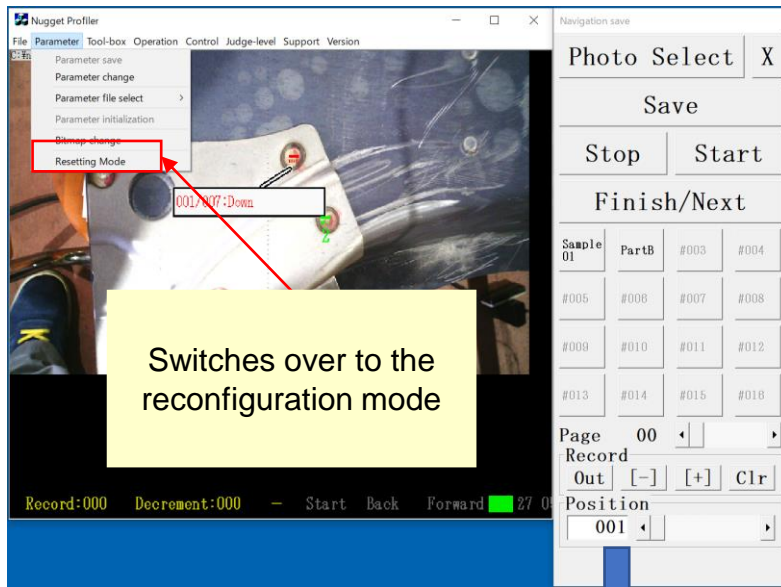


Nugget Profiler Operation Manual

How to Use Reconfiguration Mode

Created on June 3, 2019

What is the reconfiguration mode?

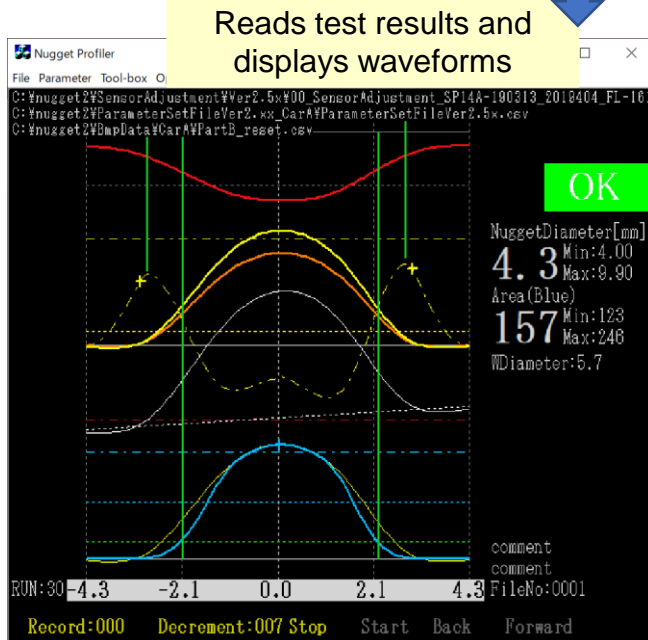


The reconfiguration mode allows you to change or modify existing parameter files.

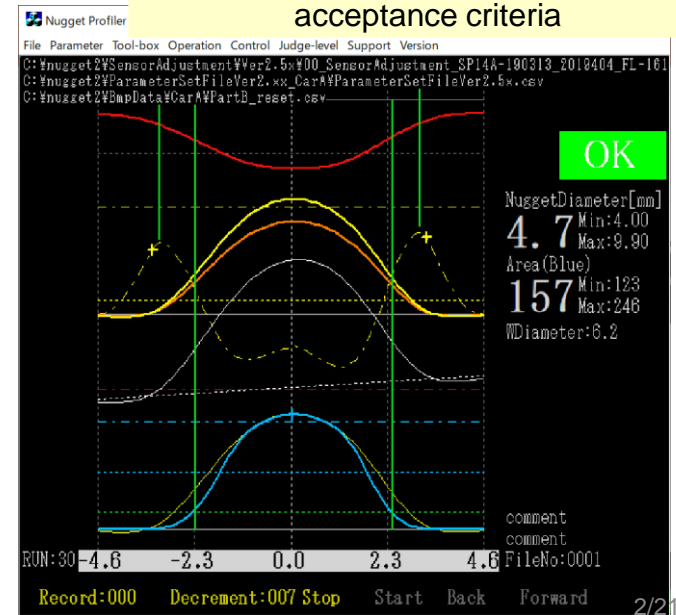
Switching over to the reconfiguration mode reads the waveform data created at parameter file / parameter creation and displays the data on the screen.

Parameters need to be modified in the following cases:

- Acceptance criteria need to be modified or added.
- The fracture diameter is significantly different from that registered at parameter creation.



Allows you to change or modify parameters to change diameters and acceptance criteria



Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software to be used: Nugget

Step 2. Modify the parameter file

Step 3. Save the parameter file and inspection data

Step 4. Repeat steps 2 and 3

Step 5. Re-register the inspection results to the photograph

Software to be used: BmpImage

Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software used: Nugget

Step 2. Modify the parameter file

Step 3. Save the parameter file and inspection data

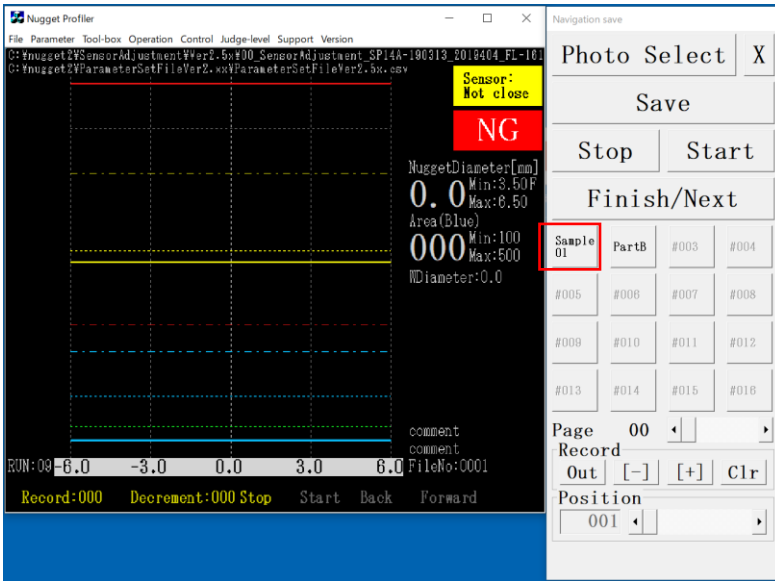
Step 4. Repeat steps 2 and 3

Step 5. Re-register the inspection results to the photograph

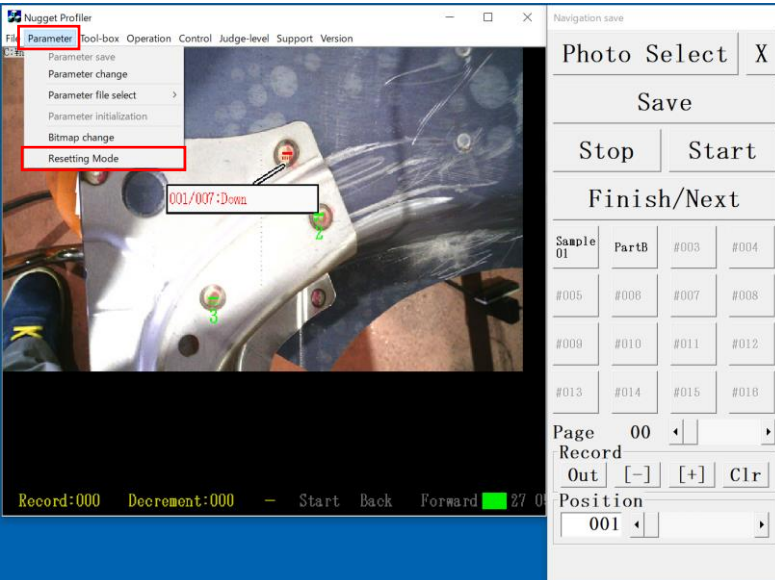
Software used: BmpImage

Step 1. Switch over to the reconfiguration mode / administrator mode

Step 1-1. Switch over to the reconfiguration mode



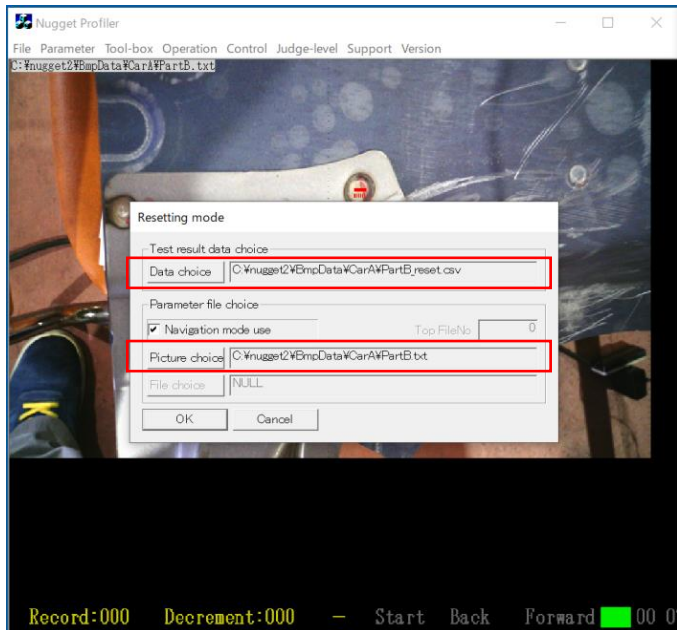
1. Activate Nugget, and in the [Navigation Record] dialog box, click the button to which the component whose parameters are to be modified is registered.



2. The photograph in the navigation mode appears.

3. Click [Parameter], then [Reconfiguration Mode] in the top left of the screen.

Step 1-1. Switch over to the reconfiguration mode (continued)



4. The [Reconfiguration Mode] dialog box appears, which includes the following:

- Data selection: Used for selecting the waveform data at parameter creation
- Photo selection: Used to link the photograph in the navigation mode

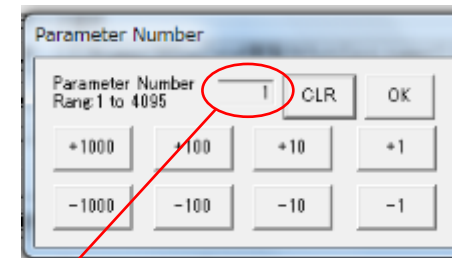
5. Click [Select Data] if the [Select Data] column is NULL. The C:\nugget2¥Data folder will open. Select the data at parameter creation or the inspection data in the navigation mode from the folder.

How to modify settings without using the navigation mode

5.1. Uncheck the checkbox for [Use Navigation Mode].

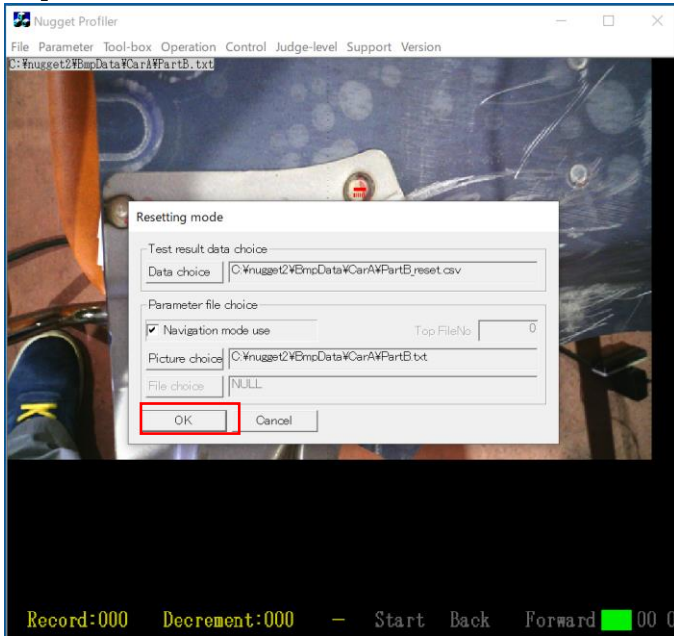
5.2. Click [Select File] and select the parameter file to be modified.

