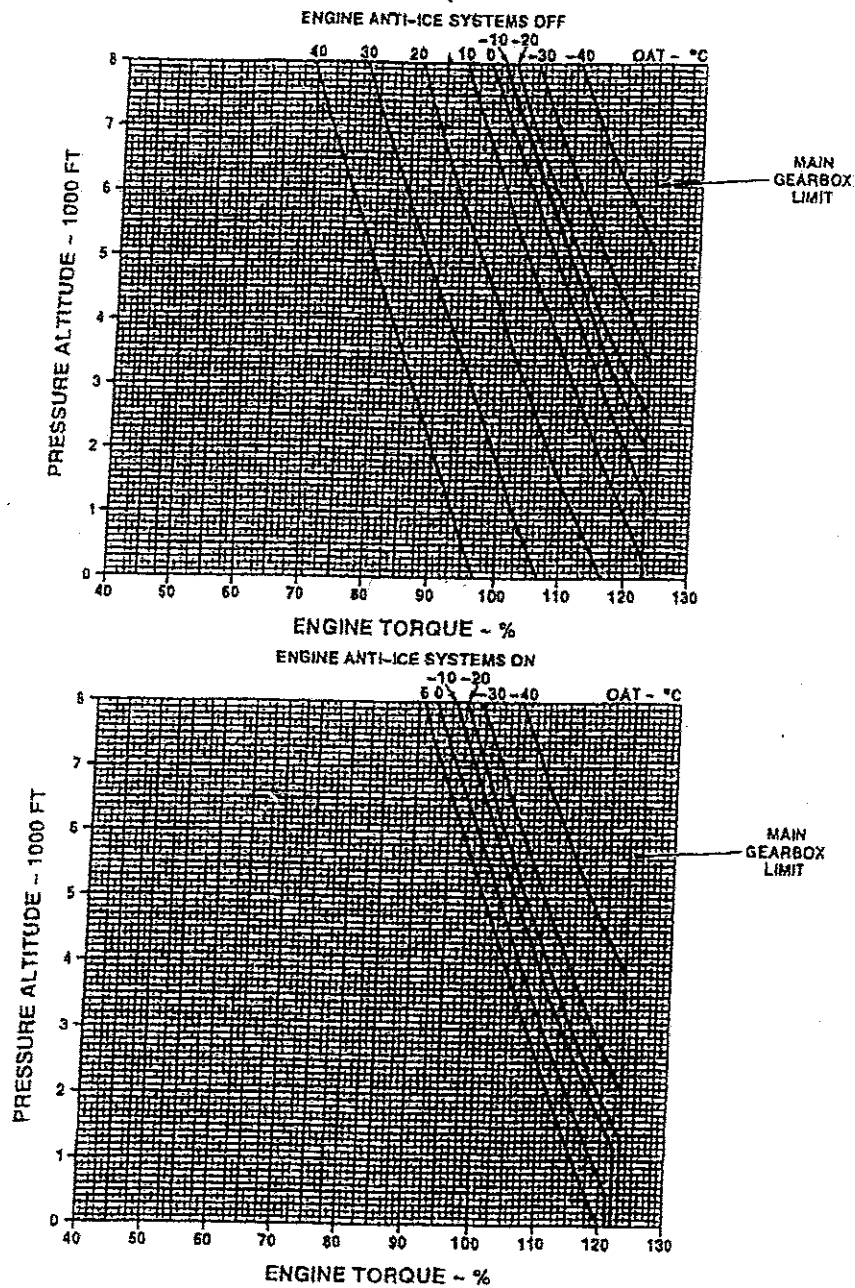


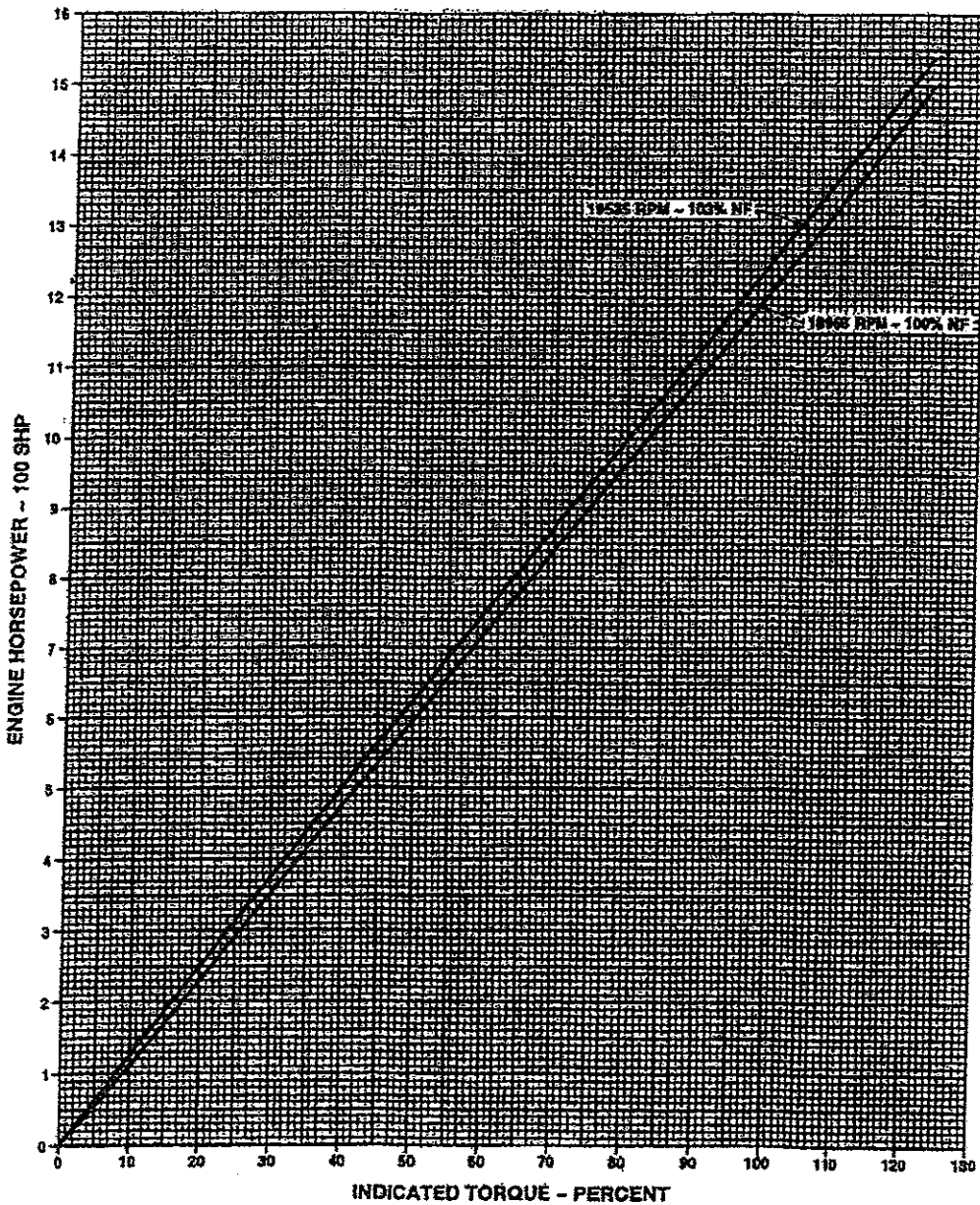
FIGURE 1

FAA APPROVED
DATE: FEB - 7 2008

Exhibit e
3 of 5

S61L,N,NM
INDICATED TORQUE
VS
ENGINE SHAFT HORSEPOWER

CT5B-140 ENGINES



INDICATED TORQUE - PERCENT
