*TM 1-1520-237-CL

TECHNICAL MANUAL

OPERATOR'S AND CREWMEMBER'S CHECKLIST

UH-60A HELICOPTER
UH-60L HELICOPTER
EH-60A HELICOPTER

*This manual supercedes TM 1-1520-237-CL, dated 31 August 1994, including all changes.

31 October 1996

CHANGE NO. 7

**HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 15 June 2001**

Operator's and Crewmember's Checklist

ARMY MODELS

UH–60A HELICOPTERS
UH–60L HELICOPTERS
EH–60A HELICOPTERS

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1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a vertical bar next to the figure title. Text that flows to the following page is indicated by a current change number.

Remove pages	Insert pages
A and B	A and B
i through ii	i through iii/(iv Blank)
N-5 and N-6	N-5 and N-6
N-9 through N-12	N-9 through N-12
----------	N-12.1/(N-12.2 Blank)
E-1 through E-6	E-1 through E-6
P-1 and P-2	P-1 and P-2
P-17 and P-18	P-17 and P-18
P-18.1/(P-18.2 Blank)	P-18.1/(P-18.2 Blank)

2. Retain this sheet in front of manual for reference purposes.

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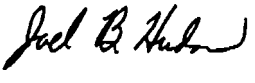

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TM 1–1520–237–CL
C 6

CHANGE NO. 6

**HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 27 November 2000**

**Operator's and Crewmember's
Checklist**

ARMY MODELS

**UH–60A HELICOPTERS
UH–60L HELICOPTERS
EH–60A HELICOPTERS**

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TM 1-1520-237-CL
C6

Remove Pages	**Insert Pages**
A and B	A and B
I and ii	I and ii
N-7 through N-10	N-7 through N-10
E-27 and E-28	E-27 and E-28
P-11 and P-12	P-11 and P-12
P-15 and P-16	P-15 and P-16

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CHANGE NO. 5

HEADQUARTERS
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WASHINGTON, D.C., 3 April 2000

Operator's and Crewmember's Checklist

ARMY MODELS

UH-60A HELICOPTERS
UH-60L HELICOPTERS
EH-60A HELICOPTERS

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TM 1-1520-237-CL
C 5

Remove pages	Insert pages
A/(B blank)	A and B
P-19 and P-20	P-19 and P-20

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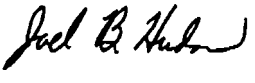

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CHANGE NO. 4

HEADQUARTERS
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Operator's and Crewmember's Checklist

ARMY MODELS

UH-60A HELICOPTERS
UH-60L HELICOPTERS
EH-60A HELICOPTERS

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Remove pages	Insert pages
A/(B blank)	A/(B blank)
N-1 through N-4	N-1 through N-4
N-4.1/(N-4.2 blank)	N-4.1/(N-4.2 blank)
N-5 and N-6	N-5 and N-6
N-6.1/(N-6.2 blank)	N-6.1/(N-6.2 blank)
N-11 through N-15/(N-16 blank)	N-11 through N-15/(N-16 blank)
E-11 through E-14	E-11 through E-14
E-21 through E-24	E-21 through E-24
P-3 and P-4	P-3 and P-4
P-7 through P-16	P-7 through P-16
P-16.1/(P-16.2 blank)	P-16.1/(P-16.2 blank)

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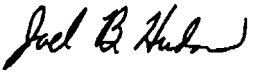

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CHANGE NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
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Operator's and Crewmember's Checklist

ARMY MODELS

UH-60A HELICOPTERS
UH-60L HELICOPTERS
EH-60A HELICOPTERS

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A/(B blank)	A and B
i and ii	i and ii
N-3 through N-4	N-3 through N-4
N-4.1/(N-4.2 blank)	N-4.1/(N-4.2 blank)
N-5 and N-6	N-5 and N-6
N-7 and N-8	N-7 and N-8
N-9 and N-10	N-9 and N-10
N-11 and N-12	N-11 and N-12

N-13 and N-14	N-13 and N-14
N-15/(N-16 blank)	N-15/(N-16 blank)
E-29 through E-32	E-29 through E-32
P-3 and P-4	P-3 and P-4
P-13 through P-16	P-13 through P-16
P-17 and P-18	P-17 and P-18
None	P-18.1/(P-18.2 blank)
P-19 through P-24	P-19 through P-24
None	P-24.1 and P-24.2

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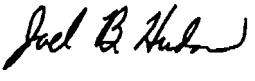

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TM 1-1520-237-CL
C 2

CHANGE NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 OCTOBER 1998

Operator's and Crewmember's Checklist

ARMY MODELS

UH-60A HELICOPTERS
UH-60L HELICOPTERS
EH-60A HELICOPTERS

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A/(B blank)	A/(B blank)
i and ii	i and ii
N-3 and N-4	N-3 and N-4
None	N-4.1/(N-4.2 blank)
N-5 and N-6	N-5 and N-6
None	N-6.1/(N-6.2 blank)
N-9 and N-10	N-9 and N-10
N-13 and N-14	N-13 and N-14
N-15/(N-16 blank)	N-15/(N-16 blank)
E-23 through E-26	E-23 through E-26
P-15 and P-16	P-15 and P-16
None	P-16.1/(P-16.2 blank)

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CHANGE
NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 JUNE 1997

Operator's and Crewmember's Checklist

ARMY MODELS

UH-60A HELICOPTERS
UH-60L HELICOPTERS
EH-60A HELICOPTERS

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Remove pages	Insert pages
A/(B blank)	A/(B blank)
N-11 and N-12	N-11 and N-12
E-7 and E-8	E-7 and E-8
E-23 and E-24	E-23 and E-24
E-25 and E-26	E-25 and E-26
P-19 and P-20	P-19 and P-20
P-23/(P-24 blank)	P-23 through P-57/(P-58 blank)

2. Retain this sheet in front of manual for reference purposes.

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LIST OF EFFECTIVE PAGES

Insert latest changed pages; dispose of superseded pages in accordance with applicable regulations.

NOTE: On a changed page, the portion of the text affected by the latest change is indicated by a vertical line, or other change symbol in the outer margin of the page.

Total number of pages in this manual is 126.

Original	0	31 October 1996
Change	1	30 June 1997
Change	2	30 October 1998
Change	3	29 January 1999
Change	4	30 July 1999
Change	5	3 April 2000
Change	6	27 November 2000
Change	7	15 June 2001

Page No.	*Change No.	Page No.	*Change No.
Title	0	N-8	6
Blank	0	N-9 - N-12.1	7
A - B	7	N-12.2 Blank	7
i	6	N-13 - N-15	4
ii - iii	7	N-16 Blank	4
iv Blank	7	E-1 - E-2	7
N-1	0	E-3	0
N-2	4	E-4 - E-6	7
N-3	3	E-7	1
N-4 - N-4.1	4	E-8 - E-9	0
N-4.2 Blank	4	E-10 Blank	0
N-5	0	E-11	4
N-6	7	E-12 - E-13	0
N-6.1	4	E-14	4
N-6.2 Blank	4	E-15 - E-19	0
N-7	3	E-20 Blank	0

*** Zero in this column indicates an original page.**

Page No.	*Change No.	Page No.	*Change No.
E-21	4	P-10	4
E-22	0	P-11	6
E-23	4	P-12 - P-14	4
E-24 - E-26	2	P-15	6
E-27	6	P-16 - P-16.1	4
E-28	0	P-16.2 Blank	4
E-29 - E-32	3	P-17	0
P-1	0	P-18 - P-18.1	7
P-2	7	P-18.2 Blank	7
P-3	4	P-19	5
P-4	3	P-20 - P-24.2	3
P-5 - P-7	0	P-25 - P-57	1
P-8	4	P-58 Blank	1
P-9	0		

*** Zero in this column indicates an original page.**

GENERAL INFORMATION AND SCOPE

SCOPE. This checklist contains the operator's checks to be accomplished during normal and emergency operations.

GENERAL INFORMATION. This checklist consists of three parts: normal procedures, emergency procedures, and performance data. Normal procedures consist of the procedures required for normal flight and those required for ″Before Landing″. The normal procedures portion will be subdivided to include the before landing checks of Chapter 8 of the operator's manual. Emergency procedures are subdivided into 10 classifications as follows: engine, propeller/rotor (insert either PROP or ROTOR), fire, fuel, electrical (ELECT), hydraulic (HYD), landing and ditching (LDG/DTCH), flight controls (FLT CONT), bailout or ejection (BAILOUT) (EJECT), and mission equipment (MSN/EQPT) (as applicable). Detailed procedures consists of detailed procedural checks.

NOTE

This checklist does not replace the amplified version of the procedures in the operator's manual (TM 1-1520-237-10), but is a condensed version of each procedure.

NORMAL PROCEDURE PAGES. The contents of the normal procedures of this manual are a condensed version of the amplified checklist appearing in the normal procedures or crew duties portion of the applicable operator's manual.

EMERGENCY PROCEDURES PAGES. The requirements of this section of the condensed checklist manual (CL) are identical to those for the normal procedures, except that the information is drawn from the amplified checks in the emergency procedures portion of the operator's manual.

The emergency requirements are subdivided into 10 classifications listed above. Immediate action items shall be underlined.

ENVIRONMENTAL INFORMATION. This document has been reviewed for the presence of Class I Ozone Depleting Chemicals. As of Change 2, dated October 1998, all references to Class I Ozone Depleting Chemicals have been removed from this document by substitution with chemicals that do not cause atmospheric ozone depletion.

HAZARDOUS MATERIAL. This document has been reviewed for the presence of Hazardous Materials as defined by the SD-14 list. As of Change 2, dated October 1998, non-hazardous or less hazardous materials have been substituted where possible.

Symbols preceding numbered steps:

* — Indicates performance of steps is mandatory for all thru flights.

N — Indicates performance of step is mandatory for night flights.

★ — Indicates a detailed procedure for this step is included in the performance checks section, located at the back of the checklist.

I — Indicates mandatory check for instrument flights.

O — Indicates if installed.

④ — Pilot not on the controls duties.

Immediate action emergency items are underlined.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of the applicable Operator's Manual (when using the 2028-2 from the Operator's Manual, make sure the publication number and title are changed to reflect this CL) directly to: Commander, US Army Aviation and Missile Command, ATTN: AMSAM-MMC-**MA-NP**, Redstone Arsenal, AL 35898-5230. A reply will be furnished to you. You may also submit your comments electronically to our E-mail address: **2028**@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. Instructions for sending an electronic 2028 may be found at the backof the applicable Operator's Manual immediately preceding the hard copy 2028.

BEFORE EXTERIOR CHECK

1. Publications - Check.

* 2. Helicopter covers, locking devices, tiedowns, and grounding cables - Removed and secured.

* 3. Fuel - Check quantity as required.

4. Fuel sample - As required.

EXTERIOR CHECK

NOSE SECTION (AREA 1)

* 1. Main rotor blades - Check.

2. Fuselage - Check.

COCKPIT - LEFT SIDE (AREA 2)

1. Cockpit area - Check.

* 2. Left engine oil level - Check.

CABIN TOP (AREA 3)

1. Cabin top - Check.

2. APU - Check; oil level.

O 3. APU IPS - Check.

4. Gust lock - Check.

5. Main transmission - Check; oil level.

* 6. Main rotor system - Check.

INTERIOR CABIN (AREA 4)

1. Cabin - Check.
2. APU accumulator pressure gage - Check.
3. Transmission oil filter impending bypass indicator - Check.
4. Cargo Hook - Check.
5. Survival gear and mission equipment - Check.

FUSELAGE - LEFT SIDE (AREA 5)

1. Fuselage - Check.

* 2. Intermediate gear box - Check; oil level.

TAIL PYLON (AREA 6)

1. Tail pylon - Check.

* 2. Tail rotor - Check.

* 3. Tail rotor gear box - Check; oil level.

FUSELAGE RIGHT SIDE (AREA 7)

1. Fuselage - Check.

COCKPIT - RIGHT SIDE (AREA 8)

* 1. Right engine oil level - Check.

2. Cockpit area - Check.

★* 3. Crew and passenger briefing - Complete as required.

BEFORE STARTING ENGINES

* 1. Copilot's collective - Extended and locked.

2. Shoulder harness locks - Check.

3. **PARKING BRAKE** - Release, then set.

★ 4. Circuit breakers and switches - Set.

COCKPIT EQUIPMENT CHECKS

* 1. **FUEL PUMP** switch - **APU BOOST**.

* 2. **APU CONTR** switch - **ON**.

* 3. **APU** generator switch - **ON**.

* 4. **EXT PWR** switch - **OFF**.

O★ 5. ERFS **AUXILIARY FUEL MANAGEMENT** control panel - **TEST**.

O* 6. ERFS **AUXILIARY FUEL MANAGEMENT** control panel - Set fuel as required.

* 7. EH **IINS SYSTEMS SELECT** switches - **DG** and **VG**.

★ * 8. EH **IINS** - Align.

9. Caution/advisory/warning panels - Check.

10. 701C DEC engine fault indicator codes - Check.

N 11. Interior/exterior lighting - Set.

O★ 12. Mission equipment - Check.

★ * 13. Cold weather control exercise - Check if temperature is below -17°C (1°F).

* 14. **AFCS FAILURE ADVISORY** lights - If on, **POWER ON RESET**.

* 15. **SAS 1** off, **SAS 2**, **TRIM**, **FPS**, and **BOOST** switches - Push **ON**.

★ 16. Flight controls - Check first aircraft flight of day.

★ 17. Stabilator - Check.

* 18. Avionics - On.

* 18.1. Doppler/GPS - Program.

* 18.2. Doppler/GPS mode select switch - **OFF**.

* 19. **COMPASS** switch - **SLAVED**. Set as required.

20. Barometric altimeters - Set.

* 21. Cyclic and pedals centered - Collective raise no more than 1 inch and friction.

22. **BACKUP HYD PUMP** switch - **OFF**.

O★ 23. Blade deice system - Test as required.

24. Avionics - Check as required.

★* 25. **AFMS** **AUXILIARY FUEL MANAGEMENT** control panel - **TEST**, set as required.

STARTING ENGINES

* 1. **ENG FUEL SYS** selector(s) - As required (**XFD**) for first start of day.

* 2. Deleted.

* 3. **ENGINE IGNITION** switch - **ON**.

* 4. **GUST LOCK** caution light - Off.

* 2. Fire guard - Posted if available.

* 3. Rotor blades - Check clear.

★ * (7.) Engine(s) - Start.

* (8.) If single-engine start was made, repeat step 7 for other engine.

* (9.) Systems - Check.

* (10.) **BACKUP HYD PUMP** switch - **AUTO**.

★ (11.) Hydraulic leak test system - Check.

★ (12.) Tail Rotro Servo transfer - Check.

O (13.) **AUX CABIN HEATER** switch - As desired.

* 11. Engine warmup - Check if temperature is below -17°C (1°F).

ENGINE RUNUP

* 1. Flight controls - Hold.

* (2.) **ENG POWER CONT** lever(s) - **FLY**.

* 3. Droop stops - Check out 70% to 75% **RPM R**.

* (4.) **#1** and **#2 GEN** caution lights - Off.

* 5. EH **ECS** panel switches - As desired.

O★ (6.) **DEICE EOT** - Check as required.

* 7. **% TRQ 1** and **2** - Matched within 5%.

* (8.) EH **Q/F PWR** switch - As desired.

* (9.) **FUEL PUMP** switch - **OFF**.

* (10.) **APU CONTR** switch - **OFF**.

* (11.) **AIR SOURCE HEAT/START** switch - As required.

* (12.) **ENG FUEL SYS** selectors - As required.

* (13.) **SAS 1** - **ON**.

* 13.1. Doppler/GPS mode select switch - As desired.

* 14. Collective friction - As required.

O* 15. HUD - Adjust brightness, mode, barometric altitude, pitch, and roll as necessary.

O* (16.) **EH** **IINS NAVRDY** light flashing - CDU mode select switch to **NAV**.

O* (17.) **EH** IINS **SYSTEMS SELECT** switches - **IINS**.

(18.) Engine Health Indicator Test (HIT)/ Anti-Icing Check - Accomplish.

* 19. **FUEL BOOST PUMP CONTROL** switches - **ON** (for all fuel types). Indicator lights check on.

O★ (20.) **ERFS** **AFMS** External extended range fuel transfer - Check.

BEFORE TAXI

O* 1. **ES** Ejector rack lock levers unlocked.

O* 2. **VOL** Volcano jettison safety pins - Remove and red arming levers to arm.

O* 3. Chaff, EH flare electronic module(s) safety pin(s) - Remove.

* 4. Chocks - Removed.

* 5. Doors - Secure.

* 5. **PARKING BRAKE** - Release.

* (7.) **TAIL WHEEL** switch - As required.

7. Wheel brakes - Check as required.

HOVER CHECK

(1.) Systems - Check.

(2.) Flight instruments - Check.

(3.) Power - Check.

BEFORE TAKEOFF

* (1.) **ENG POWER CONT** levers - **FLY**.

* (2.) Systems - Check.

* (3.) Avionics - As required.

* (4.) Crew, passengers, and mission equipment - Check.

AFTER TAKEOFF

O★ (1.) **ERFS** **AFMS** Extended range fuel system transfer - As required.

(2.) **EH** **ASE** - As required.

O★ (3.) **VOL** Mine launch, post mine launch - As required.

BEFORE LANDING

(1.) **TAIL WHEEL** switch - As required.

(2.) **PARKING BRAKE** - As required.

(3.) Crew, passengers, and mission equipment - Check.

AFTER LANDING CHECK

(1.) **TAIL WHEEL** switch - As required.

(2.) Exterior lights - As required.

(3.) Avionics/mission equipment - As required.

PARKING AND SHUTDOWN

(1.) **TAIL WHEEL** switch - As required.

(2.) **PARKING BRAKE** - Set.

2.1. **FUEL BOOST PUMP CONTROL** switches - **OFF**.