5.3. Enter the parameter column to be modified in the [Parameter Number] dialog box.



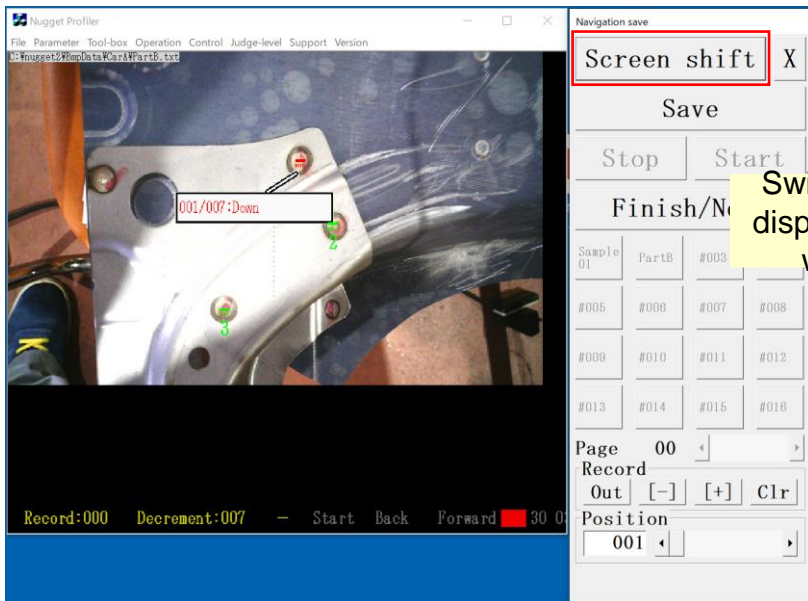
	A	B	C	D	E	F	G	H	I	J
1	Parameter\	251								
2	パラメータ番号コン1(全角)	コン2(全角)	ホールド機AS	設定	径AS	判定	径AS	判定	径AS	判定
3	0	default	default	0	4.5	6.5	3.5	0	150	75
4	1	試験片A	打点1	0	4.2	6.5	3.5	0	150	75
5	2	試験片A	打点2	0	4.2	6.5	3.5	0	150	75
6	3	試験片A	打点3	0	4.2	6.5	3.5	0	150	75
7	4	comment	comment	0	4.5	6.5	3.5	0	150	75
8	5	comment	comment	0	4.5	6.5	3.5	0	150	75
9	6	comment	comment	0	4.5	6.5	3.5	0	150	75
10	7	comment	comment	0	4.5	6.5	3.5	0	150	75
11	8	comment	comment	0	4.5	6.5	3.5	0	150	75

Step 1-1. Switch over to the reconfiguration mode (continued)

