



Application Note

MDHI 500 C Model (Hughes 369H and OH-6)

Main Rotor Track and Balance

Part Number: 11-200-0051

AppNote Number: A-MD500C-4040-MR (Rev. 2.1, Sep 2005)

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Application Note

Application Note Number	A-MD500C-4040-MR
Revision	2.1 (From Airframe Rev 19)
Function	Main Rotor Track and Balance
Airframe	MD500C (Hughes 369H and OH-6)
Engine	N/A
E-Setup Number	a-md500c-4040-mr.asf
ACES Systems Analyzer	Model 4040
Boot/App Version	Boot 1.04/App 1.05p3 or later
Procedure	N/A

Introduction

This Application Note covers the required equipment, equipment installation, analyzer setup, data acquisition and solution process for using the ACES Systems Model 4040 Viper Analyzer with the Main Rotor Performance Option to perform main rotor track and balance on the airframe listed above. General instructions for the use of the Model 4040 can be found in the Model 4040 User Manual #4040-OM-01 (P/N 75-900-4040) and Optical Tracker Operational Supplement #540-OM-1 (P/N 75-900-2021). All procedures for track and balance and all adjustments should be made in accordance with the Airframe Maintenance Manual.

A. Equipment Setup

Required Equipment: The following equipment is required to perform a Main Rotor Track and Balance:

Item	Quantity	Description	Part Number
1.	1	Analyzer, Model 4040	10-100-4040
2.	2	Sensor, Vibe, Accel, 991D-1	69-100-0075
3.	1	Cable, Sensor 991D-1, 25'	10-320-0162
4.	1	Cable, Sensor 991D-1, 50'	10-320-0163
5.	1	Cable, Magnetic Pick-Up, 25'	10-320-0052
6.	1	Sensor, Magnetic Passive Speed	75-900-0187
7.	1	Mount, 1/4X28 Sensor, Vibe 1/4" Hole, S/Stl	22-430-0035
8.	1	Mount, 1/4X28 Sensor, Vibe 5/16" Hole, S/Stl	22-430-0036



9.	1	Tracker, Optical, Model 540-2	75-900-0542*
10.	1	Option, 4040 Main and Tail Rotor	11-900-0005

*This listing shows the latest design parts. It is acceptable to perform this task using previous designs with the appropriate accessories. For compatibility issues, contact ACES Systems.

Optional Equipment: The following equipment may be used as an alternate when accomplishing the job:

Item	Quantity	Description	Part Number
11.	1	Target Assy, Tip	As Required
12.	1	Cable, Interf. Assy, Strobe	10-320-0161
13.	1	Strobelight	As Required

Miscellaneous Equipment

Tape or tie wraps to secure cables to airframe.

If adjustments are to be made to the main rotor balance, use only hardware or balance weights that are specified in the applicable airframe maintenance manual.

B. Equipment Installation

1. Place the Analyzer (Item 1) in the flight compartment.

Note

Interrupter is permanently installed on the swashplate. Ensure that the Yellow Blade is positioned over the nose position when the magnetic pickup and interrupter are aligned. Ensure that no other interrupters are installed.

2. The Hughes 500 series helicopters are fitted with a magnetic pickup bracket for installation of the pickup. Install the Magnetic Pickup (Item 6) into the bracket. Rotate the main rotor until the Yellow blade is over the nose of the aircraft. The interrupter and pickup should be aligned. Adjust the gap to 0.020-0.030" and secure pickup. Safety wire jam nuts as required. (Figure 1) The Yellow blade is now designated as Blade #1. (Figure 2)
3. Install Vibe Sensor Mount with 1/4-inch hole (Item 7) on the right hand side of the pedestal. Install 991D-1 Sensor (Item 2) into the Mount, **ensure connector end of transducer faces down.** (Figure 3)
4. Install Vibe Sensor Mount with 5/16-inch hole (Item 8) under the right front screw of the engine inlet fairing. Install the 991D-1 Sensor (Item 2) into the Mount, **connector must point to the right.** (Figure 4)

NOTE

Secure and route cables as not to interfere with hot or rotating components. Leave enough slack in cable to allow for full up collective and full cyclic inputs.

5. Install the 25' Tach Cable (Item 5) to the Magnetic Pickup. Route the Cable safely into the flight compartment. Connect the Analyzer end of the Cable to the "Tach 1" connector.
6. Install the 25' Sensor Cable (Item 3) on the Vertical Vibration Sensor. Route the Cable away from the tail rotor pedals and connect the Analyzer end of the Cable to the "Channel A" connector.
7. Install the 50' Sensor Cable (Item 4) on the Lateral Vibration Sensor. Route the Cable safely into the flight compartment and connect the Analyzer end of the Cable to the "Channel B" connector.
8. Connect the Optical Tracker (Item 9) to the Aux./Comm port on the Analyzer.
9. Reinstall any previously removed cowlings. Return aircraft to flying configuration as required.