3. Landing gear - Chocked.

O 4. **AUXILIARY FUEL MANAGEMENT** control panel **ERFS** **FUEL XFR MODE** switch - **OFF**. **AFMS** **XFER MODE** switch - **OFF**.

O 5. **ERFS** **AFMS** **AUXILIARY FUEL MANAGEMENT** control panel **PRESS** switch(es) - Off.

O 6. **VOL** Volcano red arming levers - **SAFE** and jettison safety pins install.

O 7. **ES** Ejector rack locking levers - Locked.

O 8. Chaff, **EH** flare electronic module safety pin(s) - Install.

(9.) **EH** IINS **SYSTEMS SELECT** switches - **DG/VG**.

O (10.) EH IINS - **OFF**.

O (11.) EH **ECS** panel switches - **OFF**.

(12.) **SAS 1** - Off.

12.1. **DPLR/GPS MODE SEL** switch - Off.

(13.) **DEICE**, **PITOT**, **ANTI-ICE**, **HEATER** and EH **Q/F PWR** switches - **OFF**.

(14.) **AIR SOURCE HEAT/START** switch - **APU**.

(15.) **FUEL PUMP** switch - **APU BOOST**.

(16.) **APU CONTR** switch - **ON**.

17. Collective raise no more than 1 inch.

18. Flight controls - Hold.

(19.) **ENG POWER CONT** levers - **IDLE**.

(20.) **ENGINE IGNITION** switch - **OFF**.

21. Cyclic - As required.

22. Droop stops - Verify in, about 50**% RPM R**.

(23.) **BACKUP HYD PUMP** switch - **OFF**.

24. Stabilator - Slew to 0° after last flight of the day.

(25.) **BACK-UP PUMP ON** advisory light - Check off.

(26.) **ENG POWER CONT** levers - **OFF** after 2 minutes at **Ng SPEED** of 90% or less.

(27.) **ENG FUEL SYS** selector - **OFF**.

28. **TGT TEMP** - Monitor.

O 29. **AUX CABIN HEATER** switch - **OFF**.

30. 701C DEC torque indicator fault code - Check.

31. Avionics - Off.

32. Deleted.

O 33. **HUD ADJ/ON/OFF** switch - **OFF**.

34. Overhead switches - As required.

35. **APU** generator switch - **OFF**.

36. **FUEL PUMP** switch - **OFF**.

37. **APU CONTR** switch - **OFF**.

38. **BATT** switch - **OFF**.

BEFORE LEAVING HELICOPTER

1. Walkaround - Complete.
2. Mission equipment - Secure.
3. Complete logbook forms.
4. Secure helicopter - As required.

THRU-FLIGHT CHECKLIST

BEFORE EXTERIOR CHECK

* 1. Helicopter covers, locking devices, tiedowns, and grounding cables - Removed and secured.

* 2. Fuel - Check quantity as required.

EXTERIOR CHECK

NOSE SECTION (AREA 1)

* 1. Main rotor blades - Check.

COCKPIT - LEFT SIDE (AREA 2)

* 1. Left engine oil level - Check.

* 2. Drag beam - Check.

CABIN TOP (AREA 3)

* 1. Main rotor system - Check.

FUSELAGE - LEFT SIDE (AREA 5)

O* 1. VOL Armament system - Check.

* 2. Intermediate gear box - Check; oil level.

TAIL PYLON (AREA 6)

* 1. Tail rotor - Check.

* 2. Tail rotor gear box - Check; oil level.

FUSELAGE RIGHT SIDE (AREA 7)

O* 1. VOL Armament system - Check.

COCKPIT - RIGHT SIDE (AREA 8)

* 1. Right engine oil level - Check.

* 1.1. Drag beam - Check.

★ * 2. Crew and passenger briefing - Complete as required.

BEFORE STARTING ENGINES

* 1. Copilot's collective - Extended and locked.

* 2. Radar altimeter - Set. EH Left **LO** bug 200 feet.

* 3. **ANTICOLLISION/POSITION LIGHTS** - As required.

* 4. EH **Q/F PWR** switch - **OFF**.

O* 5. EH **ECS** panel switches - **OFF**.

* 6. **AIR SOURCE HEAT/START** switch - **APU**.

* 7. **BATT** switch - **ON**.

COCKPIT EQUIPMENT CHECKS

* 1. **FUEL PUMP** switch - **APU BOOST**.

* 2. **APU CONTR** switch - **ON**.

* 3. **APU** generator switch - **ON**.

* 4. **EXT PWR** switch - **OFF**.

O* 5. ERFS **AUXILIARY FUEL MANAGEMENT** control panel - Set fuel as required.

* 6. EH IINS **SYSTEMS SELECT** switches - **DG** and **VG**.

★ * 7. EH **IINS** - Align.

★ * 8. Cold weather control exercise - Check if temperature is below -17°C (1°F).

* 9. **AFCS FAILURE ADVISORY** lights - If on, **POWER ON RESET**.

* 10. **SAS 1** off, **SAS 2**, **TRIM**, **FPS**, and **BOOST** switches - Push **ON**.

* 11. Avionics - On.

* 11.1. Doppler/GPS - Program.

* 11.2. Doppler/GPS mode select switch - **OFF**.

* 12. **COMPASS** switch - **SLAVED**. Set as required.

* 13. Cyclic and pedals centered - Collective raise no more than 1 inch and friction.

★ * 14. AFMS **AUXILIARY FUEL MANAGEMENT** control panel - **TEST**, set as required.

STARTING ENGINES

* 1. **ENG FUEL SYS** selector(s) - As required.

* 2. Deleted.

* 3. **ENGINE IGNITION** switch - **ON**.

* 4. **GUST LOCK** caution light - Off.

* 5. Fire guard - Posted if available.

* 6. Rotor blades - Check clear.

★ * (7.) Engine(s) - Start.

* (8.) If single-engine start was made, repeat step 7 for other engine.

* (9.) Systems - Check.

* (10.) **BACKUP HYD PUMP** switch - **AUTO**.

* 11. Engine warmup - Check if temperature is below -17°C (1°F).

ENGINE RUNUP

* 1. Flight controls - Hold.

* (2.) **ENG POWER CONT** lever(s) - **FLY**.

* 3. Droop stops - Check out 70% to 75% **RPM R**.

* (4.) **#1** and **#2 GEN** caution lights - Off.

* 5. EH **ECS** panel switches - As desired.

* 6. **% TRQ 1** and **2** - Matched within 5%.

* (7.) EH **Q/F PWR** switch - As desired.

* (8.) **FUEL PUMP** switch - **OFF**.

* (9.) **APU CONTR** switch - **OFF**.

* (10.) **AIR SOURCE HEAT/START** switch - As required.

* (11.) **ENG FUEL SYS** selectors - As required.

* (12.) **SAS 1** - **ON**.

* 12.1. Doppler/GPS mode select switch - As desired.

* 13. Collective friction - As required.

O* 14. HUD - Adjust brightness, mode, barometric altitude, pitch, and roll as necessary.

O* (15.) EH **IINS NAVRDY** light flashing - CDU mode select switch to **NAV**.

O* (16.) EH IINS **SYSTEMS SELECT** switches - **IINS**.

* 17. **FUEL BOOST PUMP CONTROL** switches - **ON** (for all fuel types). Indicator lights check on.

BEFORE TAXI

O* 1. ES Ejector rack lock levers unlocked.

O* 2. VOL Volcano jettison safety pins - Remove and red arming levers to arm.

O* 3. Chaff, EH flare electronic module safety pin(s) - Remove.

* 4. Chocks - Remove.

* 5. Doors - Secure.

* 6. **PARKING BRAKE** - Release.

* (7.) **TAIL WHEEL** switch - As required.

BEFORE TAKEOFF

* (1.) **ENG POWER CONT** levers - **FLY**.

* (2.) Systems - Check.

* (3.) Avionics - As required.

* (4.) Crew, passengers, and mission equipment - Check.

Section I. AIRCRAFT SYSTEMS

ENGINE

SINGLE-ENGINE FAILURE

1. Collective - Adjust to maintain RPM R.

(2.) External cargo/stores - Jettison (if required).

If continued flight is not possible:

3. LAND AS SOON AS POSSIBLE.

If continued flight is possible:

4. Establish single-engine airspeed.

5. LAND AS SOON AS PRACTICABLE.

DUAL-ENGINE FAILURE

AUTOROTATE.

DECREASING % RPM R

1. Collective - Adjust to control **% RPM R**.

(2.) **ENG POWER CONT** lever - **LOCKOUT** low **% TRQ**/**TGT TEMP** engine. Maintain **% TRQ** approximately 10% below other engine.

3. LAND AS SOON AS PRACTICABLE.

INCREASING % RPM R

1. **ENG POWER CONT** lever - Retard high **% TRQ/TGT TEMP** engine, maintain **% TRQ** approximately 10% below other engine.

2. LAND AS SOON AS PRACTICABLE.

If the affected engine does not respond to **ENG POWER CONT** lever movement in the range between **FLY** and **IDLE**, the HMU may be malfunctioning internally.

If this occurs:

3. Establish single engine airspeed.

4. Perform EMER ENG SHUTDOWN (affected engine).

5. Refer to single engine failure emergency procedure.

% RPM INCREASING/DECREASING (OSCILLATION)

(1.) Slowly retard the **ENG POWER CONT** lever on the suspected engine.

If the oscillation stops:

(2.) Place that engine in **LOCKOUT** and manually control the power.

3. LAND AS SOON AS PRACTICABLE.

If the oscillation continues:

(4.) Place the **ENG POWER CONT** lever back to **FLY** and retard the **ENG POWER CONT** lever of the other engine.

When the oscillation stops:

(5.) Place the engine in **LOCKOUT**, manually control the power.

6. LAND AS SOON AS PRACTICABLE.

% TRQ SPLIT BETWEEN ENGINES 1 AND 2

1. If **TGT TEMP** of one engine exceeds the limiter (700 849°C, 701C 872°C with low power engine above 50**% TRQ** or 896°C with low power engine below 50**% TRQ**), retard **ENG POWER CONT** lever on that engine to reduce **TGT TEMP**. Retard the **ENG POWER CONT** lever to maintain torque of the manually controlled engine at approximately 10% below the other engine.

2. If **TGT TEMP** limit on either engine is not exceeded, slowly retard **ENG POWER CONT** lever on high **% TRQ** engine and observe **% TRQ** of low power engine.

3. If **% TRQ** of low power engine increases, **ENG POWER CONT** lever on high power engine - Retard to maintain **% TRQ** approximately 10% below other engine (The high power engine has been identified as a high side failure).

4. If **% TRQ** of low power engine does not increase, or **% RPM R** decreases, **ENG POWER CONT** lever - Return high power engine to **FLY** (The low power engine has been identified as a low side failure).

5. If additional power is required, low power **ENG POWER CONT** lever, momentarily move to **LOCKOUT** and adjust to set **% TRQ** approximately 10% below the other engine.

6. LAND AS SOON AS PRACTICABLE.

ENGINE COMPRESSOR STALL

1. Collective - Reduce.

If condition persists:

2. **ENG POWER CONT** lever (affected engine) - Retard (**TGT TEMP** should decrease).

3. **ENG POWER CONT** lever (affected engine) - **FLY**.

If stall condition recurs:

4. EMER ENG SHUTDOWN (affected engine).

5. Refer to single-engine failure emergency procedure.

ENGINE OIL FILTER BYPASS CAUTION LIGHT ON, ENGINE CHIP CAUTION LIGHT ON, ENG OIL PRESS HIGH/LOW, ENGINE OIL TEMP HIGH, ENGINE OIL TEMP CAUTION LIGHT ON, ENGINE OIL PRESS CAUTION LIGHT ON

1. **ENG POWER CONT** lever - Retard to reduce torque on affected engine.

If oil pressure is below minimum limits or oil temperature remains above maximum limits:

2. EMER ENG SHUTDOWN (affected engine).

3. Refer to single-engine failure emergency procedure.

ENGINE HIGH-SPEED SHAFT FAILURE

1. Collective - Adjust.

2. EMER ENG SHUTDOWN (affected engine). Do not attempt to restart.

3. Refer to single-engine failure emergency procedure.

LIGHTNING STRIKE

1. **ENG POWER CONT** levers - Adjust as required to control **% RPM**.

2. LAND AS SOON AS POSSIBLE.

ROTORS, TRANSMISSIONS AND DRIVE SYSTEMS

LOSS OF TAIL ROTOR THRUST

1. AUTOROTATE.

2. **ENG POWER CONT** levers - **OFF** (when intended point of landing is assured).

LOSS OF TAIL ROTOR THRUST AT LOW AIRSPEED/HOVER

1. Collective - Reduce.

2. **ENG POWER CONT** levers - **OFF** (5 to 10 feet above touchdown).

TAIL ROTOR QUADRANT CAUTION LIGHT ON WITH NO LOSS OF TAIL ROTOR CONTROL

LAND AS SOON AS PRACTICABLE.

TAIL ROTOR QUADRANT CAUTION LIGHT ON WITH LOSS OF TAIL ROTOR CONTROL

1. Collective - Adjust.

2. LAND AS SOON AS PRACTICABLE.

PEDAL BIND/RESTRICTION OR DRIVE WITH NO ACCOMPANYING CAUTION LIGHT

1. Apply pedal force to oppose the drive.

2. **TRIM** switch - Off.

If normal control forces are not restored:

3. **BOOST** switch - Off.

If control forces, normal for boost off flight are not restored:

4. **BOOST** switch - **ON**.

5. **TAIL SERVO** switch - **BACKUP** if tail rotor is not restored.

6. LAND AS SOON AS PRACTICABLE.

#1 TAIL RTR SERVO CAUTION LIGHT ON AND BACK-UP PUMP ON ADVISORY LIGHT OFF OR #2 TAIL RTR SERVO ON ADVISORY LIGHT OFF

1. **TAIL SERVO** switch - **BACKUP**.

2. **BACKUP HYD PUMP** switch - **ON**.

3. LAND AS SOON AS PRACTICABLE.

MAIN XMSN OIL PRESS CAUTION LIGHT ON/XMSN OIL PRESS LOW/XMSN OIL TEMP HIGH OR XMSN OIL TEMP CAUTION LIGHT ON

1. LAND AS SOON AS POSSIBLE.

If time permits:

2. Slow to 80 KIAS.

3. EMER APU START.

4. **GENERATORS NO. 1** and **NO. 2** switches - **OFF**.

CHIP INPUT MDL LH OR RH CAUTION LIGHT ON

1. **ENG POWER CONT** lever on affected engine - **IDLE**.

2. LAND AS SOON AS POSSIBLE.

CHIP MAIN MDL SUMP, CHIP ACCESS MDL LH OR RH, CHIP TAIL XMSN OR CHIP INT XMSN/TAIL XMSN OIL TEMP OR INT XMSN OIL TEMP CAUTION LIGHT ON

LAND AS SOON AS POSSIBLE.

FIRE

ENGINE/FUSELAGE FIRE ON GROUND

1. **ENG POWER CONT** levers - **OFF**.
2. **ENG EMER OFF** handle - Pull if applicable.
3. **FIRE EXTGH** switch - **MAIN/RESERVE** as required.

APU COMPARTMENT FIRE

1. **APU** fire T-handle - Pull.
2. **FIRE EXTGH** switch - **MAIN/RESERVE** as required.

APU OIL TEMP HI CAUTION LIGHT ON

APU CONTR switch - **OFF**. Do not attempt restart until oil level has been checked.

ENGINE FIRE IN FLIGHT

1. **ENG POWER CONT** lever (affected engine) - **OFF**.
2. **ENG EMER OFF** handle - Pull.
3. **FIRE EXTGH** switch - **MAIN/RESERVE** as required.
4. LAND AS SOON AS POSSIBLE.

ELECTRICAL FIRE IN FLIGHT

1. **BATT** and **GENERATORS** switches - **OFF**.
2. LAND AS SOON AS POSSIBLE.

SMOKE AND FUME ELIMINATION

1. Airspeed - 80 KIAS or less.
2. Cabin doors and gunner's windows - Open.
3. Place helicopter out of trim.
4. LAND AS SOON AS PRACTICABLE.

FUEL SYSTEM

#1 OR #2 FUEL FLTR BYPASS CAUTION LIGHT ON

1. **ENG FUEL SYS** selector on affected engine - **XFD**.
2. LAND AS SOON AS PRACTICABLE.

#1 AND #2 FUEL FLTR BYPASS CAUTION LIGHTS ON

LAND AS SOON AS POSSIBLE.

#1 FUEL LOW AND #2 FUEL LOW CAUTION LIGHTS ON

LAND AS SOON AS PRACTICABLE.

#1 OR #2 FUEL PRESS CAUTION LIGHT ON

If the situation is critical:

1. **FUEL BOOST PUMP CONTROL** switches - **NO.1 PUMP** and **NO.2 PUMP** - **ON**.
2. LAND AS SOON AS PRACTICABLE.

If the situation is not critical:

3. **ENG FUEL SYS** selector on affected engine - **XFD**.

If light stays on:

4. **FUEL BOOST PUMP CONTROL** switches - **NO. 1 PUMP** and **NO. 2 PUMP** - **ON**.

If light stays on:

5. **FUEL BOOST PUMP CONTROL** switches - **NO. 1 PUMP** and **NO. 2 PUMP** - **OFF**.
6. LAND AS SOON AS PRACTICABLE.

ELECTRICAL SYSTEM

#1 AND #2 GENERATOR FAILURE (#1 AND #2 CONV AND AC ESS BUS OFF CAUTION LIGHTS ON)

1. **SAS 1** switch - Press off.
2. Airspeed - Adjust (80 KIAS or less).
3. **GENERATORS NO. 1** and **NO. 2** switches - **RESET**; then **ON**.

If caution lights remain on:

4. **GENERATORS NO. 1** and **NO. 2** switches - **OFF**.
5. EMER APU START.
6. **SAS 1** switch - **ON**.
7. LAND AS SOON AS PRACTICABLE.