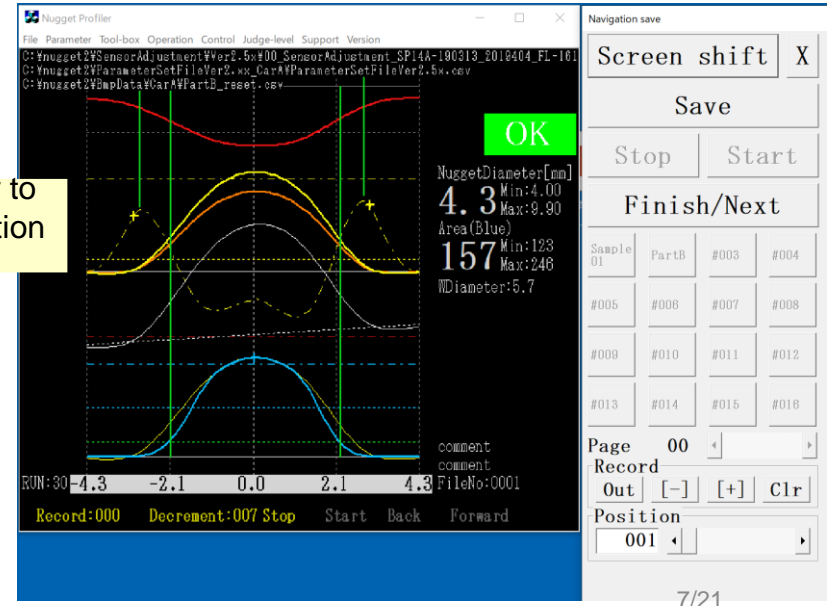


6. Click [OK] to read the parameter file and past inspection data selected in step 4.

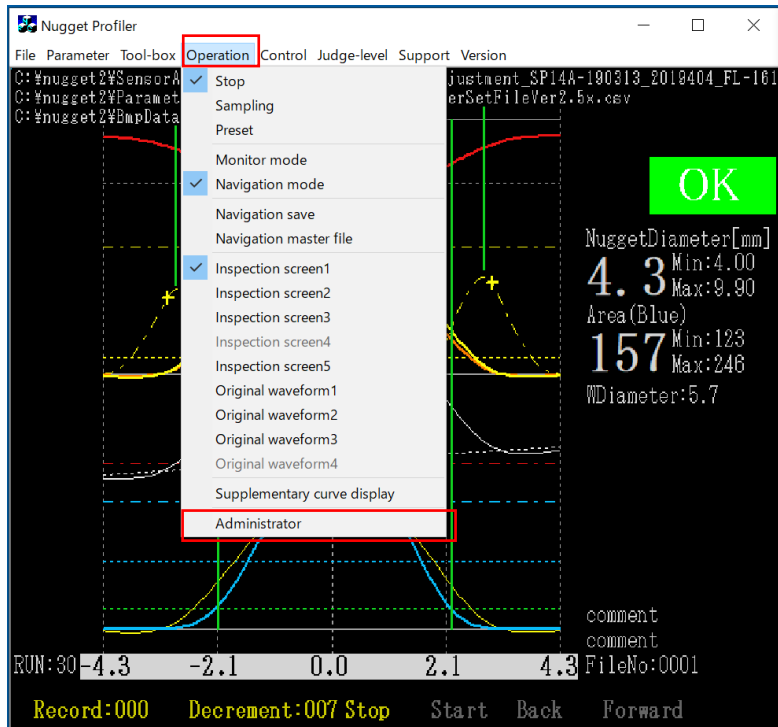
7. Click [Change Screen] in the [Navigation Record] dialog box to display the waveforms of the past inspection data.



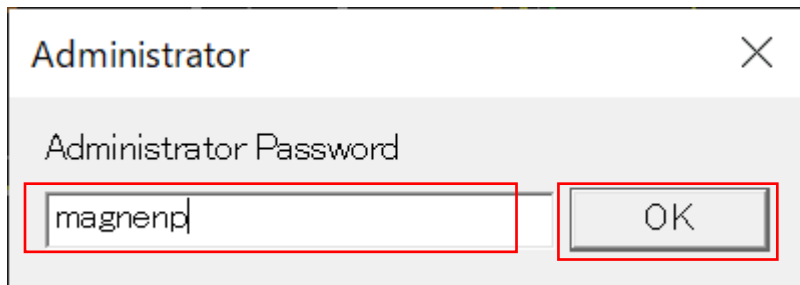
Switches over to display inspection waveforms



Step 1-2. Switch over to the administrator mode



1. Click [Operation], then [Administrator] on the screen
2. The [Administrator] dialog box will appear.



3. Enter “magnenp” and click [OK].
4. A message appears saying “Password matches. Switch over to Administrator mode.” Then click [OK].

Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software to be used: Nugget

Step 2. Modify the parameter file

Step 3. Save the parameter file and inspection data

Step 4. Repeat steps 2 and 3

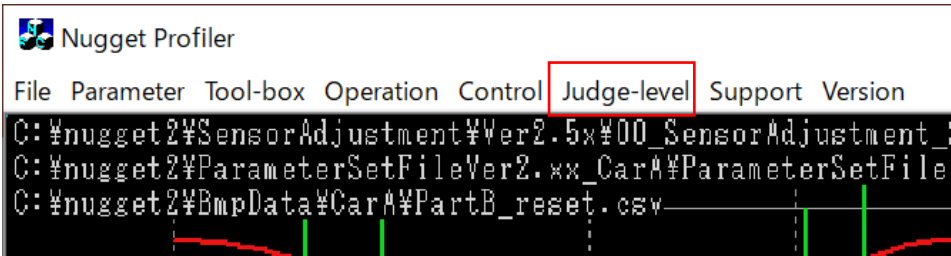
Step 5. Re-register the inspection results to the photograph

Software to be used: BmplImage

Step 2. Modify the parameter file

Step 2-1. Modify acceptance criteria

1. Click [Judgment] in the top left of the screen.



2. The [Judgment] dialog box will appear.

Criteria with their checkboxes checked are effective.
Enter the upper and lower limits of each criterion.

Criteria can be applied to the following five items.

1. [Nugget Diameter (Blue waveform: Nugget)]
2. [Off-spec Nugget Diameter (Blue waveform: Nugget)]
3. [N: Area (Blue waveform: Nugget)]
4. [Welding Diameter (Yellow waveform: Ferromagnetic field)]
5. [N: Interface Welding Scattering (Blue waveform: Nugget)]

The [Corrections] items allow you to correct inspection waveforms so that you can definitely determine whether acceptable or not.

Judge level

Nugget Diameter(Blue line:Nugget) 9.89

Nugget Diameter Outside(Blue line:Nugget) 3.5 9.8

N:Area(Blue line:Nugget) 123 246

Weld Diameter(Yellow line:Strong) 4.1 7.1

Reserve 100 500

N:Expulsion(Blue line:Nugget) 1 100

Correction

S:Height(Yellow line:Strong) 274 412

S:Area(Yellow line:Strong) 146 220

G:Small 426 640

G:Parent 426 640

G:Charact1 799 999

G:Charact2 799 999

OK Cancel

Step 2-1. Modify acceptance criteria (continued)

- Nugget Diameter (Blue waveform: Nugget)

Used to determine whether acceptable or not from the nugget diameter (shown by the blue waveform).

- Off-spec Nugget Diameter (Blue waveform: Nugget)

Specifies the “Warning OK” range for the nugget diameter. The acceptable range is shown in yellow on the screen.

- N: Area (Blue waveform: Nugget)

Used to determine whether acceptable or not from the area shown by the blue waveform (degree of welding penetration).

- Welding Diameter (Yellow waveform: Ferromagnetic field)

Used to determine whether acceptable or not from the welding diameter (shown by the yellow waveform).

- N: Interface Welding Scattering (Blue waveform: Nugget)

Used to determine whether the interface welding scattering (molten metal scattering outside) is acceptable or not by estimating it from the distortion of the waveform.

