Helicopter Association International

Pre-Flight & Pre-Maintenance Risk Assessment Tool

User’s Guide

1920 Ballenger Ave, Alexandria, VA 22314

(703) 683-4646

http://www.rotor.com
# TABLE OF CONTENTS

General Overview ........................................................................................................ 4

Pre-Flight Module Overview .................................................................................. 5

Maintenance Module Overview ............................................................................. 10

Quick Guide ............................................................................................................. 13

## General System Setup

How to Register and setup the system ................................................................. 14

Forgot your password? ......................................................................................... 18

Logon ....................................................................................................................... 19

Update Company Registration ............................................................................ 21

Adding new Users/Pilots/Mechanics ................................................................. 23

## Pre-Flight Module

Risk Factor Definitions ......................................................................................... 26

Add/Edit Risk Factors ......................................................................................... 28

Enter a new Flight/Mission .................................................................................. 29

Pre-Flight Comprehensive Search .................................................................... 34

## Pre-Maintenance Module

Risk Factor Definitions ......................................................................................... 36

Add/Edit Risk Factors ......................................................................................... 38

Enter a new Maintenance Procedure ............................................................... 39

Maintenance Comprehensive Search ............................................................... 43

Print Blank Forms ............................................................................................... 45

Version 2.0 ............................................................................................................ 46
Overview

The HAI Risk Assessment Tool is designed to assist with the proactive identification of possible hazards and to mitigate risks as a subset of a Safety Management System (SMS). Originally conceived and designed in 2011 to identify risks prior to flight, the cloud-based tool has been expanded to include a maintenance module to identify the risks associated with maintenance procedures.

The Pre-Flight tool is a separate module from the Maintenance module although the two modules are tightly integrated. Both systems share the same administrative functions. For example, the system administrator can manage the user logons for both modules. Every user will have access to both modules, however, the primary module selected for the user will be displayed at the top of the page. Individual users can have default risks for both the Pre-Flight and the Maintenance modules.
PRE-FLIGHT RISK ASSESSMENT TOOL OVERVIEW

According to the FAA (Notice 8000.301): “A risk-assessment plan is a tool used by the flight management personnel and flight crews to expand the parameters of decision-making for the pilot and flight crew, and to assist in preflight planning and operational control of the aircraft. The company should have procedures on how to mitigate or reduce the risk to an acceptable level.”

HAI is offering a web-based tool that allows members to customize their own risk assessment program. Since there is no “one size fits all” template available the tool allows each operator to consider its own operational and environmental needs in developing its risk assessment criteria for the tool to use.

This tool is known as a procedure-weighted program. This method standardizes risk assessment while minimizing training requirements. The program, once configured, uses a checklist format tool, with numerical weighting values, which trigger levels of concurrence with the pilot’s “go” decision.

One of the advantages of the procedure-weighted program is minimal training is required on the principles of risk assessment and risk management. This method also standardizes the assessment of risks and mitigations. It should be noted that this method does take some time and effort to complete the assessment before each flight and only addresses the defined risks.

The tool has an optional feature (universally turned “on” or “off” in the system setup) to allow for the entry of a mitigation strategy for each risk identified. For example, weather reaching program minimums might be identified. The mitigation might be to obtain weather updates more frequently. The mitigation option helps ensure that some thought has been placed on the risk and someone is not simply “checking the box”. As data builds up in the tool so does the library of risks and mitigation strategies.

Developing the Risks

Due to the diversity of helicopter operators and missions each operator must develop their own set of risk criteria. Here are some typical risk variables to consider when creating risk criteria for the go/no go decision:

(a) Weather (Current and Forecast).
- Ceiling, visibilities—departure, en route, arrival, alternate
- Precipitation—type(s)
- Turbulence—existing and forecast
- Icing—type and forecast
- Winds/gust wind—wind—spread direction, speed, gust spread
- Density altitude
- Ambient lighting
(b) Airworthiness Status of the Helicopter.
- Proper preflight
- Any deferred items in accordance with the Minimum Equipment List (MEL)
- Fuel and oil serviced
- Security of cowling(s), doors and/or equipment
- VFR vs. IFR equipment capabilities
- Inspection status
- Recent maintenance actions
- Time remaining until next inspection, overhaul, teardown, etc.
- Required current maps, approach plates, NOTAMs

(c) Incorporation of Technologies to Aid in Managing Risks.
- Radio/radar altimeters
- High intensity search/landing light systems
- Global positioning system (GPS) moving map systems
- Airborne weather radar systems
- Night vision goggles
- Enhanced vision systems
- Autopilot/stability augmentation systems
- Terrain Avoidance Warning System (TAWS)
- Adequacy of training on new technologies