Equipment Installation Diagram

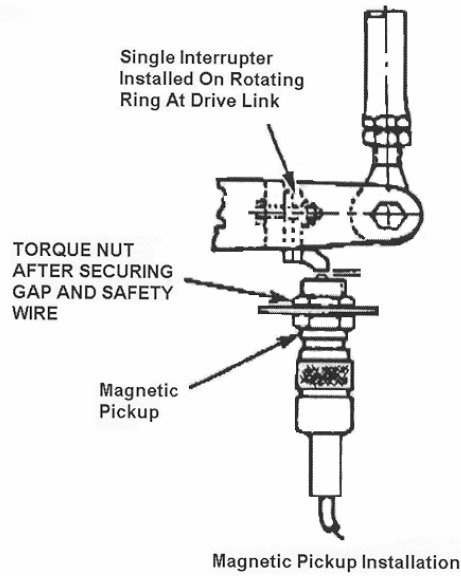


Figure 1

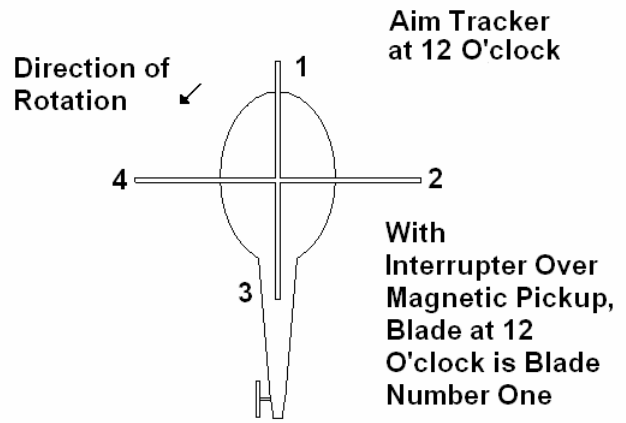


Figure 2

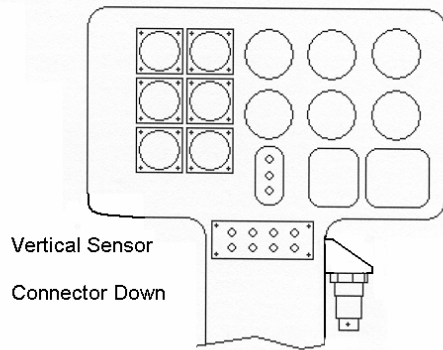


Figure 3

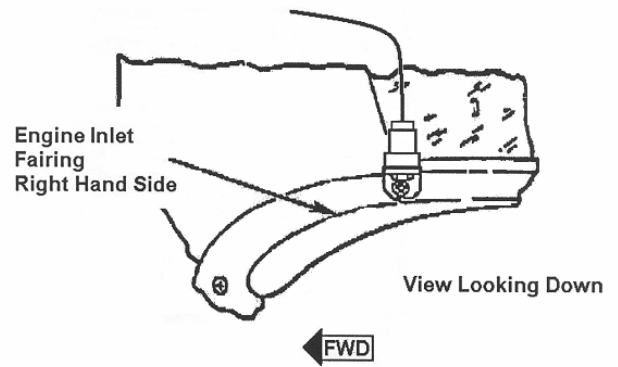
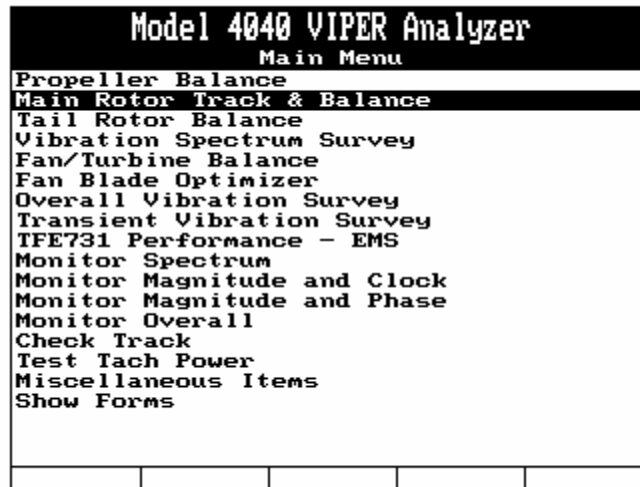


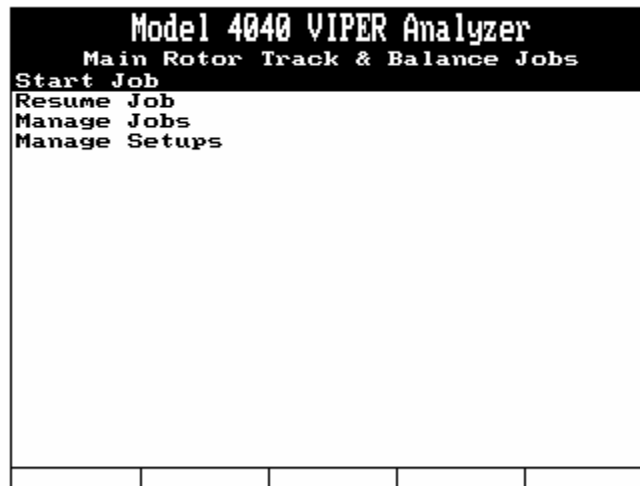
Figure 4

C. Analyzer Set Up

1. Insure the analyzer battery is charged prior to starting the job. See the Model 4040 User Manual #4040-OM-01 (P/N 75-900-4040) Chapter 2 for detailed instructions on battery charging.
2. Turn the analyzer ON by pressing the [ON/OFF] key.
3. From the Main Menu shown below, select “Main Rotor Track & Balance” and press the [ENTER] key.