#1 OR #2 GEN CAUTION LIGHT ON

1. Affected **GENERATORS** switch - **RESET**; then **ON**.

If caution light remains on:

2. Affected **GENERATORS** switch - **OFF**.

#1 AND #2 CONV CAUTION LIGHTS ON

1. Unnecessary dc electrical equipment - OFF.
2. LAND AS SOON AS PRACTICABLE.

BATTERY FAULT CAUTION LIGHT ON

1. **BATT** switch - **OFF**; then **ON**. If **BATTERY FAULT** caution light goes on, cycle **BATT** switch no more than two times.

If light remains on:

2. **BATT** switch - **OFF**.

BATT LOW CHARGE CAUTION LIGHT ON

BATT LOW CHARGE caution light on indicates charge is at or below 40%.

If light goes on after ground APU start:

1. **BATT** switch - **OFF**; then **ON** to reset charger analyzer logic. About 30 minutes may be required to recharge battery.

If light goes on in flight:

2. **BATT** switch - **OFF**, to conserve remaining battery charge.

HYDRAULIC SYSTEM

#1 HYD PUMP CAUTION LIGHT ON

1. **TAIL SERVO** switch - **BACKUP**; then **NORMAL**.
2. LAND AS SOON AS PRACTICABLE.

#2 HYD PUMP CAUTION LIGHT ON

1. **POWER ON RESET** switches - Simultaneously press and release.
2. LAND AS SOON AS PRACTICABLE.

#1 AND #2 HYD PUMP CAUTION LIGHTS ON

LAND AS SOON AS POSSIBLE. Restrict control movement to moderate rates.

#1 OR #2 HYD PUMP CAUTION LIGHT ON AND BACK-UP PUMP ON ADVISORY LIGHT OFF

1. Airspeed - Adjust to a comfortable airspeed.
2. **BACKUP HYD PUMP** switch - **ON**.

If **BACK-UP PUMP ON** advisory light remains off:

3. **FPS** and **BOOST** switches - Off (for **#2 HYD PUMP** caution light).
4. LAND AS SOON AS POSSIBLE.

#1 OR #2 PRI SERVO PRESS CAUTION LIGHT ON

LAND AS SOON AS POSSIBLE.

#1 RSVR LOW AND #1 HYD PUMP CAUTION LIGHTS ON WITH BACK-UP PUMP ON ADVISORY LIGHT ON

1. LAND AS SOON AS PRACTICABLE.

If the **BACK-UP RSVR LOW** caution light also goes on:

2. **SVO OFF** switch - **1ST STG**.
3. LAND AS SOON AS POSSIBLE.

#2 RSVR LOW AND #2 HYD PUMP CAUTION LIGHTS ON WITH BACK-UP PUMP ON ADVISORY LIGHT ON

1. **POWER ON RESET** switches - Simultaneously press; then release.
2. LAND AS SOON AS PRACTICABLE.

If **BACK-UP RSVR LOW** caution light also goes on:

3. **SVO OFF** switch - **2ND STG**.
4. LAND AS SOON AS POSSIBLE.

#2 RSVR LOW CAUTION LIGHT ON

1. **BOOST** and **FPS** switches - Off.
2. LAND AS SOON AS PRACTICABLE.

COLLECTIVE BOOST SERVO HARDOVER/ POWER PISTON FAILURE

1. **BOOST** switch - Off.
2. LAND AS SOON AS PRACTICABLE.

PITCH BOOST SERVO HARDOVER

1. **SAS** (**1** and **2**) and **FPS** switches - Off.
2. LAND AS SOON AS PRACTICABLE.

BOOST SERVO OFF CAUTION LIGHT ON

1. **BOOST** switch - Off.
2. LAND AS SOON AS PRACTICABLE.

LANDING AND DITCHING

EMERGENCY LANDING IN WOODED AREAS. POWER OFF

1. AUTOROTATE. Decelerate helicopter to stop all forward speed at treetop level.

2. Collective adjust to maximum before main rotor contacts tree branches.

DITCHING - POWER ON

1. Approach to a hover.

2. Cockpit doors jettison and cabin doors open prior to entering water.

3. Pilot shoulder harness - Lock.

4. Survival gear - Deploy.

5. Personnel, except pilot, exit helicopter.

6. Fly helicopter downwind a safe distance and hover.

7. **ENG POWER CONT** levers - **OFF**.

8. Perform hovering autorotation, apply full collective to decay rotor RPM as helicopter settles.

9. Position cyclic in direction of roll.

10. Exit when main rotor has stopped.

DITCHING - POWER OFF

1. AUTOROTATE.
2. Cockpit doors jettison and cabin doors open prior to entering water.
3. Cyclic - Position in direction of roll.
4. Exit when main rotor has stopped.

FLIGHT CONTROL/MAIN-ROTOR SYSTEM MALFUNCTIONS

If the main rotor system malfunctions:

5. LAND AS SOON AS POSSIBLE.

(2.) EMER ENG(S) SHUTDOWN after landing.

SAS FAILURE WITH NO FAILURE/ ADVISORY INDICATION

(1.) **SAS 1** switch - Off.

If condition persists:

(2.) **SAS 1** switch - **ON**.

(3.) **SAS 2** switch - Off.

If malfunction still persists:

(4.) **SAS 1** and **FPS** switches - Off.

SAS 2 FAILURE ADVISORY LIGHT ON

POWER ON RESET switches - Simultaneously press and then release.

SAS OFF CAUTION LIGHT ON

FPS switch - Off.

FLT PATH STAB CAUTION LIGHT ON

1. EH **SYSTEMS SELECT - DG/VG**.
2. **POWER ON RESET** switches - Simultaneously press and then release.

If failure returns, control affected axis manually.

If airspeed fault light remains illuminated on the AFCS panel:

3. Manually slew stabilator - Adjust to 0° if above 40 KIAS. The preferred method of manually slewing the stabilator up is to use the cyclic mounted stabilator slew-up switch.
4. LAND AS SOON AS PRACTICABLE.

PITCH, ROLL OR YAW/TRIM HARDOVER

POWER ON RESET switches - Simultaneously press and then release.

If failure returns, control affected axis manually.

TRIM ACTUATOR JAMMED

LAND AS SOON AS PRACTICABLE.

STABILATOR MALFUNCTION - AUTO MODE FAILURE

1. Cyclic mounted stabilator slew-up switch - Adjust if necessary to arrest nose down pitch rate.

2. **AUTO CONTROL** switch - Press **ON** once.

If automatic control is not regained:

3. Manually slew stabilator - Adjust to 0° if above 40 KIAS or full down when airspeed is below 40 KIAS. The preferred method of manually slewing the stabilator up is to use the cyclic mounted stabilator slew-up switch.

4. LAND AS SOON AS PRACTICABLE.

If manual control is not possible:

5. **STAB POS** indicator - Check and fly at or below **KIAS LIMITS** shown on placard.

6. LAND AS SOON AS PRACTICABLE.

UNCOMMANDED NOSE DOWN/UP PITCH ATTITUDE CHANGE

If an uncommanded nose down pitch attitude occurs:

1. Cyclic - Adjust as required.
2. Collective - Maintain or increase.
3. Cyclic mounted stabilator slew-up switch - Adjust as required to arrest nose down pitch rate.
4. **MAN SLEW** switch - Adjust to 0° at airspeeds above 40 KIAS and full down at airspeeds below 40 KIAS.
5. LAND AS SOON AS PRACTICABLE.

If an uncommanded nose up pitch attitude occurs:

1. Cyclic - Adjust as required.
2. Collective - Reduce as required.
3. **MAN SLEW** switch - Adjust to 0° at airspeeds above 40 KIAS and full down at airspeeds below 40 KIAS.
4. LAND AS SOON AS PRACTICABLE.

Section II. MISSION EQUIPMENT

EMERGENCY JETTISONING

CARGO REL or **HOOK EMER REL** button - Press.

EMERGENCY RELEASE OF RESCUE HOIST LOAD

If the rescue hoist becomes jammed, inoperative, or if the cable is entangled and emergency release is required:

To cut cable from cockpit:

1. **CABLE SHEAR** switch - **FIRE**.

To cut cable from hoist operator's position:

1. **CABLE CUT** switch - **FIRE**.

MR DE-ICE FAULT OR MR DE-ICE FAIL, OR TR DE-ICE FAIL CAUTION LIGHT ON

1. Icing conditions - Exit.

(2.) **BLADE DEICE POWER** switch - **OFF**, when out of icing conditions.

If vibrations increase:

3. LAND AS SOON AS POSSIBLE.

PWR MAIN RTR AND/OR TAIL RTR MONITOR LIGHT ON

If a **PWR** monitor light is on with **BLADE DEICE POWER** switch **ON** to stop power from being applied to blades:

1. Icing conditions - Exit.

(2.) **BLADE DEICE POWER** switch - **OFF**.

If a **PWR** monitor light is still on with **BLADE DEICE POWER** switch **OFF**:

(3.) **GENERATORS NO. 1** or **NO. 2** switch - **OFF**.

(4.) **APU** generator switch - **OFF** (if in use).

5. LAND AS SOON AS PRACTICABLE.

ICE RATE METER FAIL OR INACCURATE

(1.) **BLADE DEICE MODE** switch - **MANUAL** as required.

If vibration levels increase or % TRQ required increases:

(2.) Higher icing **MODE** - Select as required.

If ice buildup continues:

3. LAND AS SOON AS PRACTICABLE.

LOSS OF NO. 1 OR NO. 2 GENERATOR DURING BLADE DEICE OPERATION

Pilot not on the controls:

EMER APU START.

EXTERNAL EXTENDED RANGE FUEL SYSTEM FAILURE TO TRANSFER SYMMETRICALLY IN MANUAL MODE

ERFS

If asymmetric fuel transfer is suspected:

1. Stop transfer on tank set.
2. Select other tank set and initiate transfer.
3. LAND AS SOON AS PRACTICABLE.

Should controlled flight with one heavy external tank become necessary, proceed as follows:

1. Make all turns shallow (up to standard rate), and in the direction away from heavy side (particularly when a right tank remains full).
2. Avoid abrupt control motions, especially lateral cyclic.
3. If possible, shift personnel to the light side of the helicopter.
4. Select a suitable roll-on landing area, and make a roll-on landing with touchdown speed in excess of 30 KIAS. To increase control margin, execute the approach into the wind or with a front quartering wind from the heavy side and align the longitudinal axis of the aircraft with the ground track upon commencing the approach. If a suitable roll-on landing area is not available, make an approach to a hover into the wind, or with a front quartering wind from the heavy side.

EXTERNAL AUXILIARY FUEL MANAGEMENT SYSTEM FAILURE TO TRANSFER SYMMETRICALLY IN MANUAL MODE AFMS

When an asymmetric fuel condition (greater than 400 pound difference between external tank pairs) is identified:

1. **XFER MODE** switch - **MAN**.
2. **MAN XFER** switch - Select heavy tank **LEFT** or **RIGHT** until imbalance condition is corrected. If the imbalance condition cannot be corrected:
3. **XFER MODE** switch - **OFF**.
4. LAND AS SOON AS PRACTICABLE.

Should controlled flight with one heavy external tank become necessary, proceed as follows:

1. Make all turns shallow (up to standard rate), and in the direction away from heavy side (particularly when a right tank remains full).
2. Avoid abrupt control motions, especially lateral cyclic.
3. If possible, shift personnel to the light side of the helicopter.
4. Select a suitable roll-on landing area, and make a roll-on landing with touchdown speed in excess of 30 KIAS. To increase control margin, execute the approach into the wind or with a front quartering wind from the heavy side and align the longitudinal axis of the aircraft with the ground track upon commencing the approach. If a suit-

able roll-on landing area is not available, make an approach to a hover into the wind, or with a front quartering wind from the heavy side.

EXTERNAL STORES JETTISON ES

If jettisoning of tanks is required:

1. **STORES JETTISON** switch - Select **INBD BOTH**, **OUTBD BOTH** or **ALL** as applicable.
2. **JETT** switch - Actuate.

If primary jettison system does not operate:

3. **EMER JETT ALL** switch - Actuate.

FUEL FUMES IN COCKPIT/CABIN WITH EXTERNAL EXTENDED RANGE FUEL SYSTEM PRESSURIZED ERFS

If heater is on:

1. **HEATER** switch - **OFF**.

If heater is off or fumes persist:

2. **PRESS OUTBD** and **INBD** switches - **OFF.**
3. **MODE** switch - **OFF**.
4. **FUEL BOOST PUMP CONTROL** switches - As required.

FUEL FUMES IN COCKPIT/CABIN WITH EXTERNAL EXTENDED RANGE FUEL SYSTEM PRESSURIZED AFMS

If heater is on:

1. **HEATER** switch - **OFF**.

If heater is off or fumes persist:

2. **PRESS** switch - **OFF.**
3. **XFER MODE** switch -**OFF**.
4. **FUEL BOOST PUMP CONTROL** switches - As required.

LAUNCHER RACKS JETTISON VOL

If jettisoning of launch rack is required:

1. **JETTISON** switch - **JETTISON**.

If jettison procedure above fails, do the following immediately:

2. **EMER JETTISON** switch - **JETTISON**.

DETAILED PROCEDURES

CREW BRIEFING

A crew briefing shall be conducted to ensure a thorough understanding of individual and team responsibilities. The briefing should include, but not be limited to, pilots, crew chief, mission equipment operator, ground crew responsibilities, and the coordination necessary to complete the mission in the most efficient manner. A review of visual signals is desirable when ground guides do not have direct voice communications link with the crew.

PASSENGER BRIEFING

The following guide may be used in accomplishing required passenger briefings. Items that do not pertain to a specific mission may be omitted.

a. Crew introduction.

b. Equipment.

   (1) Personal.

   (2) Professional.

   (3) Survival.

c. Flight data.

   (1) Route.

   (2) Altitude.

   (3) Time en route.

   (4) Weather.

d. Normal procedures.

(1) Entry and exit the helicopter.

(2) Seating.

(3) Seat belts.

(4) Movement in helicopter.

(5) Internal communications.

(6) Security of equipment.

(7) Smoking.

(8) Oxygen.

(9) Refueling.

(10) Weapons.

(11) Protective masks.

(12) Parachutes.

(13) Hearing protection.

(14) Aviation life support equipment (ALSE).

e. Emergency procedures.

(1) Emergency exits.

(2) Emergency equipment.

(3) Emergency landing/ditching procedures.

CIRCUIT BREAKERS AND SWITCHES

a. Circuit breakers - In.

b. Avionics - Off, frequencies set.

c. **BLADE DEICE POWER** switch - **OFF**.

* d. Radar altimeter - Set. EH Left **LO** bug 200 feet.

e. Clocks - Set and running.

f. **BACKUP HYD PUMP** - **AUTO**.

* g. **ANTICOLLISION/POSITION LIGHTS** - As required.

* h. EH **Q/F PWR** switch - **OFF**.

O* i. EH **ECS** panel switches - **OFF**.

j. **CARGO HOOK EMERG REL** switch - **OPEN**, **ARMING** switch - **SAFE**.

k. **APU CONTR** switch - **OFF**; **APU** T-handle - In.

l. **GENERATORS NO. 1** and **NO. 2** switches - Check **ON**.

m. Ground power unit - Connected if required.

* n. **AIR SOURCE HEAT/START** switch - **APU** (**OFF** for external air source).

o. **EMER OFF** T-handles - Full forward.

* p. **BATT** switch - **ON**.

AUXILIARY FUEL MANAGEMENT CONTROL PANEL - TEST ERFS

a. **TEST** button - Press. Digits should display 8's and **DEGRADED** and **VENT SENSOR**, (**FAIL** and **OVFL**) lights should illuminate.

b. **TEST** button - Release. Digits should display 8's in sequence from left to right three times; 5 seconds later, display GOOD or EO failure code; 3 seconds later, display type fuel density; then fuel **TOTAL**.

c. Deleted.

d. Auxiliary fuel quantity switch - **CAL**.

e. **INCR/DECR** switch - Set calibration.

f. Auxiliary fuel quantity switch - **INBD**.

g. **INCR/DECR** switch - Set inboard fuel quantity.

h. Auxiliary fuel quantity switch - **OUTBD**.

i. **INCR/DECR** switch - Set outboard fuel quantity.

j. Auxiliary fuel quantity switch move to **TOTAL** - Check.

k. **PRESS OUTBD** and **INBD** switches - As desired.

IINS ALIGN EH

a. Ensure that the circuit breakers are in.

b. **IINS** mode select switch - **NORM**.

c. Page select switch - **POS**.

d. Line select key 7 right - Select UTM or L/L.

(1) Enter GRID ZONE/SPHEROID or LATITUDE in scratch pad.

(2) Press line select key 5 left.

(3) Enter AREA, EASTINGS, NORTHINGS, or LONGITUDE in scratch pad.

(4) Press line select key 7 left.

e. Verify line 3 on left side display indicates correct magnetic variation, MV.

(1) If incorrect, enter MV in scratch pad.

(2) Verify scratch pad entry is correct.

(3) Press line select key 3 left.

(4) Verify line 3 left displays: - >MV = XNN. N. (The ″=″ sign indicates that a manual MV was entered and automatic MV updating will not occur.)

f. Rotate page select switch to **INS**.

(1) Enter barometric pressure of present position in scratch pad.

(2) Press line select key 5 left.

(3) Enter altitude of present position in scratch pad (e.g., 156 ft is entered as 0.156 and displayed as 0.2).

(4) Press line select key 3 left.

g. Rotate page select switch to **DEST**.

(1) Press **DEST** toggle switch to select **DEST** desired page.

(2) Press line select key 7 right to display desired coordinate system (UTM or L/L).

(3) Enter grid zone and spheroid or latitude in scratch pad.

(4) Press line select key 5 left.

(5) Enter Area/Eastings/Northings or longitude in scratch pad.

(6) Press line select key 7 left.

(7) Press **DEST** toggle switch to increment to the next page.

h. Rotate page select switch to **TCN**.

