
Chapter 6

Tail Rotor Balance

(Revision 2, Aug 2007)

This section is intended to familiarize you with the various electronic chart forms and setup screens used with the 4040 Viper. First by looking at each of the chart forms found in the tail rotor section, then by using these forms to create an actual setup.

6.1. – Analyzer Chart Forms

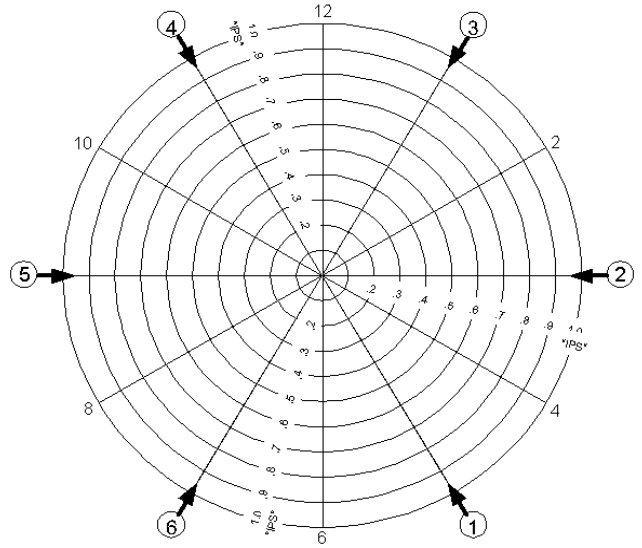
Just as in the case with polar balance charts, there are two types of analyzer chart “forms” used with the 4040 Viper. The chart forms are also categorized as either “Regular” or “Irregular”. The selection of setup type is made within the chart form itself by using either the [⇒] or [⇐] keys to toggle between “Regular” and “Irregular” in the “Chart Type” field, then pressing the [↓] key to move to the next field. The remaining fields in the screen will automatically change if necessary. The paragraphs below describe these forms in detail.

6.1.1. – Regular Chart Forms

A “Regular” chart is one that has all weight positions spaced equally around the chart, all adjustments are of the same type, and all adjustments carry the same ICF. The next paragraph details the process for defining a tail rotor “Regular” chart setup.

6.1.1.1. – Regular Tail Rotor Chart Setup

The tail rotor balance chart shown to the right depicts six adjustment points. Each adjustment point has been circled to ease identification and differentiate them from the clock hours. The move line for each adjustment point has been indicated with an arrow, and the ICF is labeled at the bottom of the chart as being 12 grams per 1.0 IPS. This chart meets all criteria to place it in the “Regular” chart type category, all weight positions have the same ICF and type of adjustment, and all move lines are equally spaced around the chart. Using this chart, follow the examples below to properly define a “Regular” tail rotor chart setup in the analyzer.



ICF = 12.0 Grams / 1.0 IPS

```

Model 4040 VIPER Analyzer
Tail Rotor Chart Setup
Name: REGULAR TAIL ROTOR
Chart Type: Regular Num WtPos: 6
Grams/IPS: 12.000
WtPos  Add @  WtPos  WtPos
1      5 : 00
2      3 : 00
3
4
5
6

WtPos MUST be in CW or CCW order
  
```

Name: The name of the chart will be automatically inserted from the “Tail Rotor Setup Screen” name field and is not editable.

Chart Type: Use [⇒] or [⇐] key to select the chart type. For this example, the type is “Regular”.

No. WtPos: Enter the number of weight positions used. You can input up to 20 positions if needed. This chart uses “6”.

Grams / IPS: Enter the grams per IPS influence for the tail rotor. In this case the entry is “12.00” grams per 1.0 IPS. The ICF amount entered must always be for 1.0 IPS vibration. Additionally, the tail rotor balance function assumes the adjustment will always be weight in

grams. If the chart uses an adjustment type such as the number of washers per IPS, simply enter this number and overlook the label of grams.

WtPos, Add @: The lower portion of the screen provides fields for entry of the “WtPos” names and “Add @” (move line) clock angles. Since this is a “Regular” chart setup, you will only have to enter the move lines for the first two weight positions; the analyzer will determine the rest.

- Starting with any of the weight positions, enter a name, up to six characters, in the first field as shown.
- Next, press the [↓] key to move one field to the right; enter the angle (in hours) of the move line for this position. If the move line contains an angle in minutes, press the [↓] key again to move to the next field and enter the minutes.

Repeat the name and move line process for the second weight position, then enter the rest of the weight position names and this chart is completed.