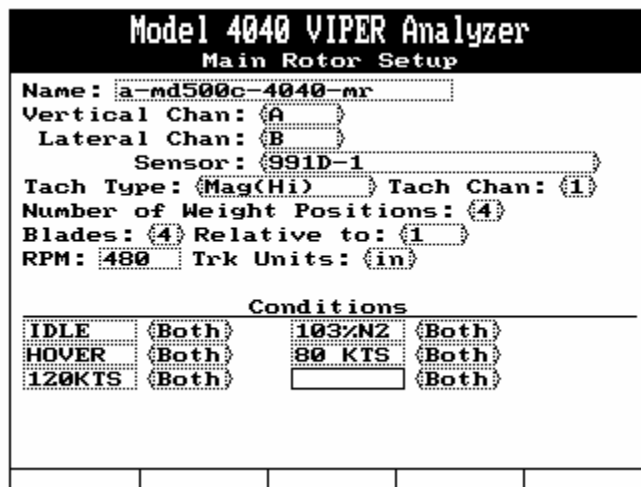
4. From the Main Rotor Track & Balance Menu shown below, select “Start Job” and press the [ENTER] key.



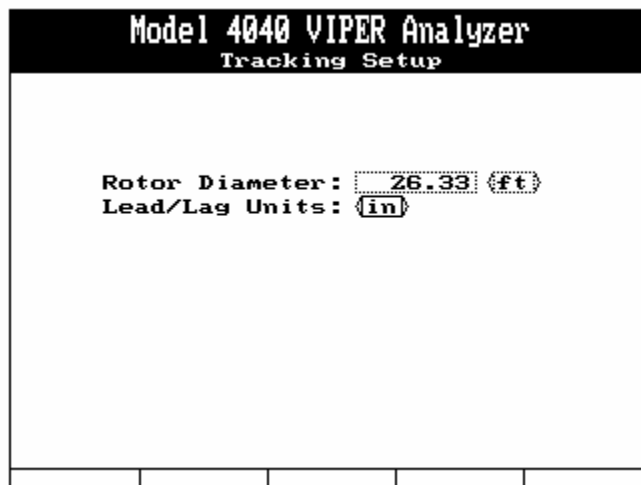
5. If the MDHI 500C or OH-6 is listed in the Setup List, select it using the [↓] key, press [ENTER] and continue at Section D below. If the MDHI 500C or OH-6 is not in the Setup List, press the [F1], “New” key and go to step 6 below.



- The “Main Rotor Setup” screen now appears. Enter the Main Rotor Setup as shown below. You can enter any name that is convenient for locating the setup in the future. When completed press [ENTER].



- The “Tracking Setup” screen will be displayed next. Enter the values as shown in the illustration below. Press [ENTER] to continue.



8. The “Main Rotor Conds. Setup” screen will appear next as displayed below. Enter the information as indicated in the illustration below. Press [ENTER] to continue.

```

Model 4040 VIPER Analyzer
Main Rotor Conds. Setup
Vert   Lat   Track
Chart Chart Adj.
Conds. ID   ID   ID
IDLE   0   0   1
103/N2 0   0   2
HOVER  0   1   0
80 KTS 1   0   3
120KTS 1   0   4

Limit  0.20  0.20  0.125

Enter ID, or 0 if no adjustment.
Different charts use different IDs.
    
```

9. The next screen to appear will be the “M/R Adj Symbol Setup” screen. The function of this screen is to determine the direction of movement for a positive (+) adjustment. In this application, a positive move indication means to ADD weight, sweep a blade AFT, and move the blade UP with both Pitch Change Link (BLADE) and Trim Tab (TAB). Enter the values as shown below. When completed press [ENTER].Next, the balance charts will be entered into the analyzer.

```

Model 4040 VIPER Analyzer
M/R Adj Symbol & Soln Logic

Adjustment Positive Value Meaning
Weight:  (ADD)
Sweep:   (AFT)
Blade:   (UP)
TAB:     (UP)

Soln:    (MAX)
    
```

10. The first balance chart to define will be the “Vert: 80 KTS – 120KTS” chart. Enter the information as presented below. Press [ENTER] to continue.



```

Model 4040 VIPER Analyzer
Main Rotor Chart Setup
Name: Vert 80 KTS-120KTS
Type: Regular Sweep Only: No
No Adjustment Bld/Pos: None
Max ICF Update: 150 % R(°): 45
Adj Unit: FLI Adj/IPS: 8.000
Bld/Pos MoveLine Bld/Pos
1      1 : 00
2      10 : 00
3
4
Bld/Pos: in CW or CCW order

+Adj = WtAdd/SwAft/BIUp/TabUp

Help
    
```