(1) Turn ON TACAN by pressing line select key 1 left.

(2) Press line 3 left until REC is displayed on the CRT.

(3) Press Page Slew toggle switch to display TACAN station zero page.

(a) Enter magnetic variation in scratch pad.

(b) Press line select key 3 left.

(c) Enter latitude in scratch pad.

(d) Press line select key 5 left.

(e) Enter longitude in scratch pad.

(f) Press line select key 7 left.

(g) Press line select key 1 right to display ACT.

(h) Enter channel number in scratch pad.

(i) Press line select key 3 right.

(j) Enter elevation of TACAN station on scratch pad.

(k) Press line select key 5 right.

(l) Press page slew toggle switch to display next TACAN page.

(m) Enter data as described in steps (a) through (l).

i. Select an appropriate destination number and toggle the **STR** toggle switch to indicate the number, i.e., S1. (It is not necessary that the DX and SX numbers agree, only that SX is the desired destination.)

j. Set mode select switch to **NAV**. (Pull switch up; then rotate.)

k. Set page select switch to TACAN.

(1) Press line select key 3 left to display T/R.

(2) Press line select key 5 left to display UPDT.

l. On HSI/VSI **MODE SEL** panel, press **IINS** switch. Note that bearing to destination (No. 1 needle), range to destination, course deviation and **TO/FROM** flag are displayed on the HSI.

m. On **SYSTEMS SELECT** panel, set switches and observe indications as follows:

(1) Press **HDG** switch, **INS** illuminates and inertial derived heading is displayed on the HSI.

(2) Press **ATT** switch, **IINS** illuminates and inertial derived pitch and roll is displayed on the VSI.

MISSION EQUIPMENT CHECK

RADAR SIGNAL DETECTOR

a. **DSCRM** switch - **OFF**.

b. **PWR** switch - **ON**.

c. **SELF TEST** control - Press and hold. Forward and aft strobes appear and 2.5 kHz PRF audio present, alarm audio present and **MA** lamp starts flashing.

d. **BRIL**, Filter and **AUDIO** controls - As desired.

e. **SELF TEST** control - Release.

f. **DSCRM** switch - **ON**.

g. **SELF TEST** control - Press and hold. Forward and aft strobes appear and 1.2 kHz PRF audio present, then other strobes will appear, PRF audio will double, alarm audio present and **MA** lamp starts flashing.

h. **SELF TEST** control - Release.

i. **PWR** switch - As required.

CARGO HOOK EMERGENCY RELEASE CIRCUIT CHECK

a. **EMERG REL TEST** light - Press. Light should be on.

b. Pilot's release - Check.

(1) Short test.

(a) **CARGO HOOK EMERG REL** switch - **SHORT**.

(b) Pilot's **HOOK EMER REL** button - Press and hold.

(c) **CARGO HOOK TEST** light - On.

(d) **HOOK EMER REL** button - Release. **TEST** light off.

(e) Repeat steps (b) through (d) for copilot's **HOOK EMER REL** button, and crewmember's cargo hook control pendant **EMER RLSE** button.

(2) Open test.

(a) **CARGO HOOK EMERG REL** switch - **OPEN**.

(b) Pilot's **HOOK EMER REL** button - Press and hold.

(c) **CARGO HOOK TEST** light - On.

(d) **HOOK EMER REL** button - Release. **TEST** light off.

(e) Repeat steps (b) through (d) for copilot's **HOOK EMER REL** button, and crewmember's cargo hook control pendant **EMER RLSE** button.

c. **CARGO HOOK EMERG REL** switch - **NORM**.

If the cargo hook is not to be used immediately after completing the circuit test check, the **EMERG REL** switch shall remain at **OPEN** until ready for load pickup.

NORMAL RELEASE MODE CHECK

a. **CARGO HOOK CONTR** switch - As required. **CKPT** for pilot and copilot check, or **ALL** for crewmember check.

b. **CARGO HOOK ARMING** switch - **ARMED**.

c. **HOOK ARMED** advisory light - Check on.

d. Place about 20 pounds downward pressure on load beam.

e. **CARGO REL** switch (pilot and copilot); **NORMAL RLSE** (crewmember) - Press and release.

f. **CARGO HOOK OPEN** advisory light - Check on.

g. **CARGO HOOK OPEN** advisory light - Check off when hook closes.

h. Repeat steps d. through g. for copilot and crewmember position.

MANUAL RELEASE CHECK

a. Manual release lever spring - Installed. Check that the spring is straight and provides positive pressure on the lever.

b. Place about 20 pounds downward pressure on load beam.

c. Manual release lever - Pull up/turn fully clockwise and release.

d. Load beam - Check open.

e. **CARGO HOOK OPEN** advisory light - On.

f. When downward pressure is released, load beam will close and latch.

g. **CARGO HOOK OPEN** advisory light - Off when hook closes.

RESCUE HOIST CHECK

SQUIB CIRCUIT TEST

a. **SQUIB** switch - Hold at **TEST**.

b. **SQUIB IND** light - Check On.

c. **SQUIB** switch - Release to **NORM**. **SQUIB IND** light off.

BOOM POSITION AND HOIST CABLE CONTROL OPERATIONAL CHECK

a. **MASTER** power switch - **ON**.

b. Hoist operator - Check power on indicator (blue light), check yellow caution light on control pendant is on, and cooling fan operating.

c. Check ICS switch on pendant.

d. Hoist operator - **BOOM** switch - **OUT** and then **IN** .

e. **RESCUE HOIST CONTROL** panel - Rotate boom **OUT**; then **IN**, then **OUT** to test boom operation.

f. Speed mode switch - **HIGH**.

g. **RESCUE HOIST CONTROL** panel - **DOWN**, reel cable out until caution light is off.

h. **RESCUE HOIST CONTROL** panel - Reel in cable and observe that cable speed slows when caution light goes on (8 to 10 feet of cable out).

i. Boom up limit actuator arm - Push up on arm during reeling in to check that hoist stops running when up limit switches are activated. Observe that cable slows when hook is 12 to 18 inches from full up position.

j. Speed mode switch - **LOW** and repeat steps g. through i.

k. Repeat steps g. through i., using control pendant assembly. Check that cable speed can be regulated by control pendant from 0 to 250 fpm when cable is reeled out beyond 10 feet.

l. **BOOM** switch - Rotate boom in to stowed position.

COLD WEATHER CONTROL EXERCISE CHECK

After starting the APU, the controls must be exercised when operating in a temperature range of -17°C (1°F) and below. The control exercise is required

a. At temperatures between -17°C (1°F) and -31°C (-24°F), cycle collective control slowly for 1 minute.

   (1) Move collective stick grip up about 3 inches from lower stop, and down again 30 times during 1 minute of control cycling in step a.

   (2) Move each tail rotor pedal alternately through 3/4-inch of travel from neutral position 30 times during 1 minute of control cycling in step a.

b. At temperatures between -31°C (-24°F) and -43°C (-45°F), cycle collective control slowly for 2 minutes.

   (1) Move collective stick grip up about 1-1/2 inches from lower stop and down again during first minute, and 3 inches of travel during second minute of control cycling in step b.

   (2) Move each tail rotor pedal alternately through 3/8-inch of travel from neutral position during first minute, and 3/4-inch of travel during second minute of control cycling in step b.

c. At temperatures between -43°C (-45°F) and -54°C (-65°F), cycle collective stick grip slowly for 5 minutes.

Move collective and pedals through travel for times shown below:

Collective Travel (Approximately)	Pedals Travel (Approximately)	Time Duration
3/4-inch	1/8-inch	First minute
1-1/2 inches	1/4-inch	Second minute
1-3/4 inches	1/2-inch	Third minute
2-1/2 inches	5/8-inch	Fourth minute
3 inches	3/4-inch	Fifth minute

FLIGHT CONTROL CHECK

First aircraft flight of the day.

a. Collective - Midposition, pedals centered, friction off.

b. **BOOST** switch - Press off. There will be a slight increase in collective and pedal forces. **BOOST SERVO OFF** caution light on. **MASTER CAUTION** light should be on.

c. Right **SVO OFF** switch - **1ST STG**. No allowable cyclic stick jump. **#1 PRI SERVO PRESS** and **MASTER CAUTION** lights should be on.

d. Move cyclic and pedals slowly through full range. There should be no binds or restrictions. Move collective full up to full down in about 1 to 2 seconds. Check **#2 PRI SERVO PRESS** caution light does not illuminate during movement of collective.

e. Right **SVO OFF** switch - **2ND STG**. No allowable cyclic stick jump. **#2 PRI SERVO PRESS** and **MASTER CAUTION** lights should be on.

f. Repeat step d. above. Check **#1 PRI SERVO PRESS** caution light does not illuminate during movement of collective.

g. **SVO OFF** switch - Center.

h. Collective - Move through full range in no less than 5 seconds. There should be no binding.

i. Pedals - Move both pedals through the full range in no less than 5 seconds. There should be no binding.

j. **TAIL SERVO** switch - **BACKUP**. **#1 TAIL RTR SERVO** caution light, both **MASTER CAUTION** lights illuminate, **#2 TAIL RTR SERVO ON** advisory light illuminates. Move pedals through full range in no less than 5 seconds. There should be no binding.

k. **TAIL SERVO** switch - **NORMAL**. Caution and advisory lights out.

l. **BOOST** switch - **ON**. **BOOST SERVO OFF** caution light should be off.

STABILATOR CHECK

a. **STAB POS** indicator should be between 34° and 42° **DN**.

b. **TEST** button - Press and hold. Check **STAB POS** indicator moves up 5° to 12°. **MASTER CAUTION** and **STABILATOR** caution lights on; stabilator audio heard.

c. **AUTO CONTROL RESET** switch - Press **ON**. Note that the **STABILATOR** caution light and audio are off and **STAB POS** indicator moves to 34° to 42° down.

d. Either cyclic mounted stabilator slew-up switch - Press and hold until **STAB POS** indicator moves approximately 15° trailing edge up, release, stabilator should stop. **STABILATOR** and **MASTER CAUTION** lights on and beeping audible warning in pilot's and copilot's headsets. **MASTER CAUTION** - Press to reset audio tone.

e. Other cyclic mounted stabilator slew-up switch - Press and hold until **STAB POS** indicator moves approximately 15° trailing edge up, release, stabilator should stop.

f. **MAN SLEW** switch - **UP** and hold until stabilator stops. **STAB POS** indicator should be 6° to 10° up.

g. **MAN SLEW** switch - **DN** and hold until **STAB POS** indicator reads 0°.

h. **AUTO CONTROL RESET** switch - Press **ON**. **STAB POS** indicator should move 34° to 42° **DN**. **STABILATOR** caution light off.

BLADE DEICE SYSTEM TEST

a. Ice rate meter **PRESS TO TEST** button - Press and release.

b. Ice rate meter indicator - Moves to half scale (1.0) holds for about 50 seconds; then falls to 0 or below. **ICE DETECTED** and **MASTER CAUTION** lights on after 15 to 20 seconds into the test, and FAIL flag should not be visible in flag window. Ice rate meter should move to zero within 75 seconds after pressing **PRESS TO TEST** button.

c. **BLADE DE-ICE TEST** panel select switch - **NORM**.

d. **BLADE DEICE POWER** switch - **TEST**.

e. **PWR MAIN RTR** and **TAIL RTR** monitor lights - Check. **MAIN RTR** monitor light may go on for 2 to 4 seconds. If either light remains on for 10 seconds or more:

(1) **BLADE DEICE POWER** switch - **OFF**. If either light is still on:

(2) **APU** generator switch and/or **EXT PWR** switch - **OFF**.

f. **TEST IN PROGRESS** light - Check. Light should be on for 105 to 135 seconds. No other blade deice system lights should be on. **PWR MAIN RTR** and **TAIL RTR** monitor lights should go on momentarily near end of test. **TEST IN PROGRESS** light should then go off.

g. Crewman touch each droop stop cam - Cams should be warm to touch.

h. **BLADE DEICE POWER** switch - **OFF**.

i. **BLADE DE-ICE TEST** panel select switch - **SYNC 1**.

j. **BLADE DEICE POWER** switch - **TEST**. **MR DE-ICE FAIL** and **MASTER CAUTION** lights on.

k. **BLADE DEICE POWER** switch - **OFF**. **MR DE-ICE FAIL** and **MASTER CAUTION** lights off.

l. **BLADE DE-ICE TEST** panel select switch - **SYNC 2**.

m. **BLADE DEICE POWER** switch - **TEST**. **MR DE-ICE FAIL** and **MASTER CAUTION** lights on.

n. **BLADE DEICE POWER** switch - **OFF**. **MR DE-ICE FAIL** and **MASTER CAUTION** lights off.

o. **BLADE DE-ICE TEST** panel select switch - **OAT**.

p. **BLADE DEICE POWER** switch - **TEST**. **MR DE-ICE FAIL**, **TR DE-ICE FAIL**, and **MASTER CAUTION** lights on.

q. **BLADE DEICE POWER** switch - **OFF**. **MR DE-ICE FAIL**, **TR DE-ICE FAIL**, and **MASTER CAUTION** lights off.

AUXILIARY FUEL MANAGEMENT CONTROL PANEL - TEST AFMS

a. **AUX FUEL QTY LBS** digital readout - Note current reading.

b. **TEST/RESET** - Press. All annunciators will light and **E07** will be displayed if test is initiated within approximately one minute of applying ac power. If **E07** appears, press **TEST/RESET** again. **E07** should not appear until test is finished.

c. **BIT** indications - Check. Insure the **AUX FUEL** caution light on the Caution Advisory panel is off. Press and release **TEST/RESET** button on AFMP to reset the **AUX FUEL** caution light.

d. **PRESS** switch - As desired for tanks installed.

ENGINE(S) START

a. If any of these indications occur, perform EMER ENG SHUTDOWN as required.

(1) No **TGT TEMP** increase (light off) within 45 seconds.

(2) No **ENG OIL PRESS** within 45 seconds.

(3) No **% RPM 1** or **2** within 45 seconds.

(4) **ENGINE STARTER** caution light goes off before reaching 52% **Ng SPEED**.

(5) **TGT TEMP** reaches 700 850°C or 701C 851°C before idle is attained (Ng 63%).

b. Starter button(s) - Press until **Ng SPEED** increases; release.

c. **TGT TEMP** - Check below 700 150°C or 701C 80°C before advancing **ENG POWER CONT** levers.

d. **ENG POWER CONT** lever(s) - **IDLE**. Start clock.

e. System indications - Check.

f. **ENGINE STARTER** caution light(s). Check, off at 52% to 65% **Ng SPEED**. If **ENGINE STARTER** caution light remains on after 65% Ng:

(1) **ENG POWER CONT** lever - Pull out.

If caution light remains on:

(2) **APU** - **OFF** or engine air source remove as required.

HYDRAULIC LEAK TEST SYSTEM CHECK

a. **HYD LEAK TEST** switch - **TEST**. **#1 TAIL RTR SERVO**, **BOOST SERVO OFF**, **SAS OFF**, **#1** and **#2 RSVR LOW**, **BACK-UP RSVR LOW**, and **MASTER CAUTION** lights and **#2 TAIL RTR SERVO ON** and **BACK-UP PUMP ON** advisory lights on. During this check, it is normal for the collective and pedals to move slightly.

b. **HYD LEAK TEST** switch - **RESET**. The lights in a. should go off.

TAIL ROTOR SERVO TRANSFER CHECK

a. **BACKUP HYD PUMP** switch - **AUTO** with backup pump not running.

b. **TAIL SERVO** switch - **BACKUP**. **#1 TAIL RTR SERVO** caution light on and **#2 TAIL RTR SERVO ON** and **BACK-UP PUMP ON** advisory lights on within 3 to 5 seconds.

c. **TAIL SERVO** switch - **NORMAL**. **#1 TAIL RTR SERVO** caution light and **#2 TAIL RTR SERVO ON** advisory light off. **BACK-UP PUMP ON** advisory light remains on for approximately 90 seconds.

DEICE EOT CHECK

a. **BLADE DE-ICE TEST** select switch - **EOT**.

b. **BLADE DEICE MODE** select switch - **MANUAL M**.

c. **BLADE DEICE POWER** switch - **ON**.

d. **TR DE-ICE FAIL** and **MASTER CAUTION** lights go on after 15 to 30 seconds and **MR DE-ICE FAIL** caution light on after 50 to 70 seconds.

e. **BLADE DEICE POWER** switch - **OFF**. **TR DE-ICE FAIL**, **MR DE-ICE FAIL**, and **MASTER CAUTION** lights off.

f. **BLADE DE-ICE TEST** select switch - **NORM**.

g. **GENERATORS NO. 1** or **NO. 2** switch - **OFF**. Applicable **GEN** and **MASTER CAUTION** lights on.

h. **BLADE DEICE POWER** switch - **ON**. Wait 30 seconds, no deice lights on.

i. **GENERATORS** switch(es) - **ON**. Applicable **GEN** caution light(s) off.

j. **BLADE DEICE POWER** switch - **OFF**.

k. **BLADE DEICE MODE** select switch - **AUTO**.

EXTERNAL EXTENDED RANGE FUEL TRANSFER CHECK ERFS

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS OUTBD** and **INBD** switches - **ON** for tanks installed.

d. Fuel quantity switch - **TOTAL**.

e. **TANKS** switch - As desired.

f. **MODE** switch - **MANUAL**.

g. **MANUAL XFR RIGHT** switch - **ON**.

h. Main **FUEL QTY TOTAL FUEL** readout - Check for increase of about 20 pounds.

i. **TANKS** switch - Repeat for other position.

j. **MANUAL XFR RIGHT** switch - **OFF**.

k. **MANUAL XFR LEFT** switch - **ON**.

l. Repeat steps h. and i. for **MANUAL XFR LEFT**.

m. **MANUAL XFR** switches - **OFF**.

n. External extended range fuel transfer system - Set as desired.