NOTE

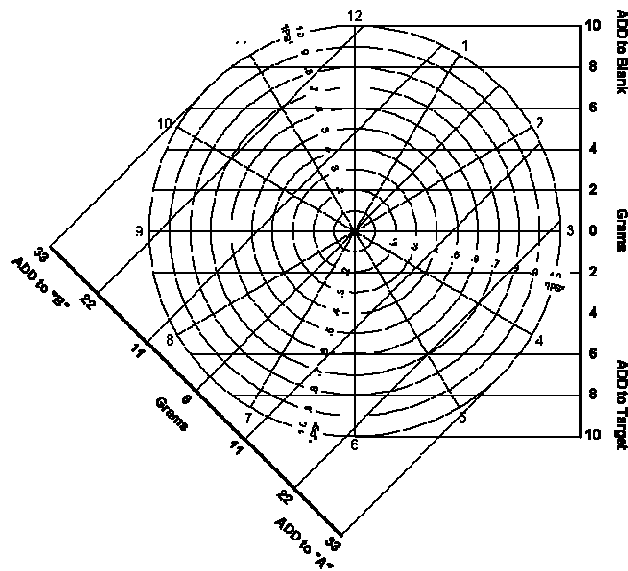
Weight position names must be entered sequentially in either clockwise or counter clockwise order. It does not matter what direction is chosen.

6.1.2. – Irregular Chart Forms

6.1.2.1. – Irregular Tail Rotor Chart Setup

The tail rotor balance chart shown to the right represents four adjustment points, all of which utilize the addition of weight as a correction type.

However, the ICF is different for two of the points. Target and Blank have an ICF of 10 grams per 1.0 IPS where “A” and “B” have an ICF of 33 grams per 1.0 IPS. The clock angle move lines are not equally spaced around the chart therefore it must use the “Irregular” chart form in the analyzer. Using this chart, follow the examples below to properly define an “Irregular” tail rotor chart setup in the analyzer.



Model 4040 VIPER Analyzer				
Tail Rotor Chart Setup				
Name:	IRREGULAR TAIL ROTOR			
Chart Type:	Irregular	Num WtPos:	4	
WtPos	Grams	IPS	Add @	
TARGET	10.00	1.00	6 : 00	
A	33.00	1.00	4 : 30	
BLANK	10.00	1.00	12 : 00	
B	33.00	1.00	10 : 30	
WtPos MUST be in CW or CCW order				

Name: The name of the chart will be automatically inserted from the main setup screen for a tail rotor job.

Chart Type: Select “Irregular” as the chart type.

No. of WtPos: Enter the number of weight positions used as indicated by the polar chart, in this case 4. You can input from 2 to 13 positions as needed. After pressing the [↓] key to exit the field, the value entered in this field will change the remainder of the screen to allow input of each weight position’s ICF.

Wt/Pos, Grams, IPS, Add @:

- Starting with any of the correction points on the chart. Enter the weight position name in the first field up to six characters. “TARGET” is the first weight position name in our example.
- Press the [↓] key and move to the next field. Enter the amount of adjustment portion of the ICF under “Grams”. This example uses “10.00” grams.
- Press the [↓] key and enter the amplitude reference for the amount of adjustment just entered. For this example, enter “1.0” IPS

Press the [↓] key to move to the “Add @” field. Enter the clock angle move line for this point. For the “TARGET” weight position the move line is “6:00”.

Perform this for each adjustment point shown on the chart and the setup is complete.

Note:

Weight position names must be entered sequentially in either clockwise or counter clockwise order. It does not matter what direction is chosen.

6.2. – Tail Rotor Setup

The following paragraphs illustrate each of the screens necessary to define and store a tail rotor setup.

6.2.1. – Tail Rotor Setup Screen

Use the following screen capture and polar chart to follow the steps below to complete the tail rotor setup screen for “Example 1” as shown below.

Model 4040 VIPER Analyzer
Tail Rotor Setup

Name: **EXAMPLE 1**

Sensor Chan: **(A)**

Sensor: **(991D-1)**

Tach Chan: **(1)**

Tach Type: **(Optical)**

Tach Pos: **(12)**

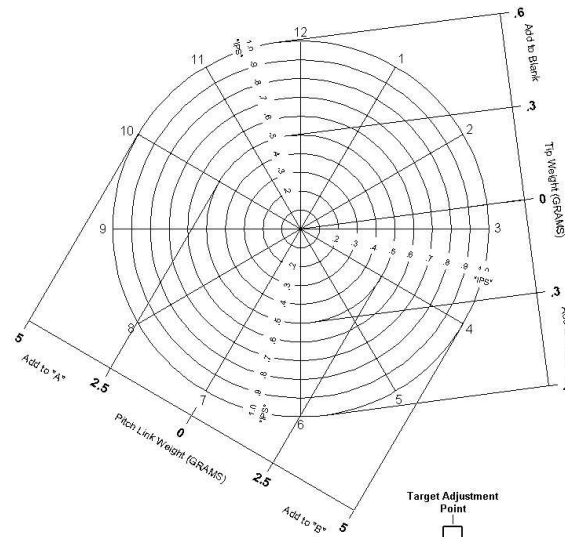
Balancing RPM: **(3000)**

Rotor Direction: **(CCW)**

Number of Blades: **(2)**

Conditions: **(1)**

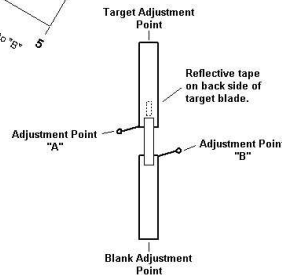
Max Baln. Wts: **(50.0)**



Helicopter X
Tail Rotor Balance Chart

Balance RPM = 3000

Vibration sensor mounted on output housing with connector pointed up.