11. The second chart to define will be the “Lat: HOVER” chart. Enter the information as shown below and press [ENTER] to continue.

```

Model 4040 VIPER Analyzer
Main Rotor Chart Setup
Name: Lat HOVER
Type: Regular Sweep Only: No
No Adjustment Bld/Pos: None
Max ICF Update: 150 % R(°): 45
Adj Unit: GMS Adj/IPS: 300.000
Bld/Pos MoveLine Bld/Pos
1      9 : 45
2      6 : 45
3
4
Bld/Pos: in CW or CCW order

+Adj = WtAdd/SwAft/BIUp/TabUp

Help
    
```

12. The first “Tracking Influence Setup” screen for the track split at IDLE will be entered as shown below. This will define the Pitch Change Link (PCL) adjustment in Flats (Flt) to correct a track split at ground idle. When completed, press [ENTER] to continue.

```

Model 4040 VIPER Analyzer
Tracking Influence Setup

| Conds | Adj Name | Unit | Adj/in | Max Upd% |
|-------|----------|------|--------|----------|
| IDLE  | PCL      | Flt  | 4.000  | 150      |


No Adjustment Bld/Pos: None
Blade Names:
1. 1
2. 2
3. 3
4. 4

+Adj = WtAdd/SwAft/BIUp/TabUp

Help
    
```

13. The second “Tracking Influence Setup” screen for the track split at 103%N2 will be entered as shown below. This will define the Trim Tab (TAB) adjustment in Degrees (DEG) to Stations A and B (as necessary per the Airframe Maintenance Manual) from the track measurement taken at 103%N2. When completed, press [ENTER] to continue.

```

Model 4040 VIPER Analyzer
Tracking Influence Setup

      Conds      Adj      Max
      Name Unit Adj/in  Upd%
103%N2  TAB  DEG  0.500  150
No Adjustment Bld/Pos: (None)
Blade Names :
1.  1
2.  2
3.  3
4.  4

+Adj = WtAdd/SwAft/BlUp/TabUp

```

14. The third “Tracking Influence Setup” screen for the track split at 80KTS will be entered as shown below. This will define the Trim Tab (TAB) adjustment in Degrees (DEG) to Station C from the track measurement taken at 80KTS. When completed, press [ENTER] to continue.

```

Model 4040 VIPER Analyzer
Tracking Influence Setup

      Conds      Adj      Max
      Name Unit Adj/in  Upd%
80 KTS  TAB  DEG  0.500  150
No Adjustment Bld/Pos: (None)
Blade Names :
1.  1
2.  2
3.  3
4.  4

+Adj = WtAdd/SwAft/BlUp/TabUp

```

15. The final “Tracking Influence Setup” screen for the track split at 120KTS will be entered as shown below. This will define the Trim Tab (TAB) adjustment in Degrees (DEG) to Stations D and E (as necessary per the Airframe Maintenance Manual) from the track measurement taken at 120KTS. When completed, press [ENTER] to continue.

Model 4040 VIPER Analyzer				
Tracking Influence Setup				
Conds	Adj	Name	Unit	Max
		Adj/in		Upd%
120KTS	TAB	DEC	0.500	150
No Adjustment Bld/Pos: (None)				
Blade Names:				
1.	1			
2.	2			
3.	3			
4.	4			
+Adj = WtAdd/SwAft/BIUp/TabUp				

D. Data Acquisition

- The "Job Identification" screen will be displayed, as shown below. Use the analyzer keypad to enter a customer name in the "Name:" field. The analyzer will maintain a list of customer names as new names are entered. If names have been previously entered into this analyzer, you may press the [F1] "Names" key and select a customer's name from the provided list. Press the [↓] key to move to the next field and use the analyzer keypad to enter the optional aircraft registration and aircraft total time as required. When all fields are complete, press the [ENTER] key to accept and continue.

Model 4040 VIPER Analyzer				
Job Identification				
Name: CUSTOMER NAME				
A/C Registration: N1234				
A/C Total Time: 123.4				
Press ENTER to continue				
Names				

- The next screen to be displayed is the "Tracking Selections", as shown below. Enter the data as displayed. When all fields are complete, press the [ENTER] key to continue.

Model 4040 VIPER Analyzer				
Tracking Selections				
Track Device: <input type="text" value="Tracker"/>				
- For Optical Tracking Only -				
Number of Rotations: <input type="text" value="50"/>				
Inches To Blade Tip: <input type="text" value="113"/>				

3. The next screen to be displayed will be the “Main Rotor Equipment Setup” screen as illustrated below. This screen gives instructions on installing sensors and cables. The Tach will be energized automatically when this screen is exited. The [F1] “Tach On” key is only used to power the Phototach for alignment with the reflective tape. When all cables and sensors are connected, press [ENTER] to continue.