EXTERNAL AUXILIARY FUEL MANAGEMENT SYSTEM TRANSFER CHECK AFMS

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS** switch - As required for tanks installed.

d. **XFER FROM** switch - **OUTBD**.

e. **MAN XFER** switch - **BOTH**.

f. **XFER MODE** switch - **MAN**.

g. Main **FUEL QTY TOTAL FUEL** readout - Check for increase of about 40 pounds, and **AUX FUEL QTY LBS** decrease of 20 pounds per tank.

h. **XFER FROM** switch - **INBD** if installed.

i. Main **FUEL QTY TOTAL FUEL** readout - Check for increase of about 40 pounds, and **AUX FUEL QTY LBS** decrease of 20 pounds per tank.

j. **XFER MODE** switch - **OFF**.

k. External extended range fuel transfer system - Set as desired.

FUEL TRANSFER IN AUTO MODE ERFS

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS OUTBD** and **INBD** switches - As required for tanks installed.

d. **MODE** switch - **AUTO**.

e. **TANKS** switch - **OUTBD**, then **INBD**.

FUEL TRANSFER IN AUTO MODE AFMS

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS** switch - As required for tanks installed.

d. **XFER FROM** switch - **OUTBD**, then **INBD**.

e. **XFER MODE** switch - **AUTO**.

FUEL TRANSFER IN MANUAL MODE ERFS

If **AUTO** mode is inoperative, transfer in **MANUAL** mode as follows:

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS OUTBD** and **INBD** switches - **ON** for tank sets installed.

d. **MODE** switch - **MANUAL**.

e. **TANKS** switch - **OUTBD** then **INBD**.

f. **MANUAL XFR** switches **RIGHT** and **LEFT** - **ON**.

FUEL TRANSFER IN MANUAL MODE AFMS

If **AUTO** mode is inoperative or a lateral imbalance greater than 400 pounds between tank pairs is identified, transfer in **MANUAL** mode as follows:

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS** switch - As required for tank installed.

d. **XFER FROM** switch - **OUTBD** then **INBD**.

e. **MAN XFR** switch **BOTH** or select heavy tank to correct imbalance.

FUEL FLOW VERIFICATION IN MANUAL MODE ERFS

NOTE

Ensure main fuel tanks are not completely full.

a. **AIR SOURCE HEAT/START** switch - **ENG**.

b. **FUEL BOOST PUMP CONTROL** switches - Check **ON**.

c. **PRESS OUTBD** and **INBD** switches - **ON** for tank sets installed.

d. **MODE** switch - **MANUAL**.

e. **TANKS** switch - **OUTBD** then **INBD**.

f. **MANUAL XFR RIGHT** switch - **ON**. Note the rate of decrease of the **AUX FUEL QTY POUNDS** indicator. The normal transfer fuel flow rate per tank should be between 20 to 38 pounds per minute.

g. **MANUAL XFR RIGHT** switch - **OFF**.

h. Repeat steps f. and g. for left tank.

MINE LAUNCH VOL

a. DCU **FIRE CIRCUIT** switch safety pin and streamer - Remove.

b. DCU **FIRE CIRCUIT** switch - **ENABLE**.

c. **VOLCANO ARM** switch - **ARM**. Verify **P/F/ ARMED** indicates **ARMED**.

d. Verify that the **HELICOPTER DELIVERY SPEED** setting agrees with the helicopter ground speed.

e. **GA** (go around) button - Press to start launching mines. Press **GA** button a second time to stop mine launching.

POST MINE LAUNCH CHECK VOL

a. **VOLCANO ARM** switch - Off.

b. DCU **FIRE CIRCUIT** switch - **OFF**. Install safety pin and streamer.

c. DCU **POWER** switch - Toggle to **OFF**.

MAXIMUM TORQUE AVAILABLE* − 30 MINUTE LIMIT
ANTI−ICE OFF T700−GE−700 ENGINE
ATF = 1.0 OR 0.9

HP	FREE AIR TEMPERATURE ~°C						
~FT	−50	−45	−40	−35	−30	−25	−20
0	100	100	100	100	100	100	100
500	100	100	100	100	100	100	100
1000	100	100	100	100	100	100	100
1500	100	100	100	100	100	100	100
2000	100	100	100	100	100	100	100
2500	100	100	100	100	100	100	100
3000	100	100	100	100	100	100	100
3500	100	100	100	100	100	100	100
4000	99	99	99	99	99	100	100
4500	97	97	97	97	98	99	100
5000	95	95	95	96	96	97	98
5500	93	94	94	94	94	95	96
6000	92	92	92	92	92	93	94
6500	90	90	90	90	91	92	92
7000	88	88	89	89	89	90	91
7500	87	87	87	87	87	88	89
8000	85	85	85	85	86	87	87
8500	84	84	84	84	84	85	86
9000	82	82	82	82	83	83	84
9500	80	80	80	81	81	82	83
10,000	79	79	79	79	80	80	81
10,500	77	77	77	78	78	79	79
11,000	76	76	76	76	76	77	78
11,500	74	75	75	75	75	76	76
12,000	73	73	73	73	73	74	75
12,500	72	72	72	72	72	73	74
13,000	70	70	70	70	70	71	72
13,500	69	69	69	69	69	70	71
14,000	67	67	67	67	68	68	69
14,500	66	66	66	66	66	67	68
15,000	65	65	65	65	65	66	67
15,500	63	63	63	63	64	64	65

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 100%**

AA9971_1_CL
SAF

Figure 1. Maximum Torque Available (Sheet 1 of 5) 700

MAXIMUM TORQUE AVAILABLE* − 30 MINUTE LIMIT ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C						
		−15	−10	−5	0	5	10	15
0	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	100
500	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	100
1000	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	100
1500	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	100
2000	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	98
2500	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	100	97
3000	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	100	98	95
3500	1.0	100	100	100	100	100	100	100
	0.9	100	100	100	100	99	97	93
4000	1.0	100	100	100	100	100	100	99
	0.9	100	100	100	100	97	95	92
4500	1.0	100	100	100	100	100	99	97
	0.9	100	100	98	98	95	93	90
5000	1.0	99	100	100	100	99	97	95
	0.9	99	98	96	96	93	91	88
5500	1.0	97	99	99	99	97	95	93
	0.9	97	97	94	94	91	89	86
6000	1.0	96	97	97	97	95	93	91
	0.9	96	95	93	92	90	87	84
6500	1.0	94	95	95	95	93	91	89
	0.9	94	93	91	90	88	86	83
7000	1.0	92	94	93	93	91	89	87
	0.9	92	91	89	88	86	84	81
7500	1.0	90	92	92	91	89	87	85
	0.9	90	90	88	87	84	82	79

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 100%**

AA9971_2_CL
SAF

Figure 1. Maximum Torque Available (Sheet 2 of 5) 700

MAXIMUM TORQUE AVAILABLE* − 30 MINUTE LIMIT ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C						
		−15	−10	−5	0	5	10	15
8000	1.0	89	90	90	90	88	85	84
	0.9	89	88	86	85	83	81	78
8500	1.0	87	89	88	88	86	84	82
	0.9	87	87	84	83	81	79	76
9000	1.0	86	87	86	86	84	82	80
	0.9	86	85	83	82	79	77	75
9500	1.0	84	85	85	84	82	80	79
	0.9	84	83	81	80	78	76	73
10,000	1.0	82	84	83	83	81	79	77
	0.9	82	82	79	78	76	74	72
10,500	1.0	81	82	81	81	79	77	75
	0.9	81	80	78	77	75	73	70
11,000	1.0	79	80	80	79	77	75	74
	0.9	79	78	76	75	73	71	69
11,500	1.0	78	79	78	78	76	74	72
	0.9	78	77	75	74	71	70	67
12,000	1.0	76	77	77	76	74	72	71
	0.9	76	75	73	72	70	68	66
12,500	1.0	75	76	75	74	72	71	69
	0.9	75	74	72	70	68	67	64
13,000	1.0	73	74	73	73	71	69	67
	0.9	73	73	70	69	67	65	63
13,500	1.0	72	73	72	71	69	68	66
	0.9	72	71	69	67	66	64	61
14,000	1.0	70	71	70	70	68	66	64
	0.9	70	70	67	66	64	62	60
14,500	1.0	69	70	69	68	66	65	63
	0.9	69	68	66	64	63	61	59
15,000	1.0	68	69	68	66	65	63	62
	0.9	68	67	65	63	61	60	57
15,500	1.0	66	67	66	65	63	62	60
	0.9	66	66	63	62	60	58	56

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 100%**

AA9971_3_CL
SAF

Figure 1. Maximum Torque Available (Sheet 3 of 5) 700

MAXIMUM TORQUE AVAILABLE* − 30 MINUTE LIMIT ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C 20	25	30	35	40	45	50
0	1.0	100	100	100	100	95	91	86
	0.9	100	98	94	90	86	82	77
500	1.0	100	100	100	98	94	89	84
	0.9	100	96	93	88	84	80	76
1000	1.0	100	100	100	97	92	87	83
	0.9	98	95	91	87	83	79	74
1500	1.0	100	100	99	95	91	86	81
	0.9	97	93	90	85	81	77	73
2000	1.0	100	100	97	93	89	84	80
	0.9	95	91	88	84	80	76	72
2500	1.0	100	99	96	91	87	83	78
	0.9	93	90	86	82	79	74	70
3000	1.0	100	97	94	90	86	81	77
	0.9	92	88	85	81	77	73	69
3500	1.0	98	95	92	88	84	80	75
	0.9	90	87	83	79	76	72	68
4000	1.0	96	93	91	86	82	78	74
	0.9	88	85	82	78	74	70	66
4500	1.0	94	92	89	85	81	76	72
	0.9	87	83	80	76	72	69	65
5000	1.0	92	90	87	83	79	75	70
	0.9	85	81	78	74	71	67	63
5500	1.0	90	88	85	81	77	73	69
	0.9	83	80	77	73	69	65	62
6000	1.0	88	86	83	79	75	71	67
	0.9	81	78	75	71	68	64	60
6500	1.0	87	84	81	77	74	70	66
	0.9	80	76	73	70	66	63	59
7000	1.0	85	82	80	76	72	68	64
	0.9	78	75	72	68	65	61	58
7500	1.0	83	81	78	74	70	66	63
	0.9	76	73	70	67	63	60	56

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 100%**
AREA IS ABOVE ENGINE AMBIENT TEMPERATURE LIMIT

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Figure 1. Maximum Torque Available (Sheet 4 of 5) 700

MAXIMUM TORQUE AVAILABLE* − 30 MINUTE LIMIT ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C						
		20	25	30	35	40	45	50
8000	1.0	82	79	76	73	69	65	61
	0.9	75	72	69	65	62	58	55
8500	1.0	80	77	75	71	67	63	60
	0.9	73	70	67	64	61	57	54
9000	1.0	78	76	73	69	66	62	58
	0.9	72	69	66	62	59	56	52
9500	1.0	77	74	71	68	64	61	57
	0.9	70	67	64	61	58	54	51
10,000	1.0	75	72	70	66	63	59	56
	0.9	69	66	63	60	56	53	50
10,500	1.0	74	71	68	65	61	58	54
	0.9	68	64	61	58	55	52	49
11,000	1.0	72	69	67	63	60	56	53
	0.9	66	63	60	57	54	51	48
11,500	1.0	70	68	65	62	58	55	51
	0.9	65	62	59	55	52	49	46
12,000	1.0	69	66	63	60	57	53	50
	0.9	63	60	57	54	51	48	45
12,500	1.0	67	65	62	59	55	52	49
	0.9	62	59	56	53	50	47	44
13,000	1.0	66	63	60	57	54	51	48
	0.9	60	57	55	51	49	46	43
13,500	1.0	64	62	59	56	53	49	46
	0.9	59	56	53	50	47	45	42
14,000	1.0	63	60	57	54	51	48	45
	0.9	58	55	52	49	46	43	41
14,500	1.0	61	59	56	53	50	47	44
	0.9	56	53	51	48	45	42	40
15,000	1.0	60	57	55	52	49	46	43
	0.9	55	52	49	46	44	41	39
15,500	1.0	58	56	53	50	47	45	42
	0.9	54	51	48	45	43	40	37

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 100%**
AREA IS ABOVE ENGINE AMBIENT TEMPERATURE LIMIT

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Figure 1. Maximum Torque Available (Sheet 5 of 5) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED
ANTI−ICE OFF T700−GE−700 ENGINE
ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
0	GW ~ 100 LB	220	220	220	219	218	217	216
	Q ~ OGE ~ %	98	99	100	100	100	100	100
	Q ~ IGE ~ %	85	86	86	86	86	86	86
1000	GW ~ 100 LB	220	219	218	217	216	215	214
	Q ~ OGE ~ %	99	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86
2000	GW ~ 100 LB	219	217	215	214	213	212	211
	Q ~ OGE ~ %	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86
2500	GW ~ 100 LB	218	215	214	213	212	211	210
	Q ~ OGE ~ %	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86
3000	GW ~ 100 LB	216	214	213	212	211	210	209
	Q ~ OGE ~ %	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	85	85	85
3500	GW ~ 100 LB	215	213	211	210	209	208	207
	Q ~ OGE ~ %	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	85	85	85	85	85	85
4000	GW ~ 100 LB	212	210	209	208	208	207	206
	Q ~ OGE ~ %	99	99	99	99	100	100	100
	Q ~ IGE ~ %	84	84	84	84	85	85	85
4500	GW ~ 100 LB	208	206	205	204	205	205	205
	Q ~ OGE ~ %	97	97	97	97	99	99	100
	Q ~ IGE ~ %	83	83	83	83	84	84	85
5000	GW ~ 100 LB	204	202	201	201	201	201	202
	Q ~ OGE ~ %	95	95	95	96	97	98	99
	Q ~ IGE ~ %	81	81	81	82	82	83	84
5500	GW ~ 100 LB	200	198	198	197	197	198	199
	Q ~ OGE ~ %	94	94	94	94	95	96	97
	Q ~ IGE ~ %	80	80	80	80	81	82	83

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 1 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED) ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
6000	GW ~ 100 LB	196	195	194	193	194	194	195
	Q ~ OGE ~ %	92	92	92	92	93	94	96
	Q ~ IGE ~ %	78	78	78	79	79	80	81
6500	GW ~ 100 LB	193	191	190	190	190	190	191
	Q ~ OGE ~ %	90	90	90	91	92	92	94
	Q ~ IGE ~ %	77	77	77	77	78	79	80
7000	GW ~ 100 LB	189	187	187	186	186	187	188
	Q ~ OGE ~ %	88	89	89	89	90	91	92
	Q ~ IGE ~ %	76	76	76	76	76	77	78
7500	GW ~ 100 LB	186	184	183	183	183	183	184
	Q ~ OGE ~ %	87	87	87	87	88	89	90
	Q ~ IGE ~ %	74	74	74	74	75	76	77
8000	GW ~ 100 LB	182	180	180	179	179	180	181
	Q ~ OGE ~ %	85	85	86	86	86	87	89
	Q ~ IGE ~ %	73	73	73	73	74	74	75
8500	GW ~ 100 LB	179	177	177	176	176	176	177
	Q ~ OGE ~ %	84	84	84	84	85	86	87
	Q ~ IGE ~ %	71	71	72	72	72	73	74
9000	GW ~ 100 LB	175	174	173	173	173	173	174
	Q ~ OGE ~ %	82	82	82	83	83	84	86
	Q ~ IGE ~ %	70	70	70	70	71	72	73
9500	GW ~ 100 LB	172	170	170	169	170	170	171
	Q ~ OGE ~ %	80	80	81	81	82	83	84
	Q ~ IGE ~ %	69	69	69	69	70	70	71
10,000	GW ~ 100 LB	169	167	167	166	166	167	167
	Q ~ OGE ~ %	79	79	79	79	80	81	82
	Q ~ IGE ~ %	67	67	67	67	68	69	70
10,500	GW ~ 100 LB	166	164	163	163	163	163	164
	Q ~ OGE ~ %	77	78	78	78	79	79	81
	Q ~ IGE ~ %	66	66	66	66	67	68	69

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 2 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED) ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
11,000	GW ~ 100 LB	162	161	160	160	160	160	161
	Q ~ OGE ~ %	76	76	76	76	77	78	79
	Q ~ IGE ~ %	65	65	65	65	66	66	67
11,500	GW ~ 100 LB	159	158	157	157	157	157	158
	Q ~ OGE ~ %	75	75	75	75	76	76	78
	Q ~ IGE ~ %	64	64	64	64	64	65	66
12,000	GW ~ 100 LB	156	155	154	153	154	154	155
	Q ~ OGE ~ %	73	73	73	73	74	75	76
	Q ~ IGE ~ %	62	62	62	62	63	64	65
12,500	GW ~ 100 LB	153	152	151	150	151	151	152
	Q ~ OGE ~ %	72	72	72	72	73	74	75
	Q ~ IGE ~ %	61	61	61	61	62	62	63
13,000	GW ~ 100 LB	150	148	148	147	148	148	149
	Q ~ OGE ~ %	70	70	70	70	71	72	73
	Q ~ IGE ~ %	60	60	60	60	61	61	62
13,500	GW ~ 100 LB	147	145	145	144	145	145	146
	Q ~ OGE ~ %	69	69	69	69	70	71	72
	Q ~ IGE ~ %	59	59	59	59	59	60	61
14,000	GW ~ 100 LB	144	142	142	141	142	142	143
	Q ~ OGE ~ %	68	67	67	68	68	69	70
	Q ~ IGE ~ %	58	57	57	57	58	59	60
14,500	GW ~ 100 LB	141	140	139	139	139	140	140
	Q ~ OGE ~ %	66	66	66	66	67	68	69
	Q ~ IGE ~ %	56	56	56	56	57	58	59
15,000	GW ~ 100 LB	139	137	136	136	136	137	138
	Q ~ OGE ~ %	65	65	65	65	66	67	68
	Q ~ IGE ~ %	55	55	55	55	56	57	57
15,500	GW ~ 100 LB	136	134	134	133	134	134	135
	Q ~ OGE ~ %	64	63	63	64	65	65	66
	Q ~ IGE ~ %	54	54	54	54	55	56	56