-
1. In the “Name” field, enter a name for the setup using the keypad.
 2. Press [↓] to move to the “Sensor Channel” field. Use the [⇒] key to select the vibration sensor channel for this setup.
 3. Press [↓] to move to the “Sensor” field and select a sensor type to be used with this setup by pressing the [⇒] key.
 4. Move to the “Tach Channel” field by pressing the [↓] key. Select the tachometer channel to measure using the [⇒] key.
 5. Press the [↓] key to move to the “Tach Type” field. Select the appropriate type of tachometer using the [⇒] key.
 6. Press the [↓] key to move to the “Tach Position” field. Using the [⇒] key, select the tachometer position in hours at which the photocell beam strikes the reflective tape during rotation of the tail rotor. Use the statements below to determine which viewing perspective to use.

If using a **Strobe polar chart** for this setup enter the location in clock angle (1-12) looking from the side the strobe would be used to acquire phase.

If using a **Photocell polar chart** for this setup, and the location of the photocell is as specified on the balance chart, enter “12”.

7. Press [↓] to move to the “Balancing RPM” field. Using the keypad, enter the tail rotor RPM balance speed for the setup. This speed is only a reference used at the start of the job. If during the job, a different tail rotor speed is used, subsequent runs will also call for the adjusted RPM.
8. Move to the “Direction of Rotation” field by pressing the [↓] key. Use the [⇒] key to select the direction of rotation for the tail rotor. Use the statements below to determine which viewing perspective to use.

If using a **Strobe polar chart** for this setup, enter the direction of rotation as viewed from the side on which the strobe would have been used to acquire phase.

If using a **Photocell polar chart** for this setup, enter the direction of rotation as viewed from the photocell’s position.

9. Press the [↓] key to move to the “Number of Blades” field. Using the keypad, enter the number of blades on the tail rotor. The maximum number of blades is 20.
10. Press the [↓] key to move to the “Conditions” field. Using the [⇐] and [⇒] keys, enter the number of conditions. The maximum number of conditions is 3.
11. Press the [↓] key to proceed to the “Maximum Balance Weight” field. If there is a published maximum amount of weight that may be used for balancing the tail rotor, you may enter it in this block. This is the total amount of balance weight allowable, *not* the limit of each balance position. If the Installed Weights for a single run is more than the

maximum allowed, the user will encounter a **warning** screen to notify him that the maximum weight limit is being exceeded.

When finished with the main setup screen, press [ENTER].

6.2.2. – Tail Rotor Chart Setup

Model 4040 VIPER Analyzer				
Tail Rotor Chart Setup				
Name:	EXAMPLE 1			
Chart Type:	Irregular		Num WtPos:	4
WtPos	Grams	IPS	Add @	
TARGET	0.60	1.00	5	: 45
A	5.00	1.00	10	: 00
BLANK	0.60	1.00	11	: 45
B	5.00	1.00	4	: 00
WtPos MUST be in CW or CCW order				

The “Tail Rotor Chart Setup” screen appears next. Using the tail rotor polar chart found in paragraph 6.2.1 titled “Tail Rotor Setup Screen”; fill in the appropriate information as follows:

1. The name for the chart, “EXAMPLE 1”, has already been inserted from the first setup screen.
2. Press the [↓] key and select the chart type by pressing the [⇒] key. The type of chart for this example is “Irregular”.
3. Press the [↓] key and enter the number of weight positions using the keypad. This example uses 4 weight positions.
4. Press the [↓] key and enter the first weight position name as “TARGET”. Using the [↓] key to change fields, enter the influence co-efficient for this location as “0.60” grams adjustment per “1.0” IPS vibration, and the move line of “5:45” using the keypad.
5. Press the [↓] key and enter the second weight position name of “A”. Using the [↓] key to change fields, enter the influence co-efficient for this location as “5.0” grams adjustment per “1.0” IPS vibration, and the move line of “10:00” using the keypad.
6. Press the [↓] key and enter the third weight position name of “BLANK”. Using the [↓] key to change fields, enter the influence co-efficient for this location as “0.60” grams adjustment per “1.0” IPS vibration, and the move line of “11:45” using the keypad.

7. Press the [↓] key and enter the fourth weight position name of “B”. Using the [↓] key to change fields, enter the influence co-efficient for this location as “5.0” grams adjustment per “1.0” IPS vibration, and the move line of “4:00” using the keypad.

When completed, press [ENTER] to save the setup.

6.3. – Multiple Condition Setups

The following paragraphs will describe the process for building multiple condition setups for tail rotor balance. Multiple condition setups are used for aircraft that require balancing at more than one speed and may have more than one balance chart.