(d) Performance Margins.
- Weight/center of gravity margins
- High density altitudes
- Fuel margins and range limitations

(e) Pilot and Flight Crewmember Performance.
- Experience in make and model of helicopter, area of operations, and type of operation
- Rest, duty, and flight time impacts on human performance (additional duties during duty time and adequate sleep during rest period time)
- Personal performance factors, such as personal stress (recent divorce, death, illness, or birth in family)
- Influence of pilot’s knowledge of the patient’s status (pediatric, critical injury)
- Communication between crew and all pertinent specialists
- Continuity during shift changes
- Currency of training
- Inadvertent IMC training
- Crew resource management
- Experience of crewmembers operating together as a unit

(f) Operating Environment.
- Terrain/obstructions
• Ambient lighting
• Natural and industrial weather factors
• Availability and status of airports/heliports
• Air traffic density
• Knowledge that other operators in the area have declined the flight due to
  • Localized weather
  • Forecast weather
  • Recent flight(s) experiencing marginal conditions
• Airspace requirements
• Communications and navigation facilities
• Availability of low-level VFR route structure

(g) Organizational Environment.
• Changes in required management personnel
• Changes in air carrier management
• Rapid expansion or growth
• New or major program changes
• Merger or takeover
• Labor management relations
• Organization accidents, incidents, or occurrences
# GO/NO-GO DECISION MATRIX

<table>
<thead>
<tr>
<th>STATIC RISK FACTORS</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6 mos. on Current Job</td>
<td>+1</td>
</tr>
<tr>
<td>&lt; 1 yr. in EMS</td>
<td>+1</td>
</tr>
<tr>
<td>&lt; 200 hrs. in Type</td>
<td>+1</td>
</tr>
<tr>
<td>&gt; 500 hrs. in Type</td>
<td>-1</td>
</tr>
<tr>
<td>Last Flight &gt; 30 Days</td>
<td>+1</td>
</tr>
<tr>
<td>Last Night Flight &gt; 30 Days (night requests only)</td>
<td>+1</td>
</tr>
<tr>
<td>6 mos. Since Check Ride</td>
<td>+2</td>
</tr>
<tr>
<td>Cockpit Not Configured for Inadvertent IMC</td>
<td>+1</td>
</tr>
<tr>
<td>Navigation or Radio Item on MEL</td>
<td>+1</td>
</tr>
<tr>
<td>Back-up Aircraft</td>
<td>+1</td>
</tr>
<tr>
<td>Newly-installed Equipment (i.e., satellite phone, avionics, GPS)</td>
<td>+1</td>
</tr>
<tr>
<td>Night Vision Goggles (NVG) Equipped</td>
<td>-1</td>
</tr>
<tr>
<td>&lt; 3 NVG Flights in the Last 120 Days</td>
<td>+1</td>
</tr>
<tr>
<td>Medical Crew &lt; 1 yrs. Experience (both crewmembers)</td>
<td>+1</td>
</tr>
<tr>
<td>IFR Program</td>
<td>-4</td>
</tr>
<tr>
<td>VFR Program</td>
<td>+1</td>
</tr>
<tr>
<td>External Stresses (divorce, illness, family/work issues/conflicts)</td>
<td>+1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DYNAMIC RISK FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling within 200' of Program Minimums</td>
</tr>
<tr>
<td>Visibility within 1 Mile of GOM Minimums</td>
</tr>
<tr>
<td>Precipitation with Convective Activity</td>
</tr>
<tr>
<td>Convective Activity with Frontal Passage</td>
</tr>
<tr>
<td>Deteriorating Weather Trend</td>
</tr>
<tr>
<td>High Wind or Gust Spread Defined by Operations Manual</td>
</tr>
<tr>
<td>Moderate Turbulence</td>
</tr>
<tr>
<td>Temperature/Dew Point &lt; 3 Degrees F</td>
</tr>
<tr>
<td>Forecast Fog, Snow, or Ice</td>
</tr>
<tr>
<td>Weather Reporting at Destination</td>
</tr>
<tr>
<td>Mountainous or Hostile Terrain</td>
</tr>
<tr>
<td>Class B or C Airspace</td>
</tr>
</tbody>
</table>
Ground Reference Low +1
Ground Reference High -1
Night Flight +1
90% of Usable Fuel Required (not including reserve) +1
Flight Turned Down by Other Operators Due to Weather (if known) +4