Indicated torque vs engine
shaft horsepower

FAA Approved: _____
Date: MAY 18 2007
Revision: _____

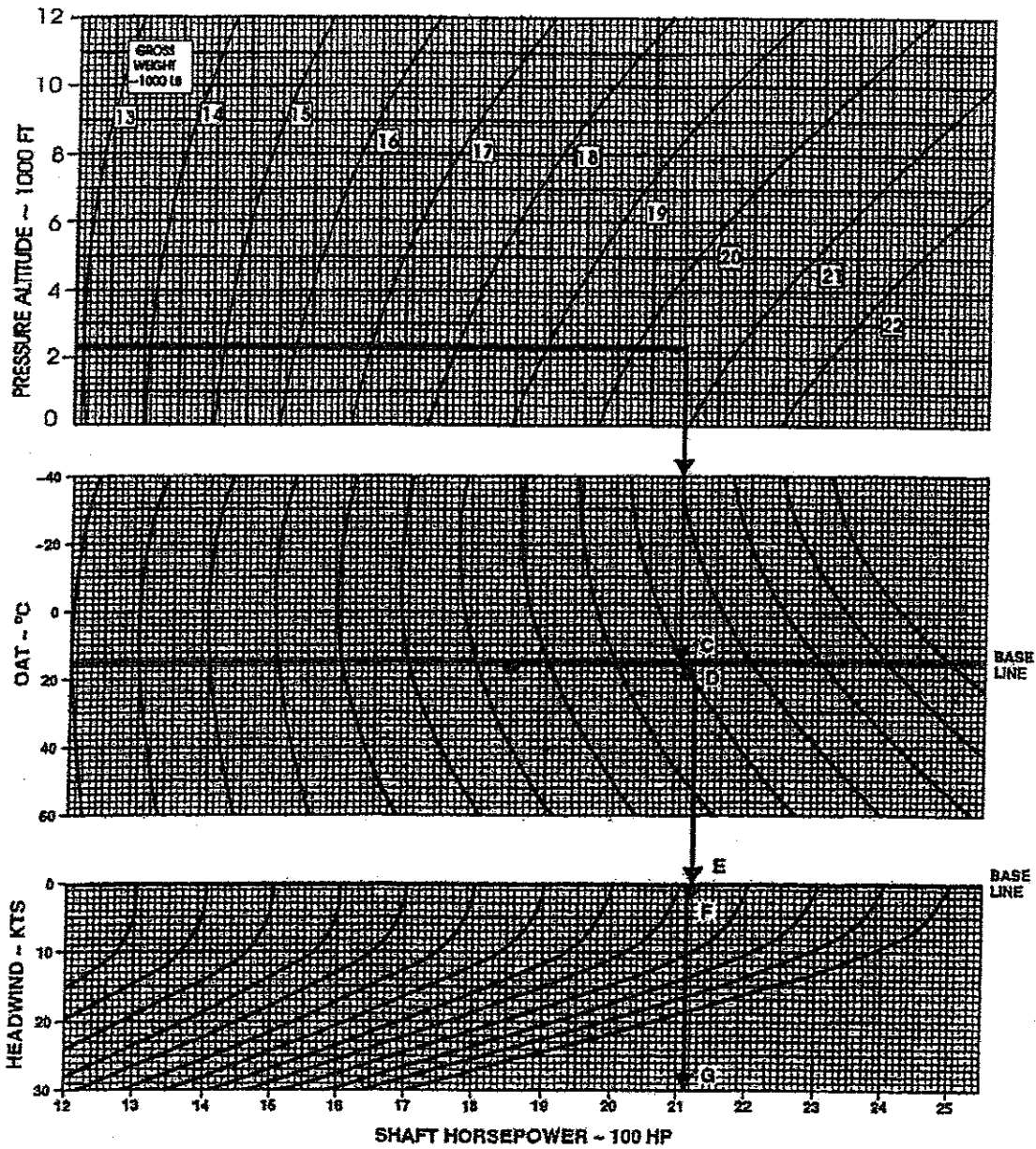
Figure 2

Exhibit C
4 of 5

NO ICE SHIELD
SOURCE:
FLT TEST

RFMS # 6
S61L,N,NM
POWER REQUIRED TO HOVER
WHEEL CLEARANCE 10FT