Follow the steps below to complete the tail rotor setup screen for “Multiple Example” as shown.

6.3.1. – Tail Rotor Setup Screen

```
Model 4040 VIPER Analyzer
Tail Rotor Setup
Name: MULTIPLE EXAMPLE
Sensor Chan: A
Sensor: 991D-1
Tach Chan: 1
Tach Type: Optical
Tach Pos: 12
Balancing RPM: 2400
Rotor Direction: CW
Number of Blades: 2
Conditions: 2
Max Baln. Wts: 50.0
```

1. In the “Name” field, enter a name for the setup using the keypad.
2. Press [↓] to move to the “Sensor Channel” field. Use the [⇒] key to select the vibration sensor channel for this setup.
3. Press [↓] to move to the “Sensor” field and select a sensor type to be used with this setup by pressing the [⇒] key.
4. Move to the “Tach Channel” field by pressing the [↓] key. Select the tachometer channel to measure using the [⇒] key.
5. Press the [↓] key to move to the “Tach Type” field. Select the appropriate type of tachometer using the [⇒] key.

6. Press the [↓] key to move to the “Tach Position” field. Using the [⇒] key, select the tachometer position in hours at which the photocell beam strikes the reflective tape during rotation of the tail rotor. Use the statements below to determine which viewing perspective to use.

If using a **Strobe polar chart** for this setup enter the location in clock angle (1-12) looking from the side the strobe would be used to acquire phase.

If using a **Photocell polar chart** for this setup, and the location of the photocell is as specified on the balance chart, enter “12”.

7. Press [↓] to move to the “Balancing RPM” field. Using the keypad, enter the tail rotor RPM balance speed for the setup. This speed is only a reference used at the start of the job. If during the job, a different tail rotor speed is used, subsequent runs will also call for the adjusted RPM.
8. Move to the “Direction of Rotation” field by pressing the [↓] key. Use the [⇒] key to select the direction of rotation for the tail rotor. Use the statements below to determine which viewing perspective to use.

If using a **Strobe polar chart** for this setup, enter the direction of rotation as viewed from the side on which the strobe would have been used to acquire phase.

If using a **Photocell polar chart** for this setup, enter the direction of rotation as viewed from the photocell’s position.

9. Press the [↓] key to move to the “Number of Blades” field. Using the keypad, enter the number of blades on the tail rotor. The maximum number of blades is 20.
10. Press the [↓] key to move to the “Conditions” field. Using the keypad, enter the desired number of conditions required for balancing. The maximum number of conditions is 3.
11. Press the [↓] key to proceed to the “Maximum Balance Weight” field. If there is a published maximum amount of weight that may be used for balancing the tail rotor, you may enter it in this block. This is the total amount of balance weight allowable, *not* the limit of each balance position. If the Installed Weights for a single run is more than the maximum allowed, the user will encounter a **warning** screen to notify him that the maximum weight limit is being exceeded.

When finished with the main setup screen, press [ENTER].

6.3.2. – Tail Rotor Condition Setup Screen

Conds.	Chart ID
80%	1
100%	2

Soln:

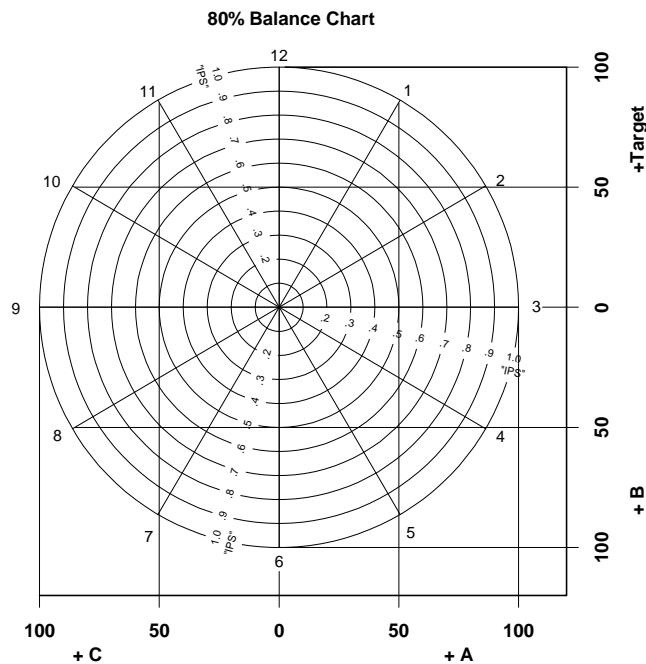
Enter ID=0 if no adjustment.
Diff charts use diff IDs.