The 'Judge level' dialog box contains the following settings:

- Nugget Diameter(Blue line:Nugget)**: [4] 9.89
- Nugget Diameter Outside(Blue line:Nugget)**: 3.5 9.8
- N:Area(Blue line:Nugget)**: 123 246
- Weld Diameter(Yellow line:Strong)**: 4.1 7.1
- Reserve**: 100 500
- N:Expulsion(Blue line:Nugget)**: 1 100
- Correction**
 - S:Height(Yellow line:Strong)**: 274 412
 - S:Area(Yellow line:Strong)**: 146 220
 - G:Small**: 426 640
 - G:Parent**: 426 640
 - G:Charact1**: 799 999
 - G:Charact2**: 799 999

Buttons: OK, Cancel

- Corrections

S: Wave Height (Yellow waveform: Ferromagnetic field)

Used to make corrections using the height of the yellow waveform.

S: Area (Yellow waveform: Ferromagnetic field)

Used to make corrections using the area of the yellow waveform.

The following (G items) are used to make corrections using the items called characteristic values.

NP calculates various types of magnetic information (characteristic values) in addition to magnetic resistance.

Make corrections using useful items among these characteristic values.

G: Small Diameter

This can be useful to identify unacceptable welding (with small diameters).

G: Base Material

This can be useful to make corrections corresponding to the base material.

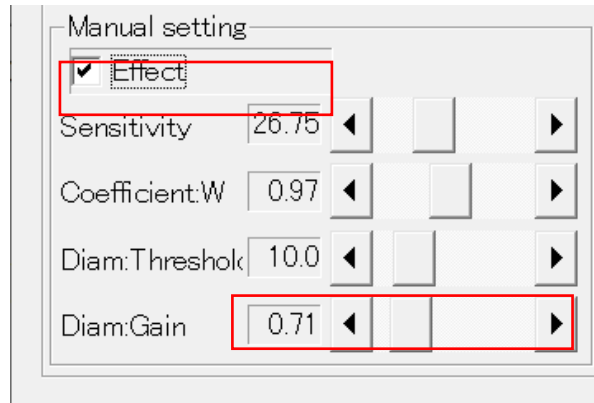
G: Characteristic Values 1 and 2

These are used if specified by the manufacturer.

Step 2-2. Modify the inspection diameter

Nugget Profiler

File Parameter **Tool-box** Operation Control Judge-level Support Ver
C:\#nugget2\SensorAdjustment\Ver2.5x#00_SensorAdjust
C:\#nugget2\ParameterSetFile\Ver2.xx_CarA\ParameterS



1. Click [Toolbox] in the top left of the screen.

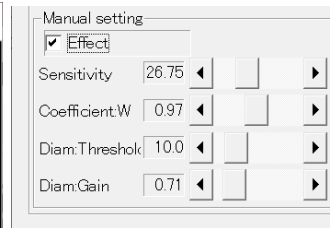
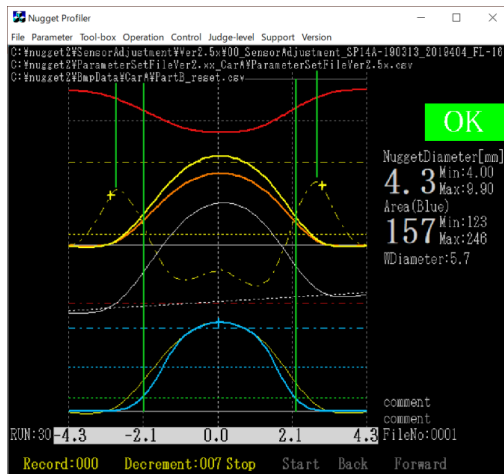
2. Check the checkbox in the [Manual Setting] pane in the [Toolbox] dialog box.

3. Modify [Diameter: Gain] to adjust the inspection diameter.

Usually, you do not need to modify any other items.

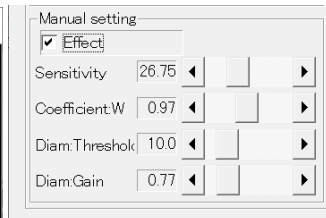
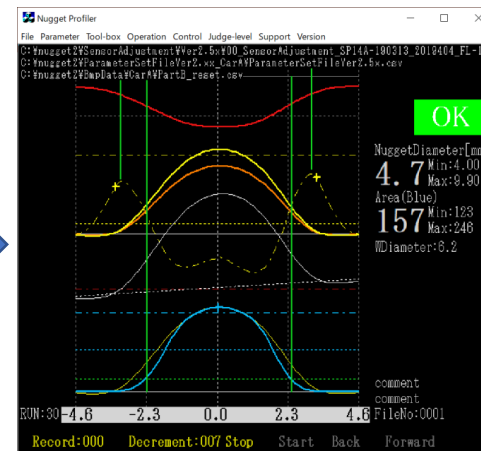
E.g.

