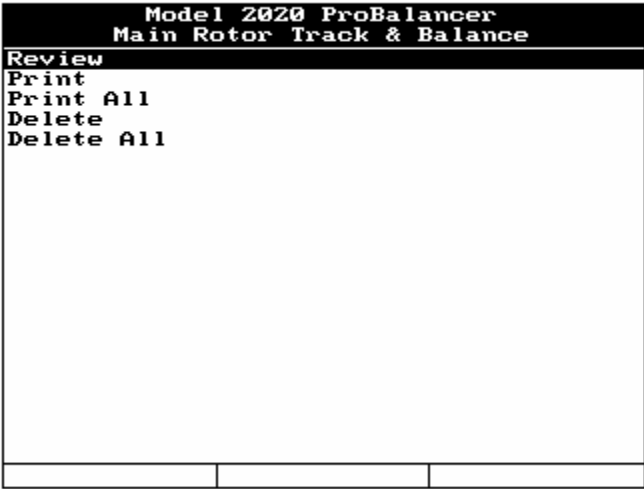

Section 4

Manage Data

(Revision 2, May 2005)

The manage data functions for both setups and jobs remain the same as with the standard version firmware for the Model 2020 ProBalancer Analyzer with the additions noted below. The difference is found in the increased content within stored jobs and setups. Refer to the appropriate section of the standard Model 2020 ProBalancer User Manual for details on using these functions. The following paragraphs outline the new information contained in the stored job and stored setup.

4.1. Main Rotor Review Job Functions



The main rotor “Review Job” function now presents chart information, correction history, and influence co-efficient for the job. The following paragraphs will describe these new screens and how to navigate through them to review this information.

4.1.1. Main Rotor Review Job

Model 2020 ProBalancer Review Job		
Run: 1	Condition: Ground	
Vertical: 0.58	IPS @ 3:10	
Lateral: 0.48	IPS @ 6:23	
Lead/lag:		
1: -0.18	2: 0.53	3: 0.38
4: 0.27		
Tracking:		
1: 0.09	2: 0.27	3: -0.12
4: -0.24		
<> Run	^v Cond.	
ViewAdj		

Upon selecting to review a job, the “Review Job” screen will appear as shown above. The run number and condition name are displayed at the top of the screen along with the vibration and track measurements acquired for the current run and condition listed.

- To review different conditions within the same run, press either the [↑] or [↓] key.
- To review data for a different run, press either the [←] or [→] key.
- To view adjustments made for the current run, press the [F1] “View ADJ” key. See Paragraph 4.1.2.

4.1.2. View Main Rotor Track and Balance

Model 2020 ProBalancer View M/R Track & Balance		
Run: 1		
Name: Lat:Ground-Hover		
Adj: GMS		
<u>Bld/Pos</u>	<u>Sugg.</u>	<u>Inst.</u>
TARGET	165.30	165.00
A	127.73	130.00
B	0.00	0.00
C	0.00	0.00
<> Run	^v Adj. type	
ViewMeas	ViewChart	

The “View Main Rotor Track and Balance” screen appears as shown above. This screen presents both the suggested and installed adjustments for the run number and chart name displayed.

- Press the [←] or [⇒] key to change the current run.
- Press the [F1] “ViewMeas” key to return to the “Review Job” screen as shown in Paragraph 4.1.1.
- Press the [F2] “View Chart” key to view the polar chart information for the correction implemented. See Paragraph 4.1.3.

4.1.3. View Main Rotor Chart

Model 2020 ProBalancer View M/R Chart		
Name: Lat:Ground-Hover		
Type: Regular		
Def Mag: 400.00		
Bld/Pos	Mag Ratio	
All	1.00	
^v Charts		
ViewMeas	ViewAdj	ICFs

The “View M/R Chart” screen is shown above it gives the chart name, chart type, default magnitude of adjustment, name and adjustment ratio of each blade position.

- Pressing the [↑] or [↓] keys will toggle between multiple chart types if more than one is defined for the job setup.
- Pressing the [F1] “ViewMeas” key returns you to the “Review Job” screen as shown in Paragraph 4.1.1 above.
- Pressing the [F2] “ViewAdj” key returns you to the “View Main Rotor Track and Balance” screen as shown in Paragraph 4.1.2 above.
- Pressing the [F3] “ICF” key will display the corrections to the default chart as explained in section 4.1.4 below.

4.1.4 View Main Rotor Chart ICFs

Model 2020 ProBalancer View M/R Chart ICFs		
Name: Lat :Ground-Hover		
Run	Mag.	Rotate
1	561.85	303 °
2	793.90	245 °
3	0.00	0 °
4	0.00	0 °
5	0.00	0 °

The “View M/R Chart ICFs” screen is shown above. This screen displays the corrections made to the original chart defined in the setup. If an adjustment was made based on the chart described in the “Name” line during the job, the change in influence coefficient will be recorded on this screen.

When completed reviewing, press [ENTER] to return to the “Review Job” screen as described in Paragraph 4.1.1 above.