1. The name for the first condition will be labeled “1”. Use the keypad to change to the desired condition name.
2. Press the [↓] key and assign the chart ID.
3. Press the [↓] key to move to the name field for the second condition.
4. Press the [↓] key to assign the next chart ID. If the tail rotor requires different charts as shown above, the ID’s will be 1 and 2. If all conditions use the same chart all of the ID numbers will be 1.
5. Continue assigning names and chart IDs until all conditions are defined.
6. Press the [↓] key and if there is more than one chart ID specified the Soln: toggle field will appear. The three choices are “All”, “Max”, and “LSQ” (Least Mean Square). If “All” is selected the analyzer will present a solution for each of the charts. If “Max” is selected the analyzer will present a single solution for the condition that recorded the highest vibration reading. If “LSQ” is selected the analyzer will present a solution that will lower vibration levels at all conditions.

Press the [ENTER] key to continue.

6.3.3. – First Condition Tail Rotor Chart Setup Screen

Model 4040 VIPER Analyzer			
Tail Rotor Chart Setup			
Name :	80%		
Chart Type :	Regular	Num WtPos :	4
Grams/IPS :	100.000		
WtPos	Add @	WtPos	WtPos
TARGET	12	:	0
A	3	:	0
B			
C			
WtPos MUST be in CW or CCW order			



The “Tail Rotor Chart Setup” screen for the first condition (80%) appears next. Using the tail rotor polar chart above, fill in the appropriate information as follows:

1. The name for the chart, “80%”, has already been inserted from the “Tail Rotor Condition Setup” screen.
2. Press the [↓] key and select the chart type by pressing the [⇒] key. The type of chart for this example is “Regular”.
3. Press the [↓] key and enter the number of weight positions using the keypad. This example uses 4 weight positions.

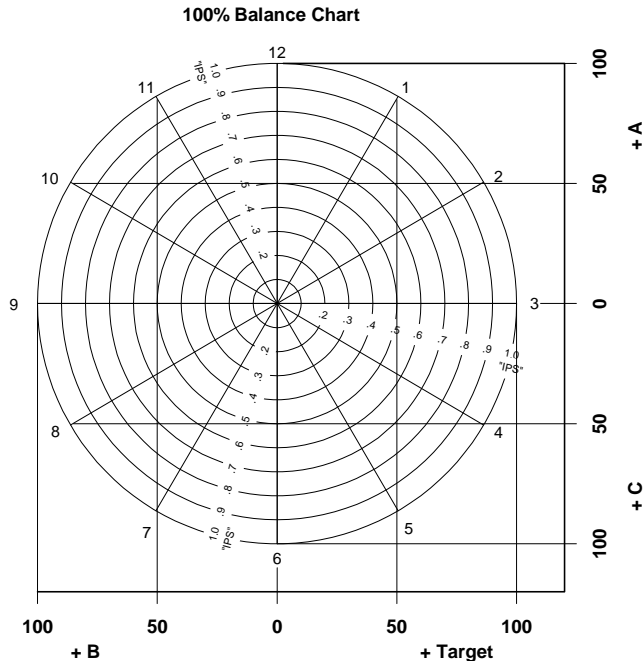
4. Press the [↓] key to enter the grams per IPS influence for the tail rotor. This example uses “100.00” grams.
5. Press the [↓] key and enter the first weight position name as “TARGET”.
6. Press the [↓] key and enter the “Add @” move line for weight placement on the “TARGET” blade as “12:00”.
7. Press the [↓] key and enter the second weight position name of “A”.
8. Press the [↓] key and enter the “Add @” move line for weight placement on the “A” blade as “3:00”.
9. Press the [↓] key and enter the next blade name as “B”.
10. Press the [↓] key and enter the last blade name as “C”.

Press [ENTER] to continue to the next chart.

6.3.4. – Second Condition Tail Rotor Chart Setup Screen

The “Tail Rotor Chart Setup” screen for the second condition (100%) appears next. Using the tail rotor polar chart, fill in the appropriate information as follows:

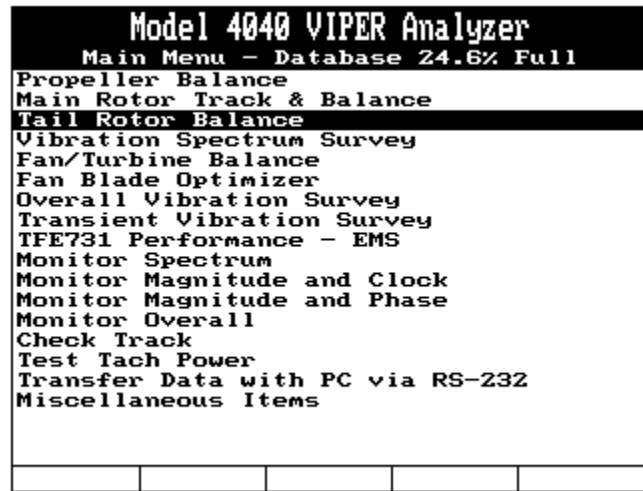
Model 4040 VIPER Analyzer				
Tail Rotor Chart Setup				
Name :	100%			
Chart Type :	Regular	Num WtPos :	4	
Grams/IPS :	100.000			
WtPos	Add @	WtPos	WtPos	
TARGET	3 : 0			
A	12 : 0			
B				
C				
WtPos MUST be in CW or CCW order				