Diameter gain: 0.71
Inspection diameter: 4.3 mm



After
adjusting the
diameter
gain

Diameter gain: 0.77
Inspection diameter: 4.7 mm



Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software to be used: Nugget

Step 2. Modify the parameter file

Step 3. Save the parameter file and inspection data

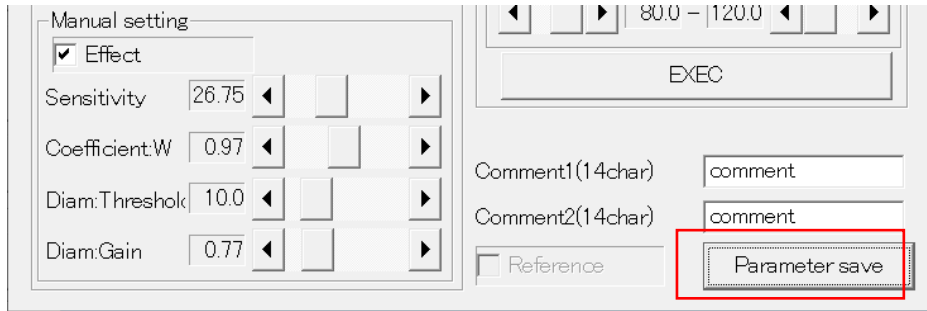
Step 4. Repeat steps 2 and 3

Step 5. Re-register the inspection results to the photograph

Software to be used: BmplImage

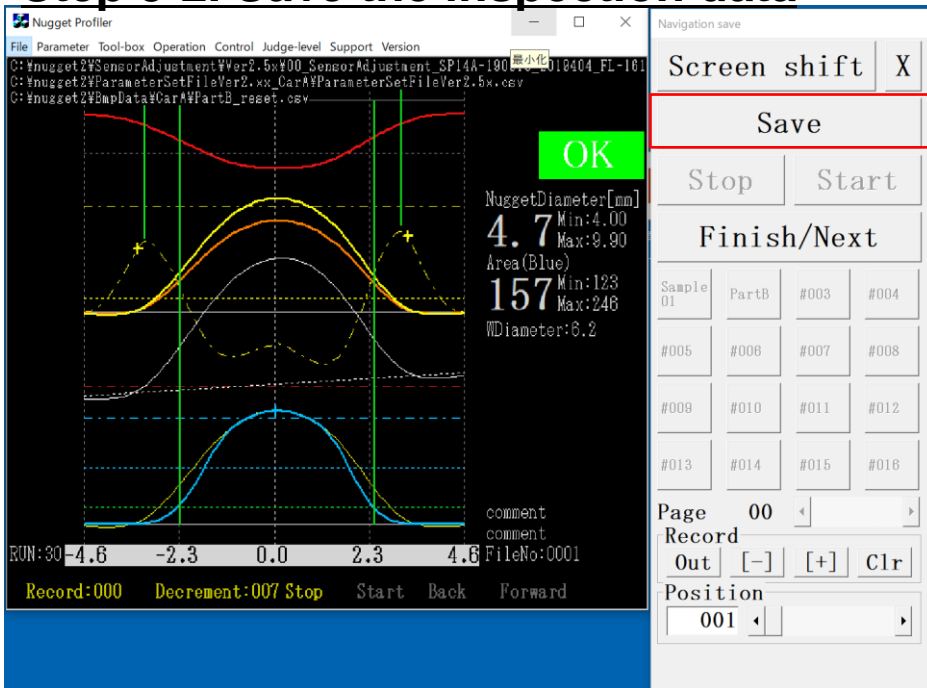
Step 3. Save the parameter file and inspection data

Step 3-1. Save the parameter file



1. Click [Save Parameters] in the bottom right of the [Toolbox] dialog box to overwrite the parameter file.

Step 3-2. Save the inspection data



Click [Record] in the [Navigation Record] dialog box to save the inspection data.

Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software to be used: Nugget

Step 2. Modify the parameter file

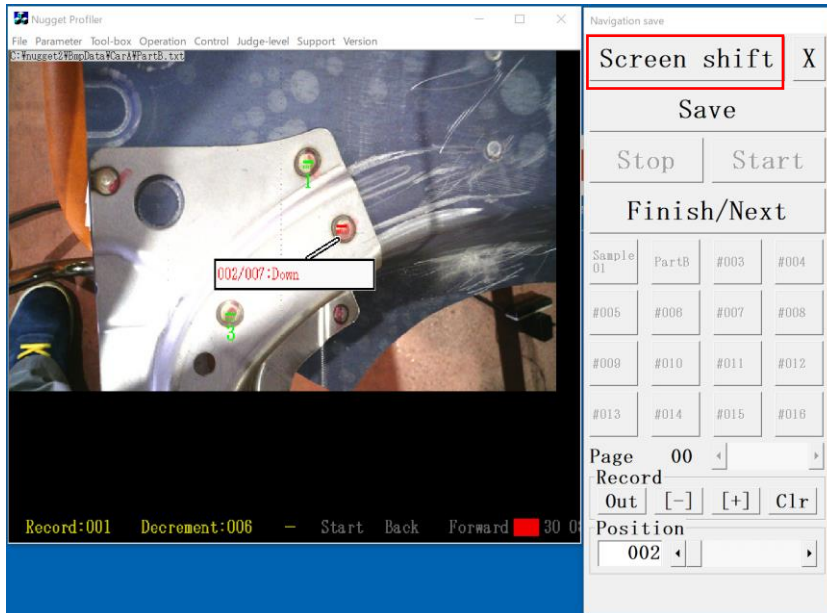
Step 3. Save the parameter file and inspection data