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 3 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	215	215	214	214	214	214	213	213
	Q ~ OGE ~ %	100	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86	86
1000	GW ~ 100 LB	213	213	212	212	211	211	210	210
	Q ~ OGE ~ %	100	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86	86
2000	GW ~ 100 LB	210	210	210	210	209	209	208	208
	Q ~ OGE ~ %	100	100	100	100	100	100	100	100
	Q ~ IGE ~ %	86	86	86	86	86	86	86	86
3000	GW ~ 100 LB	208	208	207	207	206	206	205	205
	Q ~ OGE ~ %	100	100	100	100	100	100	100	100
	Q ~ IGE ~ %	85	85	85	85	85	85	85	85
4000	GW ~ 100 LB	205	205	204	204	203	203	203	199
	Q ~ OGE ~ %	100	100	100	100	100	100	100	97
	Q ~ IGE ~ %	85	85	85	85	85	85	85	83
4500	GW ~ 100 LB	204	204	203	200	202	199	201	195
	Q ~ OGE ~ %	100	100	100	98	100	98	100	95
	Q ~ IGE ~ %	85	85	85	83	85	83	85	81
5000	GW ~ 100 LB	202	200	202	197	201	195	198	191
	Q ~ OGE ~ %	100	98	100	96	100	96	99	93
	Q ~ IGE ~ %	85	84	85	82	85	82	84	80
5500	GW ~ 100 LB	200	197	199	193	198	191	194	187
	Q ~ OGE ~ %	99	97	99	94	99	94	97	91
	Q ~ IGE ~ %	84	82	84	80	84	80	82	78
6000	GW ~ 100 LB	196	193	195	189	194	188	190	184
	Q ~ OGE ~ %	97	95	97	93	97	92	95	90
	Q ~ IGE ~ %	82	81	82	79	82	78	80	76
6500	GW ~ 100 LB	192	190	191	186	190	184	187	180
	Q ~ OGE ~ %	95	93	95	91	95	90	93	88
	Q ~ IGE ~ %	81	79	81	77	81	77	79	75

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 4 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
7000	GW ~ 100 LB	189	186	188	182	187	181	183	177
	Q ~ OGE ~ %	94	92	94	89	93	88	91	86
	Q ~ IGE ~ %	79	78	79	76	79	75	77	73
7500	GW ~ 100 LB	185	183	184	179	183	177	180	173
	Q ~ OGE ~ %	92	90	92	88	92	87	89	84
	Q ~ IGE ~ %	78	76	78	75	78	74	76	72
8000	GW ~ 100 LB	182	179	181	175	180	174	176	170
	Q ~ OGE ~ %	90	88	90	86	90	85	87	83
	Q ~ IGE ~ %	76	75	76	73	76	72	74	71
8500	GW ~ 100 LB	178	176	177	172	176	170	173	166
	Q ~ OGE ~ %	88	87	88	84	88	83	86	81
	Q ~ IGE ~ %	75	73	75	72	75	71	73	69
9000	GW ~ 100 LB	175	173	174	169	173	167	169	163
	Q ~ OGE ~ %	87	85	86	83	86	82	84	79
	Q ~ IGE ~ %	74	72	73	70	73	70	71	68
9500	GW ~ 100 LB	172	169	170	165	169	164	166	160
	Q ~ OGE ~ %	85	83	85	81	84	80	82	78
	Q ~ IGE ~ %	72	71	72	69	72	68	70	66
10,000	GW ~ 100 LB	168	166	167	162	166	160	163	157
	Q ~ OGE ~ %	84	82	83	79	83	78	81	76
	Q ~ IGE ~ %	71	69	70	68	70	67	69	65
10,500	GW ~ 100 LB	165	163	164	159	162	157	159	153
	Q ~ OGE ~ %	82	80	81	78	81	77	79	75
	Q ~ IGE ~ %	69	68	69	66	69	65	67	64
11,000	GW ~ 100 LB	162	160	161	156	159	154	156	150
	Q ~ OGE ~ %	80	78	80	76	79	75	77	73
	Q ~ IGE ~ %	68	67	68	65	67	64	66	62
11,500	GW ~ 100 LB	159	156	157	153	156	151	153	147
	Q ~ OGE ~ %	79	77	78	75	78	74	76	72
	Q ~ IGE ~ %	67	65	66	64	66	63	64	61

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 5 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF / *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
12,000	GW ~ 100 LB	156	153	154	150	153	147	150	144
	Q ~ OGE ~ %	77	75	76	73	76	72	74	70
	Q ~ IGE ~ %	65	64	65	62	64	61	63	60
12,500	GW ~ 100 LB	153	150	151	147	149	144	147	141
	Q ~ OGE ~ %	76	74	75	72	74	70	73	69
	Q ~ IGE ~ %	64	63	64	61	63	60	62	59
13,000	GW ~ 100 LB	150	147	148	144	146	141	143	138
	Q ~ OGE ~ %	74	73	73	70	73	69	71	67
	Q ~ IGE ~ %	63	62	62	60	62	59	60	57
13,500	GW ~ 100 LB	147	145	145	141	143	138	140	135
	Q ~ OGE ~ %	73	71	72	69	71	67	69	66
	Q ~ IGE ~ %	62	60	61	59	60	58	59	56
14,000	GW ~ 100 LB	144	142	142	138	140	135	137	132
	Q ~ OGE ~ %	71	70	70	67	70	66	68	64
	Q ~ IGE ~ %	60	59	60	57	59	56	58	55
14,500	GW ~ 100 LB	141	139	139	135	137	133	134	130
	Q ~ OGE ~ %	70	68	69	66	68	65	66	63
	Q ~ IGE ~ %	59	58	58	56	58	55	56	54
15,000	GW ~ 100 LB	138	136	136	132	134	130	132	127
	Q ~ OGE ~ %	69	67	68	64	66	63	65	61
	Q ~ IGE ~ %	58	57	57	55	56	54	55	52
15,500	GW ~ 100 LB	136	134	133	130	131	127	129	124
	Q ~ OGE ~ %	67	66	66	63	65	62	63	60
	Q ~ IGE ~ %	57	56	56	54	55	53	54	51

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 6 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	212	212	211	211	210	210	209	206
	Q ~ OGE ~ %	100	100	100	100	100	100	100	98
	Q ~ IGE ~ %	86	86	86	86	86	86	86	84
1000	GW ~ 100 LB	209	209	208	208	207	205	206	199
	Q ~ OGE ~ %	100	100	100	100	100	98	100	95
	Q ~ IGE ~ %	86	86	85	86	86	84	86	81
2000	GW ~ 100 LB	207	207	206	204	205	198	204	192
	Q ~ OGE ~ %	100	100	100	98	100	95	100	91
	Q ~ IGE ~ %	86	86	85	84	85	81	85	79
2500	GW ~ 100 LB	205	205	204	200	203	194	201	188
	Q ~ OGE ~ %	100	100	100	97	100	93	99	90
	Q ~ IGE ~ %	85	85	85	83	85	80	84	77
3000	GW ~ 100 LB	204	202	203	196	202	191	197	185
	Q ~ OGE ~ %	100	98	100	95	100	92	97	88
	Q ~ IGE ~ %	85	84	85	81	85	79	83	76
3500	GW ~ 100 LB	203	198	201	193	198	187	194	182
	Q ~ OGE ~ %	100	97	100	93	98	90	95	87
	Q ~ IGE ~ %	85	82	95	80	84	77	81	74
4000	GW ~ 100 LB	201	194	198	189	195	184	190	178
	Q ~ OGE ~ %	100	95	98	92	96	88	93	85
	Q ~ IGE ~ %	85	80	84	78	82	76	80	73
4500	GW ~ 100 LB	198	191	195	186	191	180	186	175
	Q ~ OGE ~ %	99	93	96	90	94	87	91	83
	Q ~ IGE ~ %	84	79	82	77	80	74	78	72
5000	GW ~ 100 LB	195	187	191	182	187	177	183	171
	Q ~ OGE ~ %	97	91	94	88	92	85	90	81
	Q ~ IGE ~ %	82	77	80	75	79	72	76	70
5500	GW ~ 100 LB	191	184	187	179	184	173	179	168
	Q ~ OGE ~ %	95	89	92	86	90	83	88	80
	Q ~ IGE ~ %	80	76	79	74	77	71	75	69

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 7 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
6000	GW ~ 100 LB	187	180	184	175	180	170	176	165
	Q ~ OGE ~ %	93	87	91	84	88	81	86	78
	Q ~ IGE ~ %	79	75	77	72	75	70	73	67
6500	GW ~ 100 LB	183	177	180	172	177	167	172	161
	Q ~ OGE ~ %	91	86	89	83	87	80	84	76
	Q ~ IGE ~ %	77	73	76	71	74	68	72	66
7000	GW ~ 100 LB	181	173	176	168	173	163	169	158
	Q ~ OGE ~ %	89	84	87	81	85	78	82	75
	Q ~ IGE ~ %	76	71	74	69	73	67	70	64
7500	GW ~ 100 LB	176	169	173	165	170	160	165	155
	Q ~ OGE ~ %	87	82	85	79	83	77	81	73
	Q ~ IGE ~ %	74	70	73	68	71	66	69	63
8000	GW ~ 100 LB	173	166	169	162	166	157	162	152
	Q ~ OGE ~ %	85	81	84	78	82	75	79	72
	Q ~ IGE ~ %	73	69	71	67	70	64	67	62
8500	GW ~ 100 LB	169	163	166	158	163	154	158	148
	Q ~ OGE ~ %	84	79	82	76	80	73	77	70
	Q ~ IGE ~ %	71	67	70	65	68	63	66	61
9000	GW ~ 100 LB	166	160	162	155	159	151	154	145
	Q ~ OGE ~ %	82	77	80	75	78	72	76	69
	Q ~ IGE ~ %	70	66	68	64	67	62	64	59
9500	GW ~ 100 LB	162	156	159	152	156	148	151	142
	Q ~ OGE ~ %	80	76	79	73	77	70	74	67
	Q ~ IGE ~ %	68	65	67	63	65	60	63	58
10,000	GW ~ 100 LB	159	153	155	149	152	145	148	139
	Q ~ OGE ~ %	79	74	77	72	75	69	72	66
	Q ~ IGE ~ %	67	63	66	61	64	59	62	57
10,500	GW ~ 100 LB	155	150	152	146	149	142	144	136
	Q ~ OGE ~ %	77	73	75	70	74	67	71	64
	Q ~ IGE ~ %	66	62	64	60	63	58	61	56

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 8 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
11,000	GW ~ 100 LB	152	147	149	143	146	139	141	134
	Q ~ OGE ~ %	75	71	74	69	72	66	69	63
	Q ~ IGE ~ %	64	61	63	59	61	57	59	54
11,500	GW ~ 100 LB	149	144	146	140	143	136	138	131
	Q ~ OGE ~ %	74	70	72	67	70	65	68	62
	Q ~ IGE ~ %	63	60	62	58	60	56	58	53
12,000	GW ~ 100 LB	146	141	143	137	140	133	135	128
	Q ~ OGE ~ %	72	68	71	66	69	63	66	60
	Q ~ IGE ~ %	62	58	60	56	59	54	57	52
12,500	GW ~ 100 LB	143	138	140	134	137	130	133	125
	Q ~ OGE ~ %	71	67	69	64	67	62	65	59
	Q ~ IGE ~ %	60	57	59	55	58	53	55	51
13,000	GW ~ 100 LB	140	135	137	131	134	127	130	122
	Q ~ OGE ~ %	69	65	67	63	66	60	63	57
	Q ~ IGE ~ %	59	56	58	54	56	52	54	50
13,500	GW ~ 100 LB	137	132	135	128	131	124	127	119
	Q ~ OGE ~ %	68	64	66	61	64	59	62	56
	Q ~ IGE ~ %	58	55	56	53	55	51	53	48
14,000	GW ~ 100 LB	135	129	132	126	129	121	125	117
	Q ~ OGE ~ %	66	62	64	60	63	58	60	55
	Q ~ IGE ~ %	56	53	55	52	54	50	52	47
14,500	GW ~ 100 LB	132	127	129	123	126	119	122	114
	Q ~ OGE ~ %	65	61	63	59	61	56	59	53
	Q ~ IGE ~ %	55	52	54	50	52	48	50	46
15,000	GW ~ 100 LB	129	124	126	120	123	116		
	Q ~ OGE ~ %	63	60	62	57	60	55	ABOVE ENGINE AMBIENT TEMP LIMIT	
	Q ~ IGE ~ %	54	51	53	49	51	47		
15,500	GW ~ 100 LB	126	121	123	117	120	113		
	Q ~ OGE ~ %	62	58	60	56	58	54		
	Q ~ IGE ~ %	53	50	51	48	50	46		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 9 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		30		35		40		45	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	208	200	207	192	200	185	192	178
	Q ~ OGE ~ %	100	94	100	90	95	86	91	82
	Q ~ IGE ~ %	86	81	86	78	82	74	78	71
500	GW ~ 100 LB	207	196	204	189	196	182	188	175
	Q ~ OGE ~ %	100	93	98	88	94	84	89	80
	Q ~ IGE ~ %	86	80	84	76	81	73	77	70
1000	GW ~ 100 LB	206	193	200	186	193	179	185	171
	Q ~ OGE ~ %	100	91	97	87	92	83	87	79
	Q ~ IGE ~ %	86	78	83	75	79	72	75	68
1500	GW ~ 100 LB	203	189	196	182	189	176	182	168
	Q ~ OGE ~ %	99	90	95	85	91	82	86	77
	Q ~ IGE ~ %	85	77	81	74	78	71	74	67
2000	GW ~ 100 LB	200	186	193	179	186	172	178	165
	Q ~ OGE ~ %	97	88	93	84	89	80	84	76
	Q ~ IGE ~ %	83	76	80	72	76	69	73	66
2500	GW ~ 100 LB	196	183	189	176	182	169	175	162
	Q ~ OGE ~ %	96	86	91	82	87	79	83	75
	Q ~ IGE ~ %	82	74	78	71	75	68	71	65
3000	GW ~ 100 LB	193	179	186	173	179	166	172	159
	Q ~ OGE ~ %	94	85	90	81	86	77	81	73
	Q ~ IGE ~ %	80	73	77	70	74	67	70	63
3500	GW ~ 100 LB	189	176	182	169	175	163	168	156
	Q ~ OGE ~ %	92	83	88	79	84	75	80	72
	Q ~ IGE ~ %	79	72	76	68	72	65	69	62
4000	GW ~ 100 LB	185	173	179	166	172	160	165	153
	Q ~ OGE ~ %	90	82	86	78	82	74	78	70
	Q ~ IGE ~ %	77	70	74	67	71	64	67	61
4500	GW ~ 100 LB	182	169	175	163	169	156	162	150
	Q ~ OGE ~ %	89	80	85	76	81	72	76	69
	Q ~ IGE ~ %	76	69	73	66	69	62	66	60
5000	GW ~ 100 LB	178	166	172	159	165	153	158	146
	Q ~ OGE ~ %	87	78	83	74	79	71	75	67
	Q ~ IGE ~ %	74	67	71	64	68	61	64	58
5500	GW ~ 100 LB	174	162	168	156	162	150	ABOVE ENGINE AMBIENT TEMP LIMIT	
	Q ~ OGE ~ %	85	77	81	73	77	69		
	Q ~ IGE ~ %	73	66	69	63	66	60		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 10 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		30		35		40		45	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
6000	GW ~ 100 LB	171	159	164	153	158	147	151	140
	Q ~ OGE ~ %	83	75	79	71	75	68	71	64
	Q ~ IGE ~ %	71	64	68	61	65	59	61	56
6500	GW ~ 100 LB	167	156	161	150	155	144	148	137
	Q ~ OGE ~ %	81	73	77	70	74	66	70	63
	Q ~ IGE ~ %	70	63	66	60	63	57	60	54
7000	GW ~ 100 LB	164	153	158	146	152	141		
	Q ~ OGE ~ %	80	72	76	68	72	65		
	Q ~ IGE ~ %	68	62	65	59	62	56		
7500	GW ~ 100 LB	161	149	155	143	148	138		
	Q ~ OGE ~ %	78	70	74	67	70	63		
	Q ~ IGE ~ %	67	61	64	58	61	55		
8000	GW ~ 100 LB	157	146	151	140	146	135		
	Q ~ OGE ~ %	76	69	73	65	69	62		
	Q ~ IGE ~ %	65	59	62	56	59	54		
8500	GW ~ 100 LB	154	143	148	137	142	132		
	Q ~ OGE ~ %	75	67	71	64	67	61		
	Q ~ IGE ~ %	64	58	61	55	58	53		
9000	GW ~ 100 LB	151	140	145	134				
	Q ~ OGE ~ %	73	66	69	62	ABOVE ENGINE AMBIENT TEMP LIMIT			
	Q ~ IGE ~ %	63	57	60	54				
9500	GW ~ 100 LB	148	137	142	132				
	Q ~ OGE ~ %	71	64	68	61				
	Q ~ IGE ~ %	61	56	58	53				
10,000	GW ~ 100 LB	144	134	139	129				
	Q ~ OGE ~ %	70	63	66	60				
	Q ~ IGE ~ %	60	54	57	52				
10,500	GW ~ 100 LB	141	131	136	126				
	Q ~ OGE ~ %	68	62	65	58				
	Q ~ IGE ~ %	58	53	56	50				
11,000	GW ~ 100 LB	138	129						
	Q ~ OGE ~ %	67	60						
	Q ~ IGE ~ %	57	52						
11,500	GW ~ 100 LB	135	126						
	Q ~ OGE ~ %	65	59						
	Q ~ IGE ~ %	56	51						

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
100% Q TRANSMISSION LIMIT OR
30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 11 of 12) 700

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−700 ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C			
		50		55	
		1.0	0.9	1.0	0.9
0	GW ~ 100 LB	184	170	176	163
	Q ~ OGE ~ %	86	77	82	73
	Q ~ IGE ~ %	74	67	71	64
500	GW ~ 100 LB	180	167	173	160
	Q ~ OGE ~ %	84	76	80	72
	Q ~ IGE ~ %	73	66	69	63
1000	GW ~ 100 LB	177	164	170	157
	Q ~ OGE ~ %	83	75	79	71
	Q ~ IGE ~ %	72	65	68	62
1500	GW ~ 100 LB	174	161	167	154
	Q ~ OGE ~ %	81	73	77	69
	Q ~ IGE ~ %	70	64	67	61
2000	GW ~ 100 LB	171	158	163	151
	Q ~ OGE ~ %	80	72	76	68
	Q ~ IGE ~ %	69	62	65	59
2500	GW ~ 100 LB	167	155	ABOVE ENGINE AMBIENT TEMP LIMIT	
	Q ~ OGE ~ %	78	70		
	Q ~ IGE ~ %	68	61		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB 100% Q TRANSMISSION LIMIT OR 30 MINUTE ENGINE Q LIMIT.