1. The name for the chart, “100%”, has already been inserted from the “Tail Rotor Condition Setup” screen
2. Press the [↓] key and select the chart type by pressing the [⇒] key. The type of chart for this example is “Regular”.
3. Press the [↓] key and enter the number of weight positions using the keypad. This example uses 4 weight positions.
4. Press the [↓] key to enter the grams per IPS influence for the tail rotor. This example uses “100.00” grams.
5. Press the [↓] key and enter the first weight position name as “TARGET”.
6. Press the [↓] key and enter the “Add @” move line for weight placement on the “TARGET” blade as “3:00”.
7. Press the [↓] key and enter the second weight position name of “A”.
8. Press the [↓] key and enter the “Add @” move line for weight placement on the “A” blade as “12:00”.
9. Press the [↓] key and enter the next blade name as “B”.
10. Press the [↓] key and enter the last blade name as “C”.

Press [ENTER] to continue to the next chart, if necessary.

6.4. – Tail Rotor Balance Process



The following paragraphs present the tail rotor balance process and its associated screens. It is intended to familiarize the user with the data acquisition and correction capabilities of the Viper 4040.

Prior to starting a new tail rotor balance job, you must first select the “Tail Rotor Balance” option from the main menu by using the [↓] key and press [ENTER].

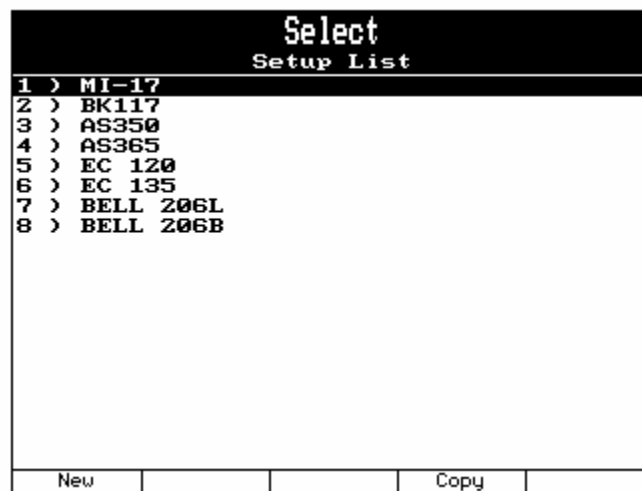
6.4.1. – Starting a New Job



Selecting “Start Job” from the “Tail Rotor Balance” banner screen allows you to begin a tail rotor balance job. When you select this option, one of three screens will appear next depending on whether you are using the tail rotor function for the first time, have previously defined tail rotor setups, or have a previously started job stored in the analyzer.

- *If you are using the analyzer for the first time*, the “Tail Rotor Setup” banner screen will appear allowing you to define a new tail rotor setup to use. Refer to paragraph 6.2 “Tail Rotor Setup” for detailed instructions on defining a setup.
- *If you have previously saved setups stored in the analyzer’s memory*, a screen displaying the list of setups will be displayed. You can then select a setup from this list to use for the job. Proceed to paragraph 6.4.2 “Setup List”.
- *If another job was already in progress but not completed*, the “Incomplete Job” banner screen will be displayed and the analyzer will present a message prompting you to verify that you wish to finish the incomplete job or begin a new job. The screen will display the message; “The last job performed is incomplete. Do you want to RESUME work on it?” If you wish to return to the unfinished job, press the [F1] “Yes” key and you will be returned to the point where the in-progress job was stopped and allowed to complete it. If you wish to continue with starting a new job, press the [F5] “No” key, and the screen will then display the “Setup List” for selection of a setup to use for the new job. Proceed to paragraph 6.4.2 “Setup List”.

6.4.2. – Setup List



The setup list presents the stored tail rotor setups in analyzer memory. Select the setup you wish to use by highlighting the name of the setup using the [↓] key and pressing [ENTER]. If the setup you need is not present, press the [F1] “New” key to proceed to the “Tail Rotor Setup” screen as outlined in paragraph 6.2. If a similar setup is in the list, you can use the [F4] key to “Copy” this setup, change the setup name, and make the desired changes.

6.4.3. – Job Identification

Model 4040 VIPER Analyzer				
Job Identification				
Name: <input type="text" value="CUSTOMER NAME"/>				
A/C Registration: <input type="text" value="N1234"/>				
A/C Total Time: <input type="text" value="123.4"/>				
Press ENTER to continue				
Names				

The “Job Identification” banner screen appears next allowing entry of the customer name, A/C registration, and A/C total time. This information is optional, but it is suggested that at least a customer name be entered, as it will aid in identifying the job for future use.

If the analyzer has been used previously, a list of customer names will have been stored and are accessed by pressing the [F1] “Names” key. A name can then be selected from this list for use with the new job.