**Control Measures**

Delay Flight -1
Avoid Mountainous/Hostile Terrain -1
Utilize Pre-Designated LZs for Scene Requests -1
Plan Alternate Fuel Stop -1
Familiarization Training (self-directed) -1

Total Dynamic Score____

TOTAL SCORE ____

**EXAMPLES OF PROCEDURE-WEIGHTED RISK ASSESSMENT AND MANAGEMENT PROCESSES (Continued)**

<table>
<thead>
<tr>
<th>RISK CATEGORY</th>
<th>COLOR CATEGORY</th>
<th>EOC ACTION</th>
<th>TOTAL POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORMAL</td>
<td>GREEN</td>
<td>Pilot Approval</td>
<td>0 – 14</td>
</tr>
<tr>
<td>FLIGHT MANAGER LEVEL</td>
<td>YELLOW</td>
<td>Call Manager</td>
<td>15 – 18</td>
</tr>
<tr>
<td>UNACCEPTABLE</td>
<td>RED</td>
<td>Cancel Flight</td>
<td>19 or Greater</td>
</tr>
</tbody>
</table>
PRE-MAINTENANCE RISK ASSESSMENT TOOL OVERVIEW

According to the FAA (Notice 8000.301): “A risk-assessment plan is a tool used by the flight management personnel and flight crews to expand the parameters of decision-making for the pilot and flight crew, and to assist in preflight planning and operational control of the aircraft. The company should have procedures on how to mitigate or reduce the risk to an acceptable level.”

The development of a web-based surveillance and auditing tool has the potential to reduce maintenance errors impacting aviation safety just as it does with flight procedures. The specific advantages of this tool are the following: (1) a proactive approach reduces maintenance errors by identifying problem areas and error contributing factors; (2) the adoption of this tool by the aircraft maintenance industry promotes standardization in collection, reduction and analysis of maintenance error data; (3) this standardization will result in superior trend analysis data.

HAI has added a maintenance module to the risk assessment tool. This module is a web-based tool that allows members to customize their own risk assessment program. Since there is no “one size fits all” template available the tool allows each operator to consider its own environmental needs in developing its risk assessment criteria for the tool to use.

This tool is known as a procedure-weighted program. This method standardizes risk assessment while minimizing training requirements. The program, once configured, uses a checklist format tool, with numerical weighting values, which trigger levels of concurrence with the maintenance engineers “go” decision.

One of the advantages of the procedure-weighted program is minimal training is required on the principles of risk assessment and risk management. This method also standardizes the assessment of risks and mitigations. It should be noted that this method does take some time and effort to complete the assessment before each flight and only addresses the defined risks.

The tool has an optional feature (universally turned “on” or “off” in the system setup) to allow for the entry of a mitigation strategy for each risk identified. For example, the risk might be this is the first time the maintainer has performed the procedure. The mitigation might be to thoroughly pre-read the maintained manual and to notify the supervisor of the situation. The mitigation option helps ensure that some thought has been placed on the risk and someone is not simply “checking the box”. As data builds up in the tool so does the library of risks and mitigation strategies.

Developing the Risks

Due to the diversity of helicopter operators and missions each operator must develop their own set of risk criteria. Here are some typical risk variables to consider when creating risk criteria for the go/no go decision:

A. Activities
a. Aircraft Inspection/Maintenance Hanger
b. Aircraft Inspection/Maintenance Other Hanger
c. Aircraft Inspection/Maintenance Field
d. Powerplant Inspection/Maintenance
e. Component Overhaul/Repair
f. Shop Maintenance
g. Fueling
h. Scheduled
i. Unscheduled

B. Personnel
a. Working Alone
b. Familiarization
c. Overtime Current and/or Past
d. Human Factors
e. Time Available
f. With Company Less Than 6 Months

C. Environment
a. Hanger Ramp Conditions
b. Weather
c. Concurrent Activities

D. Equipment/Materials
a. Ground Equipment
b. Special Tools
c. Hazardous Materials
d. Bio Hazard
e. Aircraft Protection

E. Aircraft Systems
a. Event (1st time or …)
b. Hydraulic
c. Fuel
d. Electrical
e. Pneumatic
f. Flight Controls
g. Oxygen
h. Engines
i. Scheduled or Unscheduled

F. Personal Equipment
a. Safety Glasses
b. Gloves
c. Hearing Protection
d. Fall Protection
e. Respirator
f. Radio/Cell Phone
g. Heavy Lifting