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Figure 2. Hover Torque Required (Sheet 12 of 12) 700

MAXIMUM TORQUE AVAILABLE* − 10 MINUTE LIMIT
ANTI−ICE OFF T700−GE−701C ENGINE
ATF = 1.0 OR 0.9

HP	FREE AIR TEMPERATURE ~°C						
~FT	−50	−45	−40	−35	−30	−25	−20
0	120	120	120	120	120	120	120
500	120	120	120	120	120	120	120
1000	120	120	120	120	120	120	120
1500	120	120	120	120	120	120	120
2000	120	120	120	120	120	120	120
2500	118	119	120	120	120	120	120
3000	116	117	117	118	120	120	120
3500	114	114	115	116	117	118	119
4000	112	112	113	114	115	116	117
4500	110	110	111	112	113	114	115
5000	108	108	109	110	111	112	112
5500	106	106	107	108	109	110	110
6000	104	104	105	106	107	108	108
6500	102	103	103	104	105	106	106
7000	100	101	101	102	103	104	104
7500	98	99	100	100	101	102	102
8000	96	97	98	99	99	100	101
8500	94	95	96	97	98	98	99
9000	93	93	94	95	96	96	97
9500	91	92	92	93	94	94	95
10,000	89	90	91	91	92	93	93
10,500	88	88	89	90	90	91	91
11,000	86	87	87	88	89	89	90
11,500	84	85	86	86	87	87	88
12,000	83	83	84	85	85	86	86
12,500	81	82	82	83	83	84	85
13,000	80	80	81	81	82	82	83
13,500	78	78	79	80	80	81	81
14,000	76	77	77	78	79	79	80
14,500	75	75	76	76	77	77	78
15,000	73	74	74	75	75	76	76
15,500	72	72	73	73	74	74	75

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 120% BELOW 80 KIAS AND 100% TORQUE ABOVE 80 KIAS**

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Figure 3. Maximum Torque Available (Sheet 1 of 5) 701C

MAXIMUM TORQUE AVAILABLE* − 10 MINUTE LIMIT ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C						
		−15	−10	−5	0	5	10	15
0	1.0	120	120	120	120	120	120	120
	0.9	120	120	120	120	120	120	120
500	1.0	120	120	120	120	120	120	120
	0.9	120	120	120	120	120	120	120
1000	1.0	120	120	120	120	120	120	120
	0.9	120	120	120	120	120	120	119
1500	1.0	120	120	120	120	120	120	120
	0.9	120	120	120	120	120	119	117
2000	1.0	120	120	120	120	120	120	120
	0.9	120	120	120	120	120	117	115
2500	1.0	120	120	120	120	120	120	119
	0.9	120	120	120	120	118	115	113
3000	1.0	120	120	120	120	120	119	117
	0.9	120	120	119	118	116	113	110
3500	1.0	120	120	120	120	118	116	115
	0.9	120	118	117	116	113	111	108
4000	1.0	118	119	119	118	116	114	113
	0.9	118	116	115	114	111	109	106
4500	1.0	116	117	116	115	114	112	111
	0.9	116	114	113	112	109	107	104
5000	1.0	114	115	114	113	112	110	109
	0.9	114	112	111	110	107	105	102
5500	1.0	112	113	112	111	110	108	106
	0.9	112	110	109	108	105	103	100
6000	1.0	110	111	110	109	108	106	104
	0.9	110	108	107	105	103	101	98
6500	1.0	108	109	108	107	105	104	102
	0.9	108	106	105	103	101	99	97
7000	1.0	106	107	106	105	103	102	100
	0.9	106	104	103	102	99	97	95
7500	1.0	104	105	104	103	101	100	98
	0.9	104	102	101	100	97	95	93

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 120% BELOW 80 KIAS AND 100% TORQUE ABOVE 80 KIAS**

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Figure 3. Maximum Torque Available (Sheet 2 of 5) 701C

MAXIMUM TORQUE AVAILABLE* − 10 MINUTE LIMIT ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C						
		−15	−10	−5	0	5	10	15
8000	1.0	102	103	102	101	99	98	96
	0.9	102	100	99	98	95	93	91
8500	1.0	100	101	100	99	97	96	94
	0.9	100	98	97	96	93	91	89
9000	1.0	98	99	98	97	95	94	92
	0.9	98	96	95	94	92	89	87
9500	1.0	96	97	96	95	93	92	91
	0.9	96	94	93	92	90	88	85
10,000	1.0	94	95	94	93	92	90	89
	0.9	94	93	91	90	88	86	84
10,500	1.0	92	94	92	91	90	88	87
	0.9	92	91	90	88	86	84	82
11,000	1.0	91	92	91	89	88	87	85
	0.9	91	89	88	86	84	82	80
11,500	1.0	89	90	89	88	86	85	83
	0.9	89	88	86	85	83	81	79
12,000	1.0	87	88	87	86	84	83	82
	0.9	87	86	85	83	81	79	77
12,500	1.0	86	87	85	84	83	81	80
	0.9	86	84	83	81	79	77	75
13,000	1.0	84	85	84	82	81	80	78
	0.9	84	83	81	80	78	76	74
13,500	1.0	82	83	82	81	79	78	77
	0.9	82	81	80	78	76	74	72
14,000	1.0	81	82	80	79	78	76	75
	0.9	81	79	78	76	75	73	71
14,500	1.0	79	80	79	77	76	75	73
	0.9	79	78	76	75	73	71	69
15,000	1.0	77	78	77	76	75	73	72
	0.9	77	76	75	73	72	70	68
15,500	1.0	76	76	75	74	73	72	71
	0.9	76	74	73	72	70	68	66

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 120% BELOW 80 KIAS AND 100% TORQUE ABOVE 80 KIAS**

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Figure 3. Maximum Torque Available (Sheet 3 of 5) 701C

MAXIMUM TORQUE AVAILABLE* − 10 MINUTE LIMIT ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C 20	25	30	35	40	45	50
0	1.0	120	120	120	120	117	113	109
	0.9	120	117	113	109	106	102	98
500	1.0	120	120	120	119	115	111	107
	0.9	118	115	111	107	104	100	96
1000	1.0	120	120	120	117	113	109	105
	0.9	116	113	109	105	102	98	94
1500	1.0	120	120	118	114	111	107	103
	0.9	114	111	107	103	100	96	93
2000	1.0	120	118	116	112	109	105	101
	0.9	112	109	105	101	98	94	91
2500	1.0	118	116	114	110	107	103	99
	0.9	110	107	103	99	96	92	89
3000	1.0	116	114	112	108	105	101	97
	0.9	108	105	101	97	94	91	87
3500	1.0	113	111	109	106	102	99	95
	0.9	106	103	99	95	92	89	85
4000	1.0	111	109	107	104	100	97	93
	0.9	104	101	97	93	90	87	84
4500	1.0	109	107	105	102	98	95	91
	0.9	102	99	96	92	88	85	82
5000	1.0	107	105	103	100	96	93	89
	0.9	100	97	94	90	87	83	80
5500	1.0	105	103	101	98	94	91	87
	0.9	98	95	92	88	85	82	78
6000	1.0	103	101	99	96	92	89	85
	0.9	96	93	90	86	83	80	77
6500	1.0	101	99	97	94	90	87	83
	0.9	94	91	88	84	81	78	75
7000	1.0	99	97	95	92	89	85	82
	0.9	92	89	86	83	80	77	73
7500	1.0	97	95	93	90	87	83	80
	0.9	90	87	84	81	78	75	72

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 120% BELOW 80 KIAS AND 100% TORQUE ABOVE 80 KIAS**

AREA IS ABOVE ENGINE AMBIENT TEMPERATURE LIMIT

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Figure 3. Maximum Torque Available (Sheet 4 of 5) 701C

MAXIMUM TORQUE AVAILABLE* − 10 MINUTE LIMIT ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF	FREE AIR TEMPERATURE ~°C 20	25	30	35	40	45	50
8000	1.0	95	93	91	88	85	81	78
	0.9	88	86	83	79	76	73	70
8500	1.0	93	91	89	86	83	80	76
	0.9	87	84	81	77	75	72	69
9000	1.0	91	89	87	84	81	78	74
	0.9	85	82	79	76	73	70	67
9500	1.0	89	87	85	82	79	76	73
	0.9	83	80	78	74	71	68	65
10,000	1.0	87	85	83	80	78	74	71
	0.9	81	79	76	72	70	67	64
10,500	1.0	85	84	82	79	76	73	69
	0.9	80	77	74	71	68	65	62
11,000	1.0	84	82	80	77	74	71	68
	0.9	78	75	73	69	67	64	61
11,500	1.0	82	80	78	75	72	69	66
	0.9	76	74	71	68	65	62	59
12,000	1.0	80	78	76	74	71	68	64
	0.9	75	72	69	66	64	61	58
12,500	1.0	78	77	75	72	69	66	63
	0.9	73	71	68	65	62	59	57
13,000	1.0	77	75	73	70	68	65	61
	0.9	72	69	66	63	61	58	55
13,500	1.0	75	73	71	69	66	63	60
	0.9	70	68	65	62	59	57	54
14,000	1.0	74	72	70	67	65	62	59
	0.9	69	66	63	60	58	55	53
14,500	1.0	72	70	68	66	63	60	57
	0.9	67	65	62	59	57	54	51
15,000	1.0	71	69	67	64	62	59	56
	0.9	66	63	61	58	55	53	50
15,500	1.0	69	67	65	63	60	57	54
	0.9	64	62	59	56	54	52	49

*** MAXIMUM TORQUE AVAILABLE IS LIMITED TO 120% BELOW 80 KIAS AND 100% TORQUE ABOVE 80 KIAS**

AREA IS ABOVE ENGINE AMBIENT TEMPERATURE LIMIT

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Figure 3. Maximum Torque Available (Sheet 5 of 5) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED
ANTI−ICE OFF T700−GE−701C ENGINE
ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
0	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	97	98	98	99	100	101	101
	Q ~ IGE ~ %	85	86	86	86	87	87	88
1000	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	98	99	100	101	101	102	103
	Q ~ IGE ~ %	86	86	87	87	88	89	89
2000	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	100	101	102	103	103	104	105
	Q ~ IGE ~ %	87	87	88	89	89	90	90
3000	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	101	103	104	105	106	106	107
	Q ~ IGE ~ %	87	89	89	90	91	91	92
4000	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	104	106	106	107	108	109	110
	Q ~ IGE ~ %	89	90	91	92	92	93	94
5000	GW ~ 100 LB	220	220	220	220	220	220	220
	Q ~ OGE ~ %	106	108	109	110	111	111	112
	Q ~ IGE ~ %	90	92	93	93	94	95	96
5500	GW ~ 100 LB	217	217	217	217	217	217	217
	Q ~ OGE ~ %	106	107	108	109	110	110	112
	Q ~ IGE ~ %	90	91	92	93	93	94	95
6000	GW ~ 100 LB	213	213	213	213	213	213	213
	Q ~ OGE ~ %	104	105	106	107	108	108	110
	Q ~ IGE ~ %	88	89	90	91	92	92	93
6500	GW ~ 100 LB	209	209	209	209	209	209	209
	Q ~ OGE ~ %	102	103	104	105	106	106	108
	Q ~ IGE ~ %	87	88	89	89	90	90	92

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 1 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED) ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
7000	GW ~ 100 LB	205	205	205	205	205	205	205
	Q ~ OGE ~ %	100	101	102	103	104	104	106
	Q ~ IGE ~ %	85	86	87	88	88	89	90
7500	GW ~ 100 LB	201	201	201	201	201	201	202
	Q ~ OGE ~ %	98	100	100	101	102	102	104
	Q ~ IGE ~ %	83	85	85	86	87	87	88
8000	GW ~ 100 LB	198	197	197	197	197	197	198
	Q ~ OGE ~ %	96	98	98	99	100	101	102
	Q ~ IGE ~ %	82	83	84	84	85	86	87
8500	GW ~ 100 LB	194	194	194	194	194	194	194
	Q ~ OGE ~ %	94	96	97	98	98	99	100
	Q ~ IGE ~ %	80	82	82	83	83	84	85
9000	GW ~ 100 LB	190	190	190	190	190	190	190
	Q ~ OGE ~ %	93	94	95	96	96	97	98
	Q ~ IGE ~ %	79	80	81	81	82	82	83
9500	GW ~ 100 LB	187	187	187	187	186	186	187
	Q ~ OGE ~ %	91	92	93	94	95	95	96
	Q ~ IGE ~ %	79	79	79	80	80	81	82
10,000	GW ~ 100 LB	183	183	183	183	183	183	183
	Q ~ OGE ~ %	89	91	91	92	93	93	94
	Q ~ IGE ~ %	77	77	78	78	79	79	80
10,500	GW ~ 100 LB	180	180	180	180	180	179	180
	Q ~ OGE ~ %	88	89	90	91	91	91	92
	Q ~ IGE ~ %	76	76	76	77	77	78	79
11,000	GW ~ 100 LB	176	176	176	176	176	176	176
	Q ~ OGE ~ %	86	87	88	88	89	90	91
	Q ~ IGE ~ %	75	75	75	75	76	76	77

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB 120% Q TRANSMISSION LIMIT OR 10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 2 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED) ATF = 1.0 OR 0.9

HP ~FT	*	FREE AIR TEMPERATURE ~°C						
		−45	−40	−35	−30	−25	−20	−15
11,500	GW ~ 100 LB	173	173	173	173	172	172	173
	Q ~ OGE ~ %	84	86	86	87	87	88	89
	Q ~ IGE ~ %	73	73	73	74	74	75	76
12,000	GW ~ 100 LB	169	169	169	169	169	169	170
	Q ~ OGE ~ %	83	84	85	85	86	86	87
	Q ~ IGE ~ %	72	72	72	72	73	73	74
12,500	GW ~ 100 LB	166	166	166	166	166	166	166
	Q ~ OGE ~ %	81	82	83	84	84	85	86
	Q ~ IGE ~ %	71	70	70	71	71	72	73
13,000	GW ~ 100 LB	163	163	163	163	163	162	163
	Q ~ OGE ~ %	80	81	81	82	82	83	84
	Q ~ IGE ~ %	69	69	69	70	70	71	71
13,500	GW ~ 100 LB	160	159	159	159	159	159	160
	Q ~ OGE ~ %	78	79	80	80	81	81	82
	Q ~ IGE ~ %	68	67	68	68	69	69	70
14,000	GW ~ 100 LB	157	156	156	156	156	156	157
	Q ~ OGE ~ %	76	77	78	79	79	80	81
	Q ~ IGE ~ %	67	66	66	67	67	68	69
14,500	GW ~ 100 LB	154	153	153	153	153	153	153
	Q ~ OGE ~ %	75	76	76	77	78	78	79
	Q ~ IGE ~ %	64	64	65	66	66	66	67
15,000	GW ~ 100 LB	150	150	150	150	150	150	150
	Q ~ OGE ~ %	73	74	75	75	76	77	77
	Q ~ IGE ~ %	62	63	64	64	65	65	66
15,500	GW ~ 100 LB	147	147	147	147	147	147	147
	Q ~ OGE ~ %	72	73	73	74	74	75	76
	Q ~ IGE ~ %	61	62	62	63	63	64	64

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 3 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	220	220	220	220	220	220	220	220
	Q ~ OGE ~ %	102	102	103	103	103	103	104	104
	Q ~ IGE ~ %	88	88	89	89	89	89	90	90
2000	GW ~ 100 LB	220	220	220	220	220	220	220	220
	Q ~ OGE ~ %	106	106	106	106	107	107	108	108
	Q ~ IGE ~ %	91	91	92	92	92	92	93	93
3000	GW ~ 100 LB	220	220	220	220	220	220	220	220
	Q ~ OGE ~ %	108	108	109	109	109	109	110	110
	Q ~ IGE ~ %	93	93	93	93	94	94	95	95
4000	GW ~ 100 LB	220	220	220	220	220	220	220	218
	Q ~ OGE ~ %	110	110	111	111	112	112	113	111
	Q ~ IGE ~ %	94	94	95	95	96	96	96	95
5000	GW ~ 100 LB	220	220	220	216	218	214	215	210
	Q ~ OGE ~ %	113	113	114	111	113	110	112	107
	Q ~ IGE ~ %	96	96	97	95	97	94	95	92
5500	GW ~ 100 LB	218	216	216	212	214	210	211	206
	Q ~ OGE ~ %	113	112	112	109	111	108	110	105
	Q ~ IGE ~ %	96	95	96	93	95	92	93	90
6000	GW ~ 100 LB	214	212	212	208	210	206	207	202
	Q ~ OGE ~ %	111	110	110	107	109	106	108	103
	Q ~ IGE ~ %	94	93	94	91	93	90	92	88
6500	GW ~ 100 LB	210	208	208	205	206	202	203	198
	Q ~ OGE ~ %	109	108	108	105	107	104	106	101
	Q ~ IGE ~ %	93	92	92	90	91	89	90	87
7000	GW ~ 100 LB	206	205	204	201	202	198	199	195
	Q ~ OGE ~ %	107	106	106	103	105	102	103	99
	Q ~ IGE ~ %	91	90	90	88	89	87	88	85