Model 4040 VIPER Analyzer				
Main Rotor Equipment Setup				
Install the speed sensor and connect to TACH channel 1				
Install vertical vibration sensor to vibration channel A				
Install lateral vibration sensor to vibration channel B				
Tach power is Off				
Tach On				

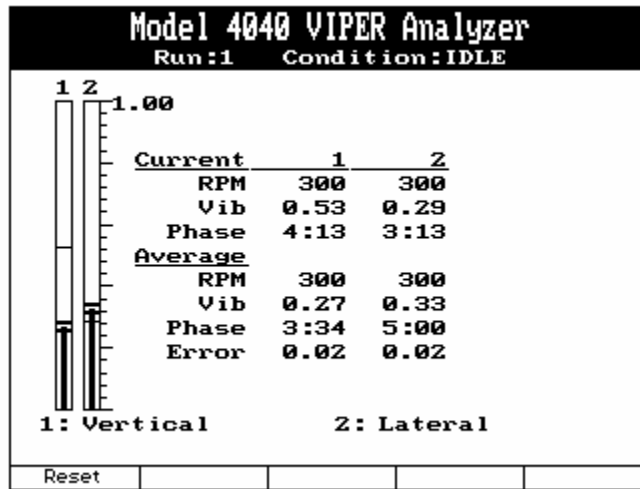
4. The “Start Aircraft” screen will be displayed with instructions to “Start Aircraft per Flight Manual”. When the aircraft is started and normal operating conditions have been established, press the [ENTER] key to continue.

Model 4040 VIPER Analyzer				
Start Aircraft				
Run 1				
Start aircraft per flight manual.				
Rotor Speed: 300				
When speed is greater than 150, press ENTER to continue.				

5. The analyzer will display the “Select Aircraft Condition” screen as displayed below. Select the condition that you want to gather data for using the [↑] [↓] arrows and press [ENTER]. Pressing [F5] “Chk Track” will allow you to view the track picture but will not save the reading as part of the highlighted condition. See paragraph 7 below to record the track picture with the condition’s vibration readings.

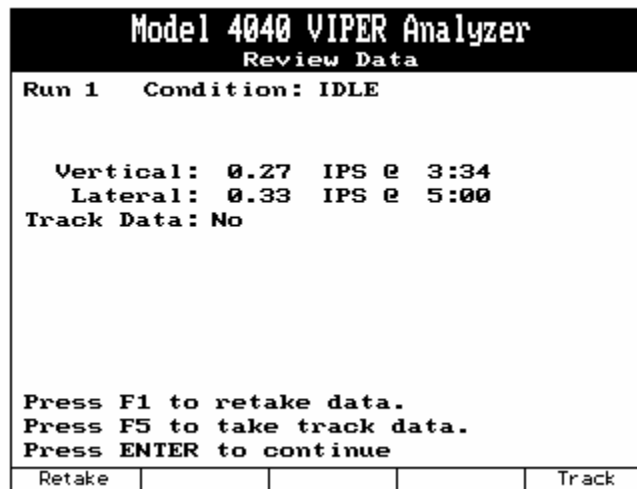
Model 4040 VIPER Analyzer				
Select Aircraft Condition				
[]	IDLE			
[]	103½N2			
[]	HOVER			
[]	80 KTS			
[]	120KTS			
End Run				Track

6. After pressing [ENTER] the “Run: 1 Condition: IDLE” screen will be displayed as shown in the example below. Operate the aircraft in the configuration for the selected condition and allow the analyzer to collect data. The “Error:” indication at the bottom of the text portion of the screen should be as steady as possible with very little change before you press [ENTER] to stop acquisition. If the “Error” is not “0”, this is not an indication of failure or fault, only that the vibration averaging errors cannot be resolved below the displayed level. This “Error” value will typically be higher as the balancing process reduces the vibration amplitude.




See The Model 4040 User Manual #4040-OM-01 (P/N 75-900-4040) Chapter 20 for detailed instructions on how to read the “Converging Vibration Indicator and Scale”.

- The “Review Vibe Data” screen will be displayed as shown in the example below. These are the amplitude and clock angle readings for the condition. You may retake the data by pressing the [F1] “Retake” function key as indicated at the bottom of the screen. When satisfied with the acquired data as displayed, press the [ENTER] key to accept the data with “No” track information and continue. To record the track picture for the condition, press [F5] “Track” and proceed to Paragraph 8.