G. Interagency
a. Technical Representative  
b. Linecrew  
c. Checklists  

H. Technical Data  
a. Technical Manuals  
b. Checklists  
c. MSDS  
d. Reviewed Data DOM  

Total Dynamic Score___  
TOTAL SCORE ____

EXAMPLES OF PROCEDURE-WEIGHTED RISK ASSESSMENT AND MANAGEMENT PROCESSES (Continued)

GO/NO-GO DECISION MATRIX (Continued) Grand Total of Scores

<table>
<thead>
<tr>
<th>RISK CATEGORY</th>
<th>COLOR CATEGORY</th>
<th>EOC ACTION</th>
<th>TOTAL POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORMAL</td>
<td>GREEN</td>
<td>Engineer Approval</td>
<td>0 – 14</td>
</tr>
<tr>
<td>FLIGHT MANAGER LEVEL</td>
<td>YELLOW</td>
<td>Call Manager</td>
<td>15 – 18</td>
</tr>
<tr>
<td>UNACCEPTABLE</td>
<td>RED</td>
<td>Cancel Procedure</td>
<td>19 or Greater</td>
</tr>
</tbody>
</table>
QUICK GUIDE (Flight or Maintenance)

1. Navigate to www.rotor.org/fra
2. Fill out user registration. Accept the user agreement. HAI will verify membership and grant you access usually within a business day or two.
3. Define your risk factors and/or accept the default values.
4. Set up your pilots and/or maintenance professionals who will be using the system.
5. Print out a handful of blank forms
6. Fill out and risk assessment for each flight and/or maintenance procedure using the online tool.
How to register. By registering for the Risk Assessment program your company will have access to its own robust Flight and/or Maintenance Risk Assessment program. The person who registers becomes the system administrator who is responsible for adding additional administrators and user accounts. The system administrator has access to create/modify the risk definitions for your company.

From the Home page [www.rotor.org/fra](http://www.rotor.org/fra) click the “Click Here to Register” link.

![Risk Assessment Tool Homepage](image)

Figure 1 – The Risk Assessment Tool Homepage
You will be taken to the User Agreement page. Read the Agreement and scroll to the bottom of the page.

Figure 2 – User Agreement top of screen
After reading and agreeing to the User Agreement Page click the “I agree to these terms” buttons.
Fill out the registration form. The fields marked with an * are required. The username and password filled out on this form will be a system administrator with access to the entire system. After filling out the form press the “submit” button. HAI will validate your HAI membership and grant you access to the system usually within one or two business days.

![Registration Page](image-url)

**Figure 4 – Registration page**
Forgot your password? Enter your username and click the “forgot your password” link. You will receive an email with your password.

Figure 5 – Forgot your password page.
Logon – From the home page www.rotor.com/fra, fill out your username and password, then press the “Sign In” button.

Figure 6 – Home page logon
After you logon you will be at your Company’s Home Page. Note there are two dropdown menus, one called “menu” and one called “Quick Links”. The “Menu” contains all the administrator functions such as setting up users, profiles, and default values. The “Quick Links” menu is an online guide.

Figure 7 – Company Home page after logon.
Update Company Information by selecting the “Company Settings” link on the Menu. After you logon with system administration privileges can update the company profile. This includes the company name, address, and the risk assessment point ranges for both the Flight Risk Assessment and the Maintenance Risk Assessment tools. You can also toggle on/off program options such as Metars, Notams, and the mitigation strategy option.

For the Flight Risk Assessment section, the point ranges define the risk level for a flight.

For the Maintenance Risk Assessment section, the point ranges are defined for maintenance procedures.
Figure 8 – Amend your Company Information and system settings
Adding new Users/Pilots/Maintenance Professionals. From the Company home page menu the system administrator can select “Add/Edit Users” from the Menu dropdown. You can add a new user/pilot/mechanic to the system by clicking the “Add Additional User” button and filling out the form.

![Add/Edit User Registration Screen](image)

Figure 9 – Add/Edit User Registration Screen
After clicking the “Add Additional User” button fill out the form. The fields marked with an * are required. For each pilot you should select the appropriate risk categories for that individual. These will automatically be filled out when the pilot is assigned to a flight.