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB 120% Q TRANSMISSION LIMIT OR 10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 4 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
7500	GW ~ 100 LB	202	201	200	197	198	194	195	191
	Q ~ OGE ~ %	105	104	104	101	103	100	101	97
	Q ~ IGE ~ %	89	88	89	86	88	85	86	83
8000	GW ~ 100 LB	199	197	196	193	194	191	192	187
	Q ~ OGE ~ %	103	102	102	99	101	98	99	95
	Q ~ IGE ~ %	88	87	87	85	86	83	85	82
8500	GW ~ 100 LB	195	193	193	189	191	187	188	183
	Q ~ OGE ~ %	101	100	100	97	99	96	97	03
	Q ~ IGE ~ %	86	85	85	85	84	84	83	80
9000	GW ~ 100 LB	191	190	189	186	187	183	184	180
	Q ~ OGE ~ %	99	98	98	95	97	94	95	92
	Q ~ IGE ~ %	84	83	83	81	83	80	81	78
9500	GW ~ 100 LB	187	186	185	182	183	180	181	176
	Q ~ OGE ~ %	97	96	96	93	95	92	94	90
	Q ~ IGE ~ %	83	82	82	80	81	79	80	77
10,000	GW ~ 100 LB	184	182	182	178	179	176	177	173
	Q ~ OGE ~ %	95	94	94	91	93	90	92	88
	Q ~ IGE ~ %	81	80	80	78	79	77	78	75
10,500	GW ~ 100 LB	180	179	178	175	176	172	173	169
	Q ~ OGE ~ %	94	92	92	90	91	88	90	86
	Q ~ IGE ~ %	80	79	79	77	78	75	77	74
11,000	GW ~ 100 LB	177	175	175	172	173	169	170	166
	Q ~ OGE ~ %	92	91	91	88	89	86	88	84
	Q ~ IGE ~ %	78	77	77	75	76	74	75	72
11,500	GW ~ 100 LB	173	172	171	168	169	166	167	163
	Q ~ OGE ~ %	90	89	89	86	87	85	86	83
	Q ~ IGE ~ %	77	76	76	74	75	72	74	71

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 5 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		−10		−5		0		5	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
12,000	GW ~ 100 LB	170	169	168	165	166	162	163	159
	Q ~ OGE ~ %	88	87	87	85	86	83	84	81
	Q ~ IGE ~ %	75	74	74	72	73	71	72	69
12,500	GW ~ 100 LB	167	165	165	162	162	159	160	156
	Q ~ OGE ~ %	87	86	85	83	84	81	83	79
	Q ~ IGE ~ %	74	73	73	71	72	70	71	68
13,000	GW ~ 100 LB	164	162	161	159	159	156	157	153
	Q ~ OGE ~ %	85	84	84	81	82	80	81	78
	Q ~ IGE ~ %	72	71	71	69	70	68	69	67
13,500	GW ~ 100 LB	160	159	158	155	156	153	154	150
	Q ~ OGE ~ %	83	82	82	80	81	78	79	76
	Q ~ IGE ~ %	71	70	70	68	69	67	68	65
14,000	GW ~ 100 LB	157	156	155	152	153	150	151	147
	Q ~ OGE ~ %	82	81	80	78	79	76	78	75
	Q ~ IGE ~ %	70	69	68	67	67	65	66	64
14,500	GW ~ 100 LB	154	153	152	149	150	147	147	144
	Q ~ OGE ~ %	80	79	79	76	77	75	76	73
	Q ~ IGE ~ %	68	67	67	65	66	64	65	63
15,000	GW ~ 100 LB	151	150	149	146	147	144	144	141
	Q ~ OGE ~ %	78	77	77	75	76	73	75	72
	Q ~ IGE ~ %	66	65	66	64	65	63	64	62
15,500	GW ~ 100 LB	147	146	146	143	144	141	141	138
	Q ~ OGE ~ %	76	75	75	73	74	72	73	70
	Q ~ IGE ~ %	65	64	64	63	63	61	62	62

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 6 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	220	220	220	220	220	220	220	220
	Q ~ OGE ~ %	105	105	105	105	106	106	107	107
	Q ~ IGE ~ %	90	90	91	91	92	92	92	92
1000	GW ~ 100 LB	220	220	220	220	220	220	220	220
	Q ~ OGE ~ %	106	106	107	107	108	108	109	109
	Q ~ IGE ~ %	92	92	92	92	93	93	94	94
2000	GW ~ 100 LB	220	220	220	220	220	220	220	217
	Q ~ OGE ~ %	109	109	109	109	110	110	111	109
	Q ~ IGE ~ %	93	93	94	94	95	95	95	94
3000	GW ~ 100 LB	220	220	220	218	220	214	219	209
	Q ~ OGE ~ %	111	111	111	111	113	108	114	105
	Q ~ IGE ~ %	95	95	96	95	96	93	97	90
3500	GW ~ 100 LB	220	218	220	214	219	210	215	205
	Q ~ OGE ~ %	112	111	113	109	113	106	111	103
	Q ~ IGE ~ %	96	95	97	93	97	91	95	88
4000	GW ~ 100 LB	220	214	217	210	214	206	211	201
	Q ~ OGE ~ %	114	109	113	106	111	104	109	101
	Q ~ IGE ~ %	97	93	96	91	95	89	93	87
4500	GW ~ 100 LB	216	210	213	206	210	202	207	197
	Q ~ OGE ~ %	112	107	111	104	109	102	107	99
	Q ~ IGE ~ %	96	92	94	90	93	88	91	85
5000	GW ~ 100 LB	212	206	209	202	206	198	203	194
	Q ~ OGE ~ %	110	105	109	102	107	100	105	97
	Q ~ IGE ~ %	94	90	93	88	91	86	90	83
5500	GW ~ 100 LB	208	202	205	199	202	195	199	190
	Q ~ OGE ~ %	108	103	106	100	105	98	103	95
	Q ~ IGE ~ %	92	88	91	86	89	84	88	82
6000	GW ~ 100 LB	204	198	201	195	199	191	195	186
	Q ~ OGE ~ %	106	101	104	98	103	96	101	93
	Q ~ IGE ~ %	90	87	89	85	88	83	86	80

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 7 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
6500	GW ~ 100 LB	200	195	198	191	195	187	191	182
	Q ~ OGE ~ %	104	99	102	97	101	94	99	91
	Q ~ IGE ~ %	89	85	87	83	86	81	84	79
7000	GW ~ 100 LB	196	191	194	187	193	183	188	179
	Q ~ OGE ~ %	102	97	100	95	99	92	97	89
	Q ~ IGE ~ %	89	83	86	81	84	79	83	79
7500	GW ~ 100 LB	193	187	190	184	187	180	184	175
	Q ~ OGE ~ %	100	95	98	93	97	90	95	87
	Q ~ IGE ~ %	85	82	84	80	83	78	81	77
8000	GW ~ 100 LB	189	183	186	180	183	176	180	172
	Q ~ OGE ~ %	98	93	96	91	95	89	93	86
	Q ~ IGE ~ %	83	80	82	78	81	76	79	74
8500	GW ~ 100 LB	185	180	183	176	180	173	177	168
	Q ~ OGE ~ %	96	91	94	89	93	87	91	84
	Q ~ IGE ~ %	82	78	81	77	79	75	78	72
9000	GW ~ 100 LB	182	176	179	173	176	169	173	165
	Q ~ OGE ~ %	94	89	92	87	91	85	89	82
	Q ~ IGE ~ %	80	77	79	75	78	73	76	71
9500	GW ~ 100 LB	178	173	175	169	173	166	170	161
	Q ~ OGE ~ %	92	88	91	85	89	83	87	80
	Q ~ IGE ~ %	79	75	77	73	76	72	75	69
10,000	GW ~ 100 LB	174	169	172	166	169	162	166	158
	Q ~ OGE ~ %	90	86	89	84	87	81	85	78
	Q ~ IGE ~ %	77	74	76	72	75	70	73	68
10,500	GW ~ 100 LB	171	166	175	163	166	159	163	155
	Q ~ OGE ~ %	88	84	91	82	85	80	84	77
	Q ~ IGE ~ %	75	72	77	70	73	69	72	66
11,000	GW ~ 100 LB	168	163	165	159	163	156	160	152
	Q ~ OGE ~ %	87	82	85	80	84	78	82	75
	Q ~ IGE ~ %	74	71	73	69	72	67	70	65

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 8 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		10		15		20		25	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
11,500	GW ~ 100 LB	164	159	162	156	159	153	156	149
	Q ~ OGE ~ %	85	81	83	79	82	76	80	74
	Q ~ IGE ~ %	72	69	71	68	72	66	69	64
12,000	GW ~ 100 LB	161	156	158	153	156	150	153	145
	Q ~ OGE ~ %	83	79	82	77	80	75	78	72
	Q ~ IGE ~ %	71	68	70	66	70	66	67	62
12,500	GW ~ 100 LB	158	153	155	150	153	147	150	142
	Q ~ OGE ~ %	81	77	80	75	79	73	77	70
	Q ~ IGE ~ %	70	66	68	65	67	63	66	61
13,000	GW ~ 100 LB	155	150	152	147	150	144	147	137
	Q ~ OGE ~ %	80	76	78	74	77	72	75	68
	Q ~ IGE ~ %	68	65	67	64	66	62	64	58
13,500	GW ~ 100 LB	151	147	149	144	147	141	144	137
	Q ~ OGE ~ %	78	74	77	72	75	70	73	68
	Q ~ IGE ~ %	67	64	66	62	65	61	63	58
14,000	GW ~ 100 LB	148	144	146	141	144	138	141	134
	Q ~ OGE ~ %	76	73	75	71	74	69	72	66
	Q ~ IGE ~ %	65	62	64	61	63	61	62	59
14,500	GW ~ 100 LB	145	141	143	138	141	135	138	131
	Q ~ OGE ~ %	75	71	73	69	72	67	70	65
	Q ~ IGE ~ %	64	61	63	60	62	58	60	56
15,000	GW ~ 100 LB	142	138	140	135	138	132		
	Q ~ OGE ~ %	73	70	72	68	71	66		
	Q ~ IGE ~ %	63	60	62	58	60	57	ABOVE ENGINE AMBIENT TEMP LIMIT	
15,500	GW ~ 100 LB	139	135	137	132	135	129		
	Q ~ OGE ~ %	72	68	70	66	69	64		
	Q ~ IGE ~ %	63	59	60	57	59	55		
16,000	GW ~ 100 LB	136	132	134	129	132	126		
	Q ~ OGE ~ %	70	67	69	65	68	63		
	Q ~ IGE ~ %	62	59	59	56	58	54		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 9 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		30		35		40		45	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
0	GW ~ 100 LB	220	220	220	220	220	220	220	209
	Q ~ OGE ~ %	107	107	108	108	109	109	110	102
	Q ~ IGE ~ %	93	93	93	93	94	94	95	88
500	GW ~ 100 LB	220	220	220	217	220	211	220	206
	Q ~ OGE ~ %	108	108	109	107	110	104	111	100
	Q ~ IGE ~ %	93	93	94	92	95	90	95	87
1000	GW ~ 100 LB	220	220	220	213	220	208	216	202
	Q ~ OGE ~ %	109	109	110	105	111	102	106	98
	Q ~ IGE ~ %	94	94	95	91	95	88	94	85
1500	GW ~ 100 LB	220	216	220	209	218	204	212	198
	Q ~ OGE ~ %	110	107	111	103	111	100	107	96
	Q ~ IGE ~ %	95	93	96	89	95	86	92	83
2000	GW ~ 100 LB	220	212	219	205	214	200	208	194
	Q ~ OGE ~ %	112	105	112	101	109	98	105	94
	Q ~ IGE ~ %	96	91	96	87	93	85	90	82
2500	GW ~ 100 LB	220	208	215	201	210	196	204	190
	Q ~ OGE ~ %	113	103	110	99	107	96	103	92
	Q ~ IGE ~ %	97	89	94	86	92	83	88	80
3000	GW ~ 100 LB	216	204	211	197	206	192	200	187
	Q ~ OGE ~ %	112	101	108	97	105	94	101	91
	Q ~ IGE ~ %	95	87	93	84	90	81	87	78
3500	GW ~ 100 LB	212	200	207	194	202	188	196	183
	Q ~ OGE ~ %	109	100	106	95	102	92	99	89
	Q ~ IGE ~ %	93	86	91	82	88	80	85	77
4000	GW ~ 100 LB	208	196	203	190	198	185	192	179
	Q ~ OGE ~ %	107	98	104	93	100	90	96	87
	Q ~ IGE ~ %	92	84	89	81	86	78	83	75
4500	GW ~ 100 LB	204	192	199	186	194	181	188	176
	Q ~ OGE ~ %	105	96	102	92	98	89	95	85
	Q ~ IGE ~ %	90	82	87	79	85	77	82	74
5000	GW ~ 100 LB	200	189	195	183	190	178	185	172
	Q ~ OGE ~ %	103	94	100	90	96	87	93	83
	Q ~ IGE ~ %	88	81	85	78	83	75	80	72
5500	GW ~ 100 LB	196	185	191	179	186	174	ABOVE ENGINE AMBIENT TEMP LIMIT	
	Q ~ OGE ~ %	101	92	98	88	94	85		
	Q ~ IGE ~ %	86	79	84	76	81	74		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 10 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C							
		30		35		40		45	
		1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9
6000	GW ~ 100 LB	192	181	187	175	183	170	177	165
	Q ~ OGE ~ %	99	90	96	86	92	83	89	80
	Q ~ IGE ~ %	85	78	82	74	80	72	77	71
6500	GW ~ 100 LB	188	178	184	172	179	167	174	162
	Q ~ OGE ~ %	97	88	94	84	91	81	87	78
	Q ~ IGE ~ %	83	76	80	73	78	70	75	68
7000	GW ~ 100 LB	185	174	180	168	175	164		
	Q ~ OGE ~ %	95	86	92	83	89	80		
	Q ~ IGE ~ %	81	74	79	71	76	69		
7500	GW ~ 100 LB	181	171	176	165	172	160		
	Q ~ OGE ~ %	93	85	90	81	87	78		
	Q ~ IGE ~ %	80	73	77	70	76	67		
8000	GW ~ 100 LB	177	167	173	162	168	157		
	Q ~ OGE ~ %	91	83	88	79	85	76		
	Q ~ IGE ~ %	78	71	75	68	73	66		
8500	GW ~ 100 LB	174	164	169	158	165	154		
	Q ~ OGE ~ %	89	81	86	77	83	75		
	Q ~ IGE ~ %	76	70	74	67	71	65		
9000	GW ~ 100 LB	170	160	166	155				
	Q ~ OGE ~ %	87	79	84	76	ABOVE ENGINE AMBIENT TEMP LIMIT			
	Q ~ IGE ~ %	75	68	72	66				
9500	GW ~ 100 LB	167	157	162	152				
	Q ~ OGE ~ %	85	78	82	74				
	Q ~ IGE ~ %	73	67	71	64				
10,000	GW ~ 100 LB	163	154	159	148				
	Q ~ OGE ~ %	83	76	81	72				
	Q ~ IGE ~ %	72	65	69	64				
10,500	GW ~ 100 LB	160	151	156	145				
	Q ~ OGE ~ %	82	74	79	71				
	Q ~ IGE ~ %	70	64	68	61				
11,000	GW ~ 100 LB	156	147	152	142				
	Q ~ OGE ~ %	80	73	77	69				
	Q ~ IGE ~ %	68	63	66	58				
11,500	GW ~ 100 LB	153	144	149	139				
	Q ~ OGE ~ %	78	71	75	68				
	Q ~ IGE ~ %	67	61	65	59				

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB
120% Q TRANSMISSION LIMIT OR
10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 11 of 12) 701C

MAXIMUM OGE HOVER WEIGHT AND TORQUE REQUIRED ANTI−ICE OFF T700−GE−701C ENGINE (CONTINUED)

HP ~FT	ATF *	FREE AIR TEMPERATURE ~°C			
		50		55	
		1.0	0.9	1.0	0.9
0	GW ~ 100 LB	218	203	212	197
	Q ~ OGE ~ %	109	98	105	95
	Q ~ IGE ~ %	94	85	91	82
500	GW ~ 100 LB	214	199	208	193
	Q ~ OGE ~ %	107	96	103	93
	Q ~ IGE ~ %	92	84	89	80
1000	GW ~ 100 LB	210	196	204	190
	Q ~ OGE ~ %	105	94	101	91
	Q ~ IGE ~ %	91	82	87	79
1500	GW ~ 100 LB	206	192	200	186
	Q ~ OGE ~ %	103	93	99	89
	Q ~ IGE ~ %	89	80	85	77
2000	GW ~ 100 LB	202	188	196	182
	Q ~ OGE ~ %	101	91	97	87
	Q ~ IGE ~ %	87	79	84	76
2500	GW ~ 100 LB	198	184	ABOVE ENGINE AMBIENT TEMP LIMIT	
	Q ~ OGE ~ %	99	89		
	Q ~ IGE ~ %	85	77		

*** GW ~ 100 LB = GW DIVIDED BY 100 LB**
Q = TORQUE %
OGE ≅ 100 FT WHEEL HEIGHT
IGE = 10 FT WHEEL HEIGHT
MAXIMUM HOVER WEIGHT IS LIMITED TO 22,000 LB 120% Q TRANSMISSION LIMIT OR 10 MINUTE ENGINE Q LIMIT.

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Figure 4. Hover Torque Required (Sheet 12 of 12) 701C

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Temperature Conversion

°C to °F = (9/5 x°C) + 32
°F to °C = (°F - 32) x 5/9

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
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