IN GROUND EFFECT
COMPOSITE BLADES
103% Nr

10 KVA GENERATOR LOAD
CT58-140-1-2



FAA Approved: _____
Date: MAY 18 2007
Revision: _____

Power Required To
Hover IGE, 103% NR

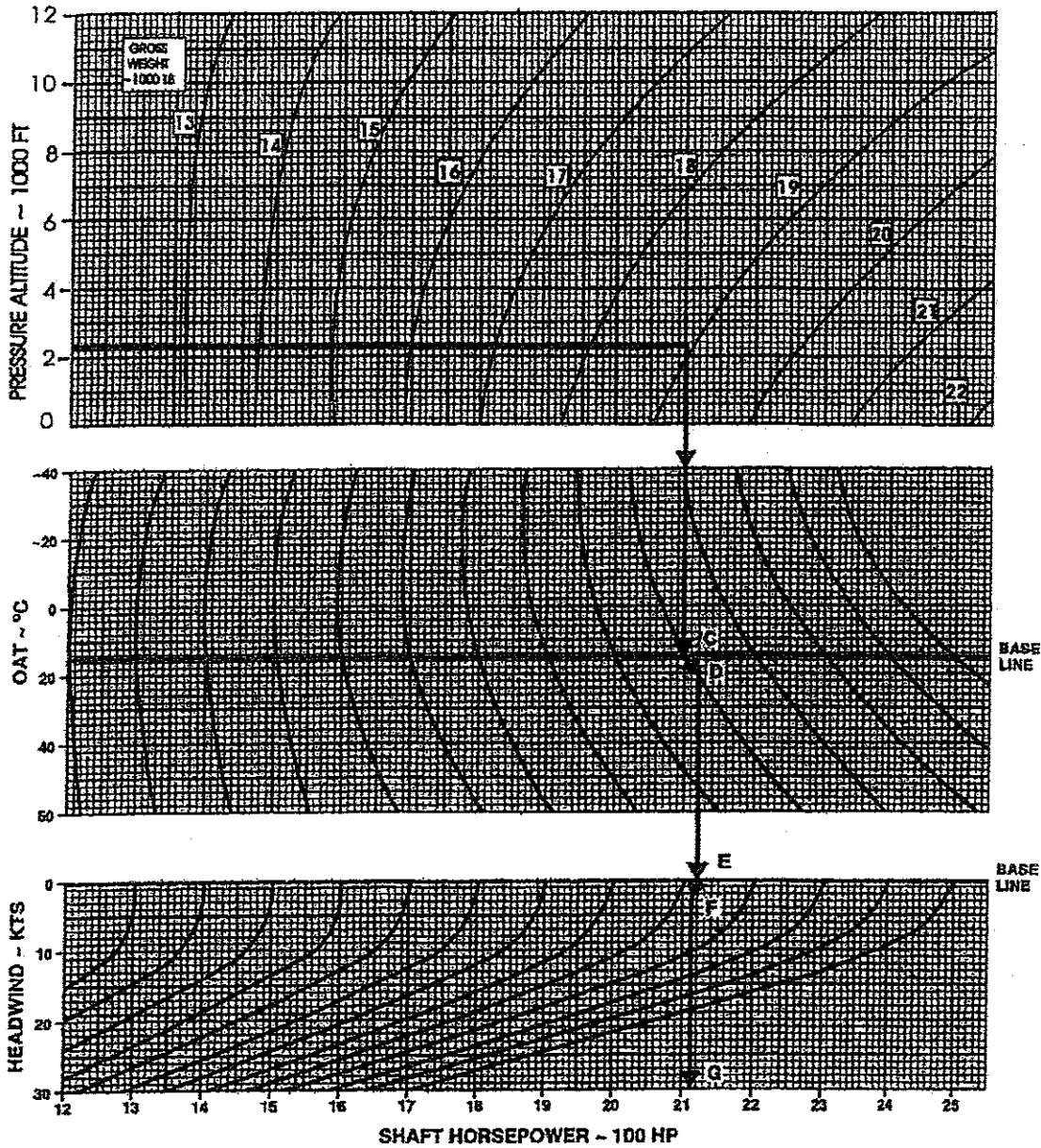
Figure 4

106
J20

NO ICE SHIELD
SOURCE:
FLT TEST

S61L,N,NM
POWER REQUIRED TO HOVER
OUT OF GROUND EFFECT
COMPOSITE BLADES
103% Nr

10 KVA GENERATOR LOAD
CT58-140-1-2



SHAFT HORSEPOWER ~ 100 HP

Power Required To
Hover OGE, 103% NR

FAA Approved: _____
Date: MAY 18 2007
Revision: _____

Figure 6