Step 4. Repeat steps 2 and 3

Step 5. Re-register the inspection results to the photograph

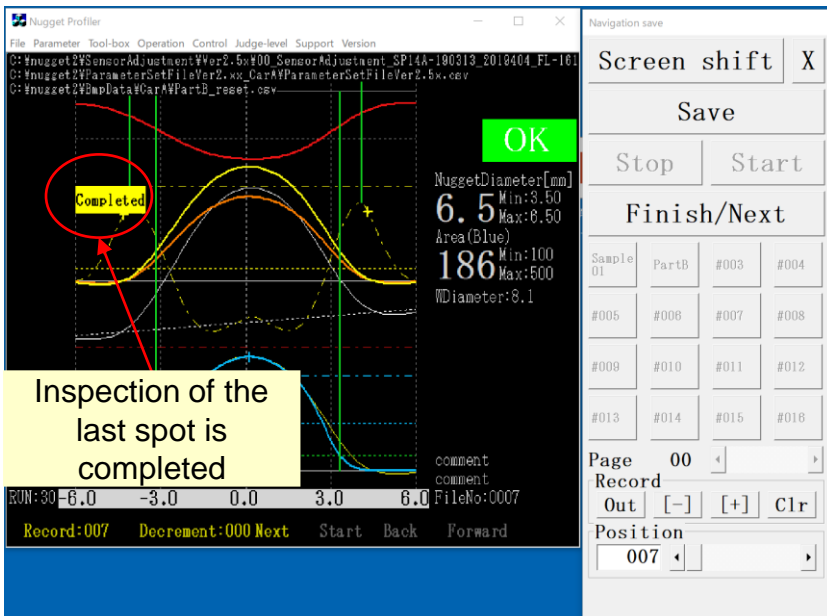
Software to be used: BmpImage

Step 4. Repeat steps 2 and 3



1. The screen changes to the photograph of the next inspection spot.

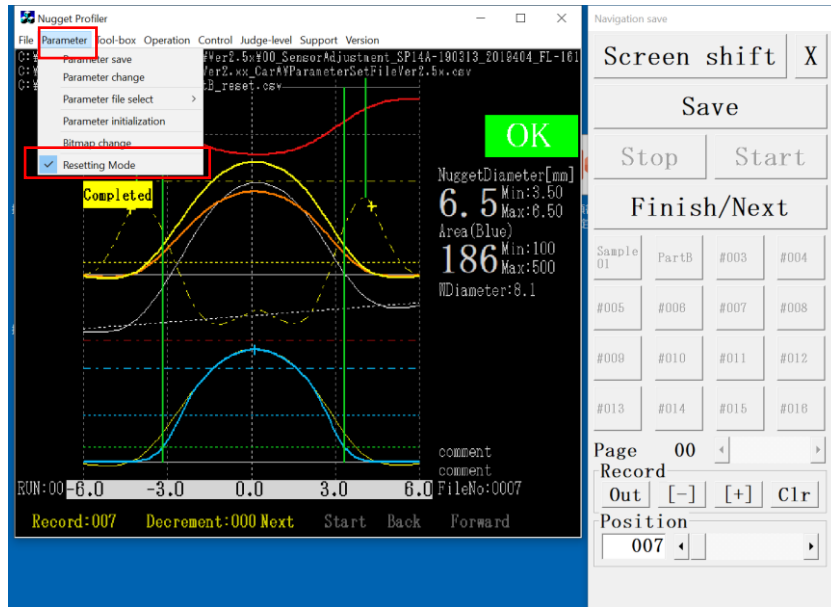
2. Click [Change Screen] in the [Navigation Record] dialog box to display the waveforms.



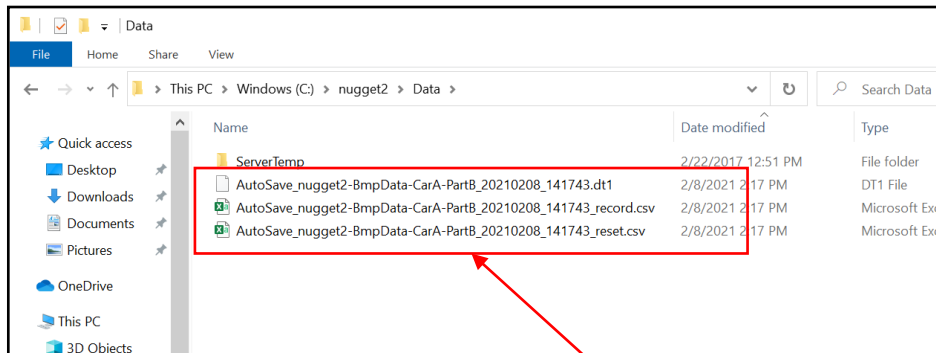
3. Repeat steps 2 and 3 up to the last spot.

4. When the inspection data of the last spot is saved, a message is displayed on the screen saying "Inspection completed."

Step 4. Repeat steps 2 and 3 (continued)



5. Click [Parameter], then [Reconfiguration Mode] in the top left of the screen to terminate the reconfiguration mode.



6. The inspection data will be saved in the C:¥nugget2¥Data folder.

Three files of [.dt1], [record.csv], and [reset.csv] are saved

Operation up to navigation mode setting

Step 1. Switch over to the reconfiguration mode / administrator mode

Software to be used: Nugget

Step 2. Modify the parameter file

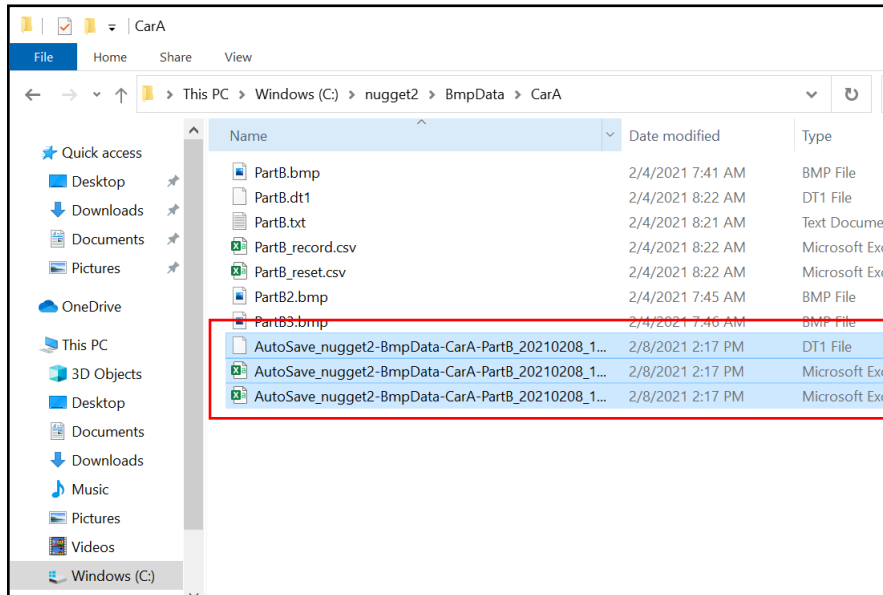
Step 3. Save the parameter file and inspection data