Figure 10 – Add a new User/Pilot/Maintenance Professional – top of screen.
**Dynamic Risk Factors**

- Ceiling within 200’ of Program Minimums
- Visibility within 1 Mile of GOM Minimums
- Precipitation with Convective Activity
- Convective Activity with Frontal Passage
- Deteriorating Weather Trend
- High Wind or Gust Spread Defined by Operations Manual
- Moderate Turbulence
- Temperature/Dew Point < 3 Degrees F
- Forecast Fog, Snow, or Ice
- Weather Reporting at Destination
- Mountainous or Hostile Terrain
- Class B or C Airspace
- Ground Reference Low
- Ground Reference High
- Night Flight
- 90% of Usable Fuel Required
- Flight Turned Down by Other Operators Due to Weather
- Delay Flight
- Avoid Mountainous/Hostile Terrain
- Utilize Pre-Designated LZs for Scene Requests
- Plan Alternate Fuel Stop
- Familiarization Training

**Figure 11** - Add a new User/Pilot/Maintenance Professional – bottom of screen.
Risk Factor Definitions. From the home page the system administrator can select “Add/Edit Maintenance Risk Factors from the drop down “Menu”. The screen is pre-populated with generic risk factors to get started.

There is no “one size fits all” tool. Each operator should consider its own operational and environmental needs in developing its risk assessment tool(s) and plans. You should carefully review all risks associated with your company and it’s mission profiles and create a set of risks appropriate for your company. You may add new risks, edit risks, and delete risks to accommodate your needs.

Each risk is assigned a risk score. Careful consideration should be given to these scores. The score assigned to one risk should be in proportion to the scores assigned to the other risks. Keep in mind the sum of all the risk scores assigned to a flight or maintenance procedure to determine the go – no go decision.

Risks are divided into two categories, static and dynamic. Static risks are fixed risks either to the aircraft or mechanic/pilot. Dynamic risks can change with time such as weather.
Figure 12 – Flight Risk Factor Definitions screen

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Category</th>
<th>Score</th>
<th>Edit</th>
<th>Del</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6 mos. on Current Job</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>&lt; 1 yr. in EMS</td>
<td>Static Risk Factors</td>
<td>2</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>&lt; 200 hrs. in Type</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>&gt; 500 hrs. in Type</td>
<td>Static Risk Factors</td>
<td>-1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Last Flight &gt; 30 Days</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Last Night Flight &gt; 30 Days</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Last task-specific flight &gt; 90 days</td>
<td>Static Risk Factors</td>
<td>2</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>6 mos. Since Check Ride</td>
<td>Static Risk Factors</td>
<td>2</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Cockpit Not Configured for Inadvertent IMC</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Navigation or Radio Item on MEL</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Back-up Aircraft</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Newly-installed Equipment</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Night Vision Goggles (NVG) Equipped</td>
<td>Static Risk Factors</td>
<td>-1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>&lt; 3 NVG Flights in the Last 120 Days</td>
<td>Static Risk Factors</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
</tbody>
</table>
ADD/EDIT RISK FACTORS

Add/Edit a Risk Factor. This screen shows the risk factor add/edit screen.

Figure 13 – Add Flight Risk Factor screen.
ENTER A NEW FLIGHT

**New Flight.** From the home page users with a logon account can create a flight by clicking on the “New Flight” button from the home page after logon. The user should enter the date of the entry, select the pilot’s name from the drop-down list, enter the date of the flight, the expected flight start time and the duration of the flight. Once the pilot is selected the risk list will be displayed with the default risks assigned for the pilot. If the METAR and NOTAM is turned on in the company setup screen then those option will appear on this screen as well. The METARS are based on the all the airport codes entered (required the prefix “K” in the US) and will populate the screen when the METAR button is pressed. The NOTAMS are also based on US airport codes and you will need to cut-n-paste them onto the form after he button is pressed.
Figure 14 – New Flight screen.
For the flight all risks associated with the flight should be checked. As you check each risk the score for the flight will automatically update on the bottom of the form.

Figure 15 – New flight screen after pilot assigned to flight.
After all the risks for the flight have been checked press the “Submit” button.

![Image of flight risk assessment tool]

Figure 16 – Add a new Flight – bottom of screen.
After the risk assessment is complete the form can be printed by pressing the “print” link.

Figure 17 – New flight submitted – Print/Edit/Review options.
PRE-FLIGHT COMPREHENSIVE SEARCH

Comprehensive Search. From the comprehensive search you can enter search criteria and find flights that have been previously entered. You can search by flight number, mission date, pilot’s name, and a range of scores. After the selection criteria is entered press the “submit” button to see a list of search results.

Figure 18 – Comprehensive Search screen.
**Search Results.** After a search is initiated the search results will appear. For each flight you can click on the “View/Print”, “Edit”, or “Delete” button as appropriate.