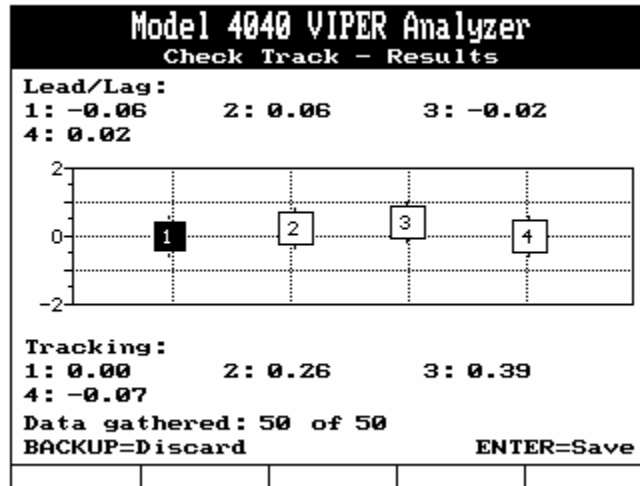
- The “Aim and fire tracker” screen will be displayed as shown in the example below. To aim the tracker, raise the tracker smoothly towards the rotating rotor disk while observing the LEDs on the back of the tracker.



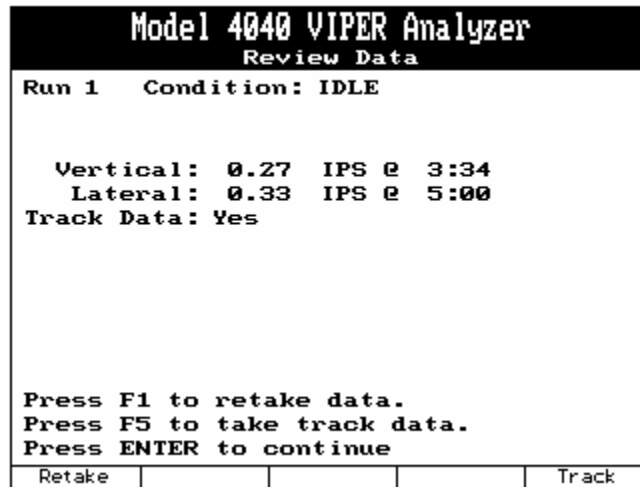
Aim and fire tracker

Press key to abort

- 8.1. Raise the tracker until the three green LED lights are illuminated.
- 8.2. Raise the tracker further to verify the upper set of three red LEDs illuminate. Illumination of the three upper LEDs verifies there is enough contrast to operate the tracker. If the upper set of red LEDs does not illuminate, there is not enough contrast for the tracker to operate properly.
- 8.3. If sufficient contrast is verified, slowly lower the tracker to a point where the center green LED is illuminated. Hold the tracker steady in this position.
- 8.4. To activate the tracker, press and release the trigger one time. It is not necessary to hold the trigger down. Continue to hold the tracker steady (green lights illuminated) while acquiring data. The amber light will pulsate during data acquisition.
- 8.5. When the amber light extinguishes, data acquisition is complete and you may lower the tracker.
9. The track picture will be displayed on the “Check Track – Results” screen. Lead/lag readings will be displayed at the top of the screen. A negative number (-) indicates a “Lead” condition as this blade is the indicated measurement less than the average interval. A positive number (no sign) indicates a “Lag” condition as this blade is the indicated measurement more than the average interval. Readings will be displayed graphically in the center of the screen. Lead readings will be indicated to the Left of the average interval marking vertical line. Lag readings will be displayed to the Right of the line. Track readings will be displayed above or below the line relative to the average of all blades or in relation to the blade specified in the setup, Paragraph C.6. The bottom of the screen will give a numeric reading of the blade track elevation. The bottom line will display the number of data samples gathered. If the total number of data samples gathered is less than 75% of the total number of samples requested (the last value on the line) the results are questionable and should be retaken. When you are happy with the quality of the data, press **[ENTER]** to continue.



10. The “Review Vibe Data” screen will reappear as shown in the example below. This time the “Track Data” line will read “Yes” indicating that track data has been taken and stored in this condition. You may retake vibration data by pressing the [F1] “Retake” function key as indicated at the bottom of the screen. You may retake the track data by pressing the [F5] “Track” key. If you are satisfied with the current measurements, press [ENTER] to continue.



11. The “Select Aircraft Condition” screen will reappear as shown in the example below. This time any condition that has stored vibration and/or track data will have an [x] preceding the condition name. Repeat sequence through all flight regimes. You can choose to “End Run” at any time by pressing the [F1] “End Run” key. This sequence will allow you to review all previous measurements before proceeding to the suggested solutions. If a condition has recorded a vibration or track reading that is in excess of the limits defined in Paragraph C.8 above, the word “Adjust” will appear above the [F2] key. Pressing [F2] “Adjust” will bypass the review process and move directly to the suggested solution screens. In either case you will be taken to Paragraph 12 below.

NOTE

The [F1] “End Run” and [F2] “Adjust” keys are the only ways to exit this screen. Pressing [ENTER] will restart the data collection process for the highlighted condition.

Model 4040 VIPER Analyzer				
Select Aircraft Condition				
[x]	IDLE			
[x]	103%N2			
[x]	HOVER			
[x]	80 KTS			
[x]	120KTS			
End Run				Track

12. The analyzer will display the “Shut Down Aircraft” screen. When this process is complete, press the [F5] “Continue” key to review the data or view the suggested solutions.