Step 4. Repeat steps 2 and 3

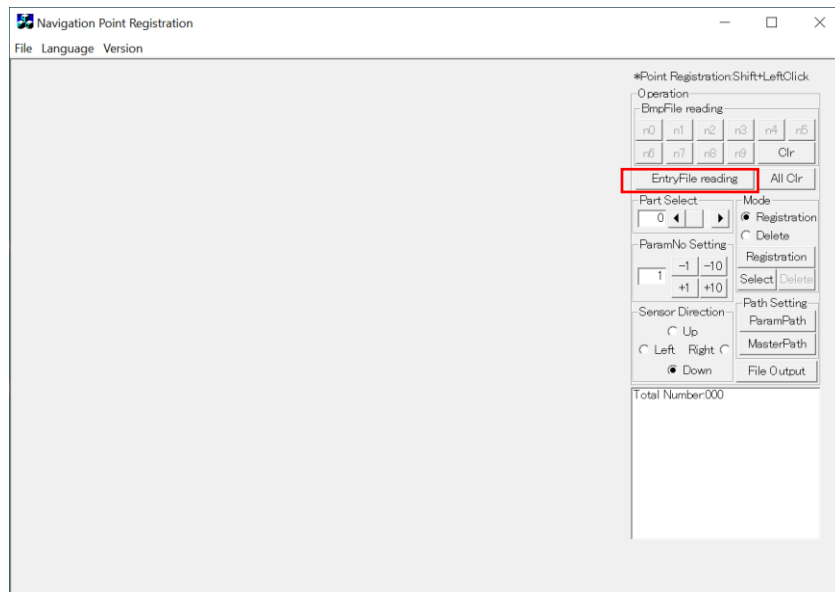
Step 5. Re-register the inspection results to the photograph

Software to be used: BmpImage

Step 5. Re-register the inspection results to the photograph



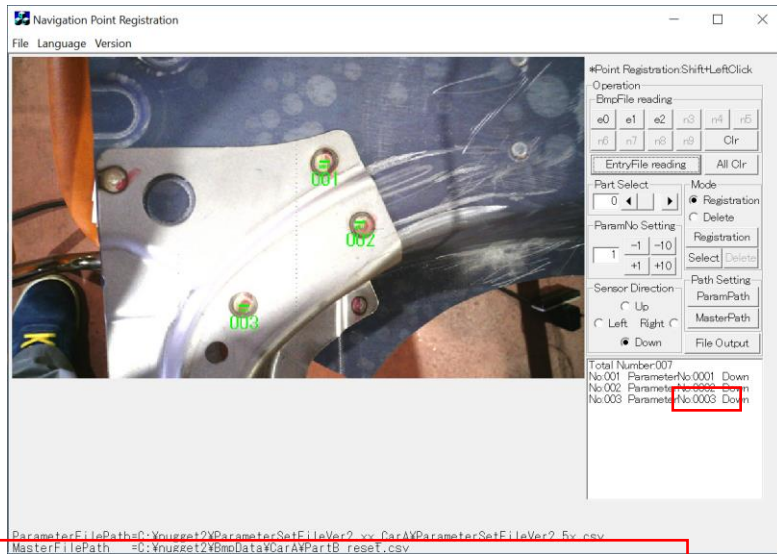
1. Move the inspection data saved in step 4-6 into the folder with the same name as the photograph in the C:¥nugget2¥BmpData folder.



2. Click the [BmpImage.exe - Shortcut] icon on the desktop to start the inspection spot registration software.

3. Click [Read Registered File], or click [Inspection Spot] in the [Read File] pain.

Step 5. Re-register the inspection results to the photograph (continued)



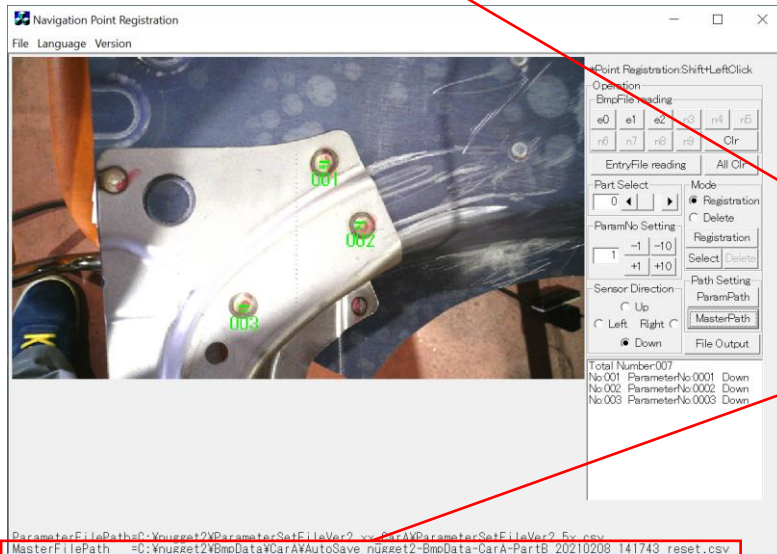
4. Select the txt. data in the folder with the same name as the photograph.

5. The photograph of the spot to be inspected is displayed.

Click [Master Path] in the [Path Settings] pane.

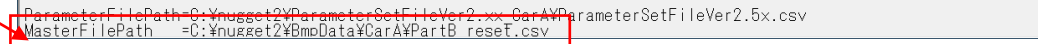
6. Select reset.csv file, which was moved in step 5-1.

(Although either the .dt1 file or the reset.csv file will do, the reset.csv file has a less number of temporal average times and therefore is more accurate.)

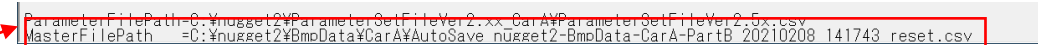


7. A new master path will be registered.

Click [Output File] to save the path.



The master path will be changed



Now, the operation is completed.

EOF