When finished, press [ENTER].

6.4.4. – Connect Sensors

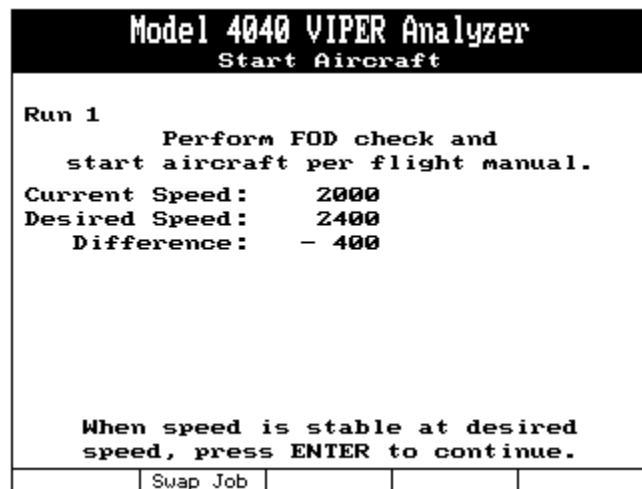
Model 4040 VIPER Analyzer				
Connect Sensors				
Connect the Speed sensor to TACH channel 1				
Connect the VIB sensor to Vibration channel A				
Tach power is Off				
Tach Pwr				

The “Connect Sensors” banner screen will be displayed next. Messages that appear on this screen prompt you to perform the physical installation and connection of the tachometer and vibration sensors to the input ports you specified in the applicable setup.

- You must use the vibration sensor installation location as specified by the applicable polar chart. The orientation of the sensor is key to the accuracy of the chart, if the sensor is installed in a direction other than that specified, the phase (clock) angle will be incorrect and any solution will not be accurate.

Tach Power need not be “ON” before leaving this screen. The option simply exists for installing and checking alignment of the reflective tape and PhotoTach. When completed, press [ENTER].

6.4.5. – Start Aircraft



The “Start Aircraft” screen appears. The current run number is displayed at the top of the screen, followed by both the current and desired speed in RPM. The differential speed is also displayed. The [F2] “Swap Job” key can be used to return directly to the Main Menu without rebooting the analyzer. When the current speed matches the desired speed, press [ENTER] to begin acquiring the measurement.

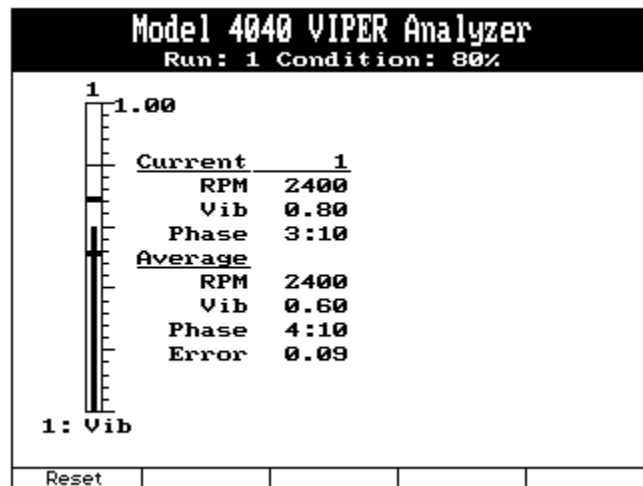
6.4.6. – Select Tail Rotor Condition Screen



The “Select Tail Rotor Condition” screen allows the user to select which condition he would like to take balance readings from. This screen will only appear in “Multiple Condition” balance runs. In a single condition run, the next screen to appear is the “Data Acquisition” screen, proceed to paragraph 6.4.7.

Use the [↓] key to highlight the proper condition and press [ENTER] to begin gathering data for that condition.

6.4.7. – Data Acquisition



The data acquisition screen will appear next, displaying the current and averaged rotor speed, vibration amplitude (IPS), and phase angle (in clock format). There will also be a numeric

error indication associated with the averaged measurement. The numeric error value will typically lower rapidly when the amplitude of vibration is high.

NOTE:

When the amplitude reaches a lower level (Approx. < 0.05 IPS) the numeric error may remain high. This is a normal response and is not cause for alarm.

- Pressing the [F1] “Reset” key will restart the data acquisition process. This may be performed as a means of validating the quality of a measurement. If, after the “Reset” key is pressed, the average measurement does not return to approximately the same value shown before, the quality of the measurement may be questionable. If this occurs, repeat the averaging process and try it again until the measurement values are similar both before and after resetting.
- When the error has reached its lowest point, press [ENTER] to stop acquisition and continue the job.
- If performing a tail rotor balance job consisting of more than one condition, the “Select Aircraft Condition” screen will appear. Select the condition desired and press [ENTER]. When data has been collected at all of the conditions, the condition boxes will have “X”s showing that data has been collected.