Model 4040 VIPER Analyzer				
Shut Down Aircraft				
Shut Down Aircraft per flight manual instructions				
				Continue

NOTE

It is important to remember that when installing or removing weights and recording their positions the influence used for the next run will be updated by the result from the previous run’s solution. Therefore, be as accurate as possible when recording adjustments made regardless whether the recommended solution is implemented. The only entries on these screens should reflect the actual solution implemented.

13. The analyzer will present all of the solutions possible from the data gathered. It is possible for the analyzer to give two adjustments that would adversely affect the other. The user is ultimately responsible for determining which adjustments to implement and which to discard. If a suggested correction is determined unnecessary, use “Inst=None” [F2] to eliminate data

in the “Installed” column. Make the desired adjustments to the rotor system as called for by analyzer and press [ENTER]. The user will now be prompted to start the engine and continue with Run #2.

E. Solution Examples

This section contains samples of the solution screens possibly encountered during the job. The corrections are examples only and do not reflect actual aircraft data. The actual solution screens encountered by the user will vary depending upon data acquired.

CAUTION

At no point should a correction be made that contradicts information in the maintenance manual.

NOTE

Solutions will only be presented for readings that exceed the limits set in Paragraph C.8 above. It is necessary to add the closest measurable amount of correction and record the actual correction in the “Installed” column.

The Model 4040 analyzer is designed to implement one solution per run. Even though multiple solution screens are presented, the user must pick the single solution to implement between runs. Entering solutions from multiple screens on the same run will corrupt the Influence Coefficient Update during the job.

1. The first possible solution screen is the “Vert: 80 KTS – 120KTS, FLT” solution. This screen will suggest Pitch Change Link adjustments in Flats (FLT) based on the measured vertical vibration readings.

In the example below, it is suggested to adjust the #1 Blade UP by 0.49 FLT and the #4 Blade UP by 2.10 FLT. The closest possible adjustment was UP 0.50 FLT on the #1 Blade and 2.00 FLT on the #4 Blade. This adjustment was made and entered into the analyzer.

Model 4040 VIPER Analyzer		
M/R Suggested/Installed Adjustments		
Run 1		
Name: Vert 80 KTS-120KTS, FLT		
Bld/Pos	Suggested	Installed
1	0.49	0.50
2	0.00	0.00
3	0.00	0.00
4	2.10	2.00
+Adj = WtAdd/SwAft/BlUp/TabUp		
Inst=Sugg	Inst=None	Quit Job

2. The second possible solution screen available is from the “Lat: HOVER, GMS” chart. This screen suggests the corrections to make to improve Lateral vibration readings.

In the example below, the suggestion is to add 59.58 Grams (GMS) to the #2 Blade and to add 79.06 GMS to the #3 Blade. The closest available weight was 60.00 GMS for the #2 Blade and 80.00 GMS for the #3 Blade. These weights were added to the aircraft and the associated entries made in the analyzer.

Model 4040 VIPER Analyzer			
M/R Suggested/Installed Adjustments			
Run 1			
Name: Lat HOVER, GMS			
Bld/Pos	Suggested	Installed	
1	0.00	0.00	
2	59.58	60.00	
3	79.06	80.00	
4	0.00	0.00	
+Adj = WtAdd/SwAft/BlUp/TabUp			
Inst=Sugg	Inst=None		Quit Job

- The final four possible solutions come from the "Tracking Influence Setup" screens. The analyzer will present a suggested correction to the Pitch Change Link (PCL) in Flats (Flt) OR the trim tab (TAB) in Degrees (DEG) to bring the track within limits.

The example shown below is generated by the Track picture at IDLE. The suggestion shows adjusting the #2 Blade DOWN by 1.20 Flt, bringing the #3 Blade DOWN by 1.60 Flt, and bringing the #4 Blade UP by 0.40 Flt should correct the track split. The closest measurable adjustments are determined to be DOWN 1.00 Flt on the #2 Blade, DOWN 1.50 FLT on the #3 Blade and UP 0.50 Flt on the #4 Blade. The actual adjustments are made and entered into the analyzer. To enter a negative (-) number press the [SPACE] key once.

Model 4040 VIPER Analyzer			
M/R Suggested/Installed Adjustments			
Run 1			
Name: Trk IDLE, PCL, Flt			
Bld/Pos	Suggested	Installed	
1	0.00	0.00	
2	-1.20	-1.00	
3	-1.60	-1.50	
4	0.40	0.50	
+Adj = WtAdd/SwAft/BlUp/TabUp			
Inst=Sugg	Inst=None		Quit Job

In the example shown below, generated by the Track split from 103%N2, adjusting the #2 Blade DOWN by 0.23 Deg, adjusting the #3 Blade DOWN by 0.40 Deg, and adjusting the #4 Blade UP by 0.05 Deg should correct the track split. The adjustments to the #2 and #4 blades

are determined to be immeasurable and are not made. The adjustment to the #3 Blade is made and entered into the analyzer. To enter a negative (-) number press the [SPACE] key once. Refer to the Blade Station diagram below to determine where to apply the suggested solution.