4.2. Main Rotor Manage Setups

In addition to being able to edit the basic information contained within a setup, you will be able to view the corrections to the original polar charts. If a correction is made that results in a chart being corrected, this correction can be stored in the setup to reduce future runs when using the same setup (See Section 3 Paragraph 3.3).

Model 2020 ProBalancer Main Rotor Chart Setup		
Name: Vert:Flt 1		
Chart Type: Regular		
Sweep Only: No		
Adj. Unit: DEG		
Adj./IPS: 2.00		
Bld/Pos	Adj @	Bld/Pos
TARGET	12 :00	
A	9 :00	
B		
C		
Bld/Pos: in CW or CCW order		
+Adj = WtAdd/SwAft/BlUp/TabUp		
Help	ICF	

The screen above is a sample screen from a Main Rotor Vertical balance chart. Press the [F1] key for help in entering data on the screen. You can see that the [F2] “ICF” key appears after the setup has stored a chart correction. The setup is still using the default ICF if the [F2] “ICF” key is not visible.

Model 2020 ProBalancer ICF Information		
You may keep the current average or reset the ICF to default		
<u>ICF</u>	<u>Mag</u>	<u>Deg</u>
Default	2.00	180
Average	2.59	145
F1: Keep Average ICF		
F3: Reset ICF to Default		
Keep		Reset

Pressing the [F2] “ICF” key will bring up the “ICF Information” screen as shown above. As you can see, the default ICF has been changed in both Magnitude and Degrees of rotation.

- Press [F1] “Keep” to retain the updated ICF based on previous job history.
- Press [F3] “Reset” to return the setup’s ICF to the default value.

When you are finished on the above screen, press [ENTER] to return to the chart definition in the setup.

Each chart defined in the setup can have its ICF updated as the result of previous job data. It may be necessary to reset the ICF in several charts to return the setup to the original configuration.

4.3 Tail Rotor Review Job Functions

Model 2020 ProBalancer Tail Rotor Balance		
Review		
Print		
Print All		
Delete		
Delete All		

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.

4.3.1 View Tail Rotor Balance

Model 2020 ProBalancer View T/R Balance		
Run: 1	<> Select Run	
RPM:	2500	2500
IPS:	0.20	0.23
CLK:	9:00	8:06
<u>WtPos</u>	<u>Sugg.</u>	<u>Inst.</u>
BLANK	2.8	3.0
B	6.2	6.0
Soln From: Lsq Solution		
Chart		

After selecting to review a job, the “View T/R Balance” screen appears, as seen below. The screen shows 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. The RPM, IPS, and CLK readings will be presented for each condition that had data collected.

The sample above is from a two condition job. To view a different run number, press the [⇒] or [⇐] keys. To view the chart information for the job, press the [F1] “Chart” key.

4.3.2 View Tail Rotor Chart

Model 2020 ProBalancer View T/R Chart		
Chart Name: IDLE		
Type: Regular		
Def G/IPS: 100.00		
<u>WtPos</u>	<u>Mag</u>	<u>Ratio</u>
All		1.00
ENTER = See Runs		
Balance		

The “View T/R Chart” screen consists of two parts, the first shows the chart name, chart type, default grams per inch influence, name and adjustment ratio of each blade position (above).

Model 2020 ProBalancer View T/R Chart		
Chart Name: IDLE		
<u>Run</u>	<u>G/IPS</u>	<u>Rotate</u>
1	100.00	0 °
2	47.84	23 °
3	0.00	0 °
ENTER = See Chart 2		
Balance		

The second gives the influence co-efficient and phase angle rotation changes for each run (above).

- Pressing the [ENTER] key navigates through all available charts.
- Pressing the [F1] “Balance” key will return you to the “View T/R Balance” screen as shown in Paragraph 4.3.1 above.

When completed reviewing, press [F1] “Balance” to return to the “View T/R Balance” screen then [ENTER] to return to the “Tail Rotor Balance” sub menu.

4.4 Tail Rotor Manage Setups

In addition to being able to edit the basic information contained within a setup, you will be able to view the corrections to the original polar charts. If a correction is made that results in a chart being corrected, this correction can be stored in the setup to reduce future runs when using the same setup (See Section 3 Paragraph 3.3).

Model 2020 ProBalancer 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			
ICF			

The screen above is a sample screen from a Tail Rotor balance chart. You can see that the [F1] “ICF” key appears after the setup has stored a chart correction. The setup is still using the default ICF if the [F1] “ICF” key is not visible.

Model 2020 ProBalancer ICF Information		
You may keep the current average or reset the ICF to default		
ICF	Mag	Deg
Default	100.00	180
Average	47.84	203
F1: Keep Average ICF F3: Reset ICF to Default		
Keep		Reset

Pressing the [F1] “ICF” key will bring up the screen shown above. As you can see, the default ICF has been changed in both Magnitude and Degrees of rotation.

- Press [F1] “Keep” to retain the updated ICF based on previous job history.
- Press [F3] “Reset” to return the setup’s ICF to the default value.

When you are finished on the above screen, press [ENTER] to return to the chart definition in the setup.

Each chart defined in the setup can have its ICF updated as the result of previous job data. It may be necessary to reset the ICF in several charts to return the setup to the original configuration.