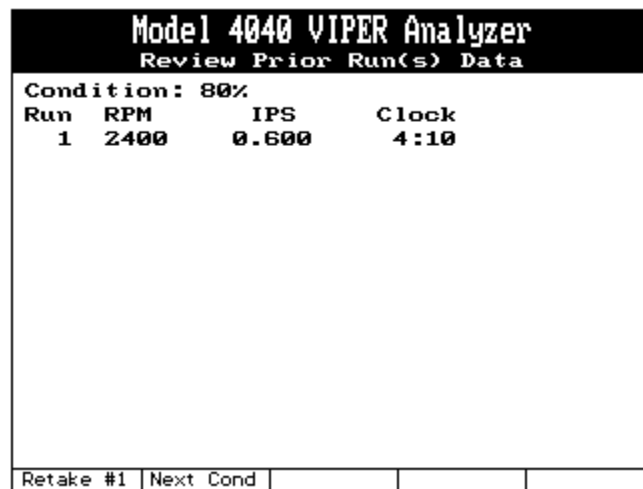
- After data has been collected press the [F1] End Run.

6.4.8. – Shut Down Engines



A screen directing you to shut down the engine(s) will appear next. You can use the [F2] “Swap Job” key to return directly to the Main Menu without rebooting the analyzer. Shut down and press [F5] “Continue” to proceed.

6.4.9. – Review Prior Run(s) Data



The “Review Prior Run(s) Data” screen appears. This will allow you to review the data just acquired as well as all prior run data (if any has been taken).

- If you wish to re-acquire the current run data, press the [F1] “Retake #1” key.

- If the setup has more than one condition, press the [F2] “Next Cond” key to view the data for the second condition.

When finished reviewing, press [ENTER] to continue to the solution process.

6.4.10.– Tail Rotor Suggested/Installed Weights Screen

Model 4040 VIPER Analyzer			
T/R Suggested/Installed Weights			
Run 1		Suggestion:	
Chart: Max: 80%			
A	49.1	B	34.4
Enter Installed Weights:			
TARGET	0.0		
A	49.1		
B	34.4		
C	0.0		
Inst=Sugg	Inst=None		Quit Job

The “T/R Suggested / Installed Weights” screen appears displaying the suggested adjustments and providing for input of the actual changes made to the tail rotor prior to the next run. It is extremely important that these changes are entered, as they will be used to update the influence co-efficient for the next run. Use the keypad to enter changes. If weight is removed from a location, use the negative symbol [-] when entering the adjustment performed.

- Pressing the [F1] “Inst=Sugg” key will return any “Installed” field that has been edited to the original values presented by the analyzer.
- Pressing the [F2] “Inst=None” key will delete all “Installed” entries. This function is used when an adjustment is to be skipped on the current run.
- Pressing the [F5] “Quit Job” key will exit the current job and store it as complete.

Warning

Using the [F5] “Quit Job” function will close the job and not allow you the resume option at a later time. If you wish to pause the job temporarily, press the “Main Menu” key or simply turn the analyzer off. You may then use the “Resume” function to complete the job.

When you have finished entering the adjustments performed, press [ENTER] to continue to the next run.

6.5. – Tail Rotor Manage Data Functions

The tail rotor “Review Job” function also now presents chart information, correction history, and influence co-efficient for each job. The following paragraphs will describe the new screens and the navigation steps to review this information.

6.5.1. – View Tail Rotor Balance

Model 4040 VIPER Analyzer		
View T/R Balance		
Run 1		
RPM:	2400	2400
IPS:	0.60	0.50
CLK:	4:10	10:30
<u>WtPos</u>	<u>Suggested</u>	<u>Installed</u>
A	49.1	25.0
B	34.4	25.0
<> Run		
Chart		

After selecting to review a job, the “View T/R Balance” screen appears showing the run number, RPM at which the data was acquired, amplitude and clock angle of the vibration, and suggested, as well as the installed, corrections to the rotor. To view a different run number, press the [⇒] or [⇐] keys. To view the chart information for the job, press the [F1] “Chart” key and refer to paragraph 6.5.2.

6.5.2. – View Tail Rotor Chart

The “View T/R Chart” screen consists of multiple parts; the first shows the chart name, chart type, default grams per inch influence, name and adjustment ratio of each blade position (below top). The second gives the influence co-efficient and phase angle rotation changes for each run (below bottom). Any additional charts will have similar screens to view. Pressing [F5] “Continue” will progress through all available screens for all conditions.

When returned to the “View T/R Balance” screen, paragraph 6.5.1, press [ENTER] to return to the “Manage Data” screen.

Model 4040 VIPER Analyzer			
View T/R Chart			
Name: 100%			
Type: Regular			
Def G/IPS: 100.00			
WtPos	Mag Ratio	WtPos	Mag Ratio
All	1.00		
			Continue

Model 4040 VIPER Analyzer			
View T/R Chart			
Chart: 100%			
Run	G/IPS	Rotate	
1	100.000	0 °	
2	21.693	-41 °	
			Continue