Model 4040 VIPER Analyzer			
M/R Suggested/Installed Adjustments			
Run 1			
Name: Trk 103%N2, TAB, DEG			
Bld/Pos	Suggested	Installed	
1	0.00	0.00	
2	-0.23	0.00	
3	-0.40	-0.50	
4	0.05	0.00	
+Adj = WtAdd/SwAft/BIUp/TabUp			
Inst=Sugg	Inst=None		Quit Job

In the example shown below, generated by the Track split from 80KTS, adjusting the #2 Blade DOWN by 0.18 Deg, adjusting the #3 Blade DOWN by 0.40 Deg, and adjusting the #4 Blade UP by 0.05 Deg should correct the track split. The closest measurable adjustment was to adjust the #2 Blade DOWN by 0.50 Deg. The remaining two adjustments were determined to be immeasurable and are not attempted. The actual adjustments are made and entered into the analyzer. To enter a negative (-) number press the [SPACE] key once. Refer to the Blade Station diagram below to determine where to apply the suggested solution.

Model 4040 VIPER Analyzer			
M/R Suggested/Installed Adjustments			
Run 1			
Name: Trk 80 KTS, TAB, DEG			
Bld/Pos	Suggested	Installed	
1	0.00	0.00	
2	-0.18	0.00	
3	-0.40	-0.50	
4	0.05	0.00	
+Adj = WtAdd/SwAft/BIUp/TabUp			
Inst=Sugg	Inst=None		Quit Job

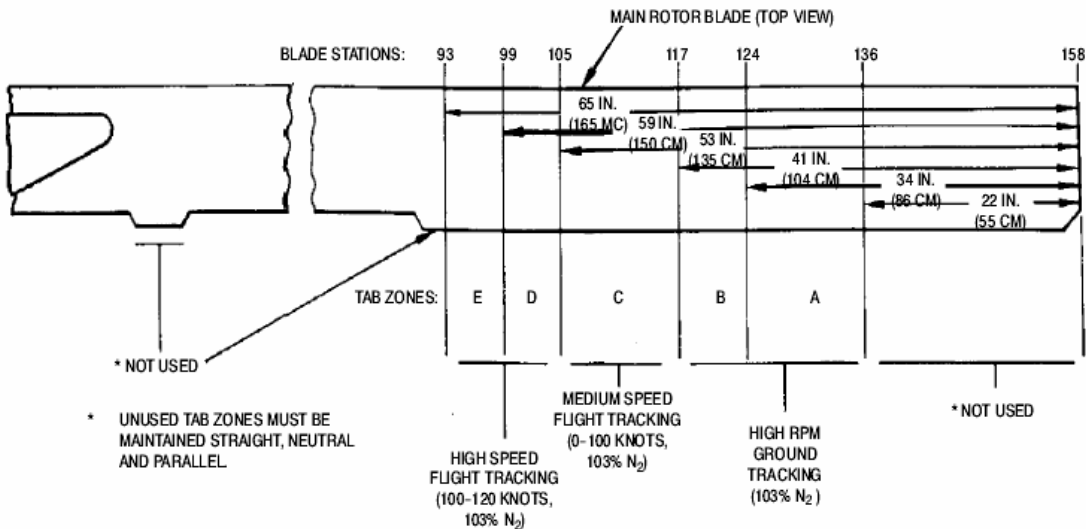
In the example shown below, generated by the Track split from 120KTS, adjusting the #2 Blade DOWN by 0.30 Deg, adjusting the #3 Blade DOWN by 0.40 Deg, and adjusting the #4 Blade UP by 0.10 Deg should correct the track split. The closest measurable adjustment was to adjust the #3 Blade DOWN by 0.50 Deg. The adjustments to the #2 and #4 blades are determined to be immeasurable and are not made. The actual adjustments are made and

entered into the analyzer. To enter a negative (-) number press the [SPACE] key once. Refer to the Blade Station diagram below to determine where to apply the suggested solution.

Model 4040 VIPER Analyzer		
M/R Suggested/Installed Adjustments		
Run 1		
Name: Trk 120KTS, TAB, DEG		
Bld/Pos	Suggested	Installed
1	0.00	0.00
2	-0.30	0.00
3	-0.40	-0.50
4	0.10	0.00
+Adj = WtAdd/SwAft/BIUp/TabUp		
Inst=Sugg	Inst=None	Quit Job

It is important to understand that only ONE track correction screen will be presented with each solution set. The condition that has the greatest track split will be used to generate the track solution.

Use the chart below to determine which station to apply the TAB solution to. This will be determined by the airspeed where the Track split occurred.



F. Quit Job

1. Repeat steps D.4 through D.13 applying the solutions as necessary. If all measurements in all conditions are below the limits set in Paragraph C.8 above, the message below will appear. Pressing the [BACKUP] key will allow you to return to review the measurements from all runs. Pressing the [ENTER] key will allow you to take additional readings if you choose. Pressing [F5] "Quit Job" will mark the job as complete.