Figure 19 – Search Results Screen
**RISK FACTOR DEFINITIONS (MAINTENANCE MODULE)**

**Risk Factor Definitions.** From the home page “Menu” dropdown the system administrator can select the “Add/Edit Maintenance Risk Factors”. The risk factors are pre-populated with generic risk factors to get started.

There is no “one size fits all” tool. Each operator should consider its own operational and environmental needs in developing its risk assessment tool(s) and plans. You should carefully review all risks associated with your company, it’s mission profiles, and create a set of risks appropriate for your company. You may add new risks, edit risks, and delete risks to accommodate your needs.

Each risk is assigned a risk score. Careful consideration should be given to these scores. The score assigned to one risk should be in proportion to the scores assigned to the other risks. Keep in mind the sum of all the risk scores assigned to a flight or maintenance procedure to determine the go – no go decision.

Risks are divided into two categories, static and dynamic. Static risks are fixed risks either to the aircraft or mechanic/pilot. Dynamic risks can change with time such as weather.
### Maintenance Risk Factor Definitions

Here is where you define the individual risks that make up the risk assessment form. Each risk has a score. For any given maintenance, the risks assigned to that mission are totaled and must comply with company guidelines before the maintenance is completed.

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Category</th>
<th>Score</th>
<th>Edit</th>
<th>Del</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Insp/Maint Hanger</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Aircraft Inspect/Maint Other Hanger</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Aircraft Insp/Maint Field</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Powerplant Insp/Maint</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Component Overhaul/Repair</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Shop Maintenance</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Fueling</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Scheduled</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Unscheduled</td>
<td>Activity</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Working Alone</td>
<td>Personnel</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Familiarization</td>
<td>Personnel</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Overtime Current and/or Past</td>
<td>Personnel</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Human Factors</td>
<td>Personnel</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
<tr>
<td>Time Available</td>
<td>Personnel</td>
<td>1</td>
<td>Edit</td>
<td>Del</td>
</tr>
</tbody>
</table>

Figure 12 – Maintenance Risk Factor Definitions screen
ADD/EDIT RISK FACTORS

Add/Edit a Risk Factor. This screen shows the risk factor add/edit screen.

Figure 13 – Add Maintenance Risk Factor screen.
ENTER A NEW MAINTANCE TASK

New Maintenance Task. From the home page users with a logon account can create a Maintenance Task by clicking on the “New Task” button from the home page after logon. The user should enter the date of the entry, select a profile (to prepopulate risks), select the mechanic’s name from the drop-down list, enter the date of the task, the expected task start and completion date. Once the mechanic’s name is selected the risk list will be displayed with the default risks assigned to the mechanic.

Figure 14 – New Maintenance Task screen.
For the maintenance task all risks associated with the task should be checked. As you check each risk the score for the flight will automatically update on the bottom of the form.

Figure 15 – New Maintenance Task screen after Mechanic assigned to task.
After all the risks for the maintenance task have been checked press the “Submit” button.

Figure 16 – Add a new Maintenance Task – bottom of screen.
After the risk assessment is complete the form can be printed by pressing the “print” link.

Figure 17 – New flight submitted – Print/Edit/Review options.
**COMPREHENSIVE MAINTENANCE TASK SEARCH**

**Comprehensive Search.** From the comprehensive search you can enter search criteria and find maintenance tasks that have been previously entered. You can search by task number, task date, mechanic’s name, and a range of scores. After the selection criteria is entered press the “submit” button to see a list of search results.

![Comprehensive Search Screen](image)

Figure 18 – Comprehensive Search screen.
**Search Results.** After a search is initiated the search results will appear. For each maintenance task you can click on the “View/Print”, “Edit”, or “Delete” button as appropriate.

![Search Results Screen](image)

*Figure 19 – Search Results Screen*
PRINT BLANK FORMS

It is good practice to have hard copy blank paper forms for your company handy. Although HAI makes every effort to keep the web site up and running there are many factors where you may not be able to connect. In addition, you may temporarily lose your Internet connection. When this occurs you can reach for your blank Risk Assessment forms and fill them out manually. Later, when you are reconnected, you can enter the data into the system if desired.

Figure 20 - Screenshot of bottom of blank form.
1. Added fields for departure and destination airport codes
2. Added fields for Metars Lookup (optional)
3. Added fields for Notams Lookup (optional)
4. Added fields to add mitigation strategy for each identified risk (optional)
5. Better formatting on mobile device
6. Added Maintenance Risk Assessment tool