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## AAO Foundation Final Report Form

Type of Award: Orthodontic Faculty Development Fellowship Award (OFDFA)

Name of Principal Investigator: Isil Aras, D.D.S., M.S., Ph.D.
Institution: Jacksonville University

Title of Project: Faculty Development Plan \& Research (A 3D Assessment of long-term surface changes regarding the alignment of the anterior dentition in extraction and non-extraction cases)

Period of AAOF Support: 07-01-21 to 06-30-22
Amount of Funding: $\$ 20,000$

## Summary/Abstract:

The goal of my proposal was to further my growth with the highest standards in teaching, research, and education. I am currently an assistant professor at the School of Orthodontics at Jacksonville University. I am humbled to present the outlines of the progress I accomplished with the invaluable support of AAOF.

My proposal aimed to compare the surface changes in the anterior teeth at least seven years post-retention in subjects treated with non-extraction and extraction therapies using serial longterm digital casts and cephalograms. Relapse is one of the most common intricacies of orthodontic treatment, which is almost impossible to avoid in most cases. Therefore, it is essential to continue exploring the topic using traditional and sophisticated methods.

In the proposed study, we used conventional 2D linear measurements such as Little's Irregularity Index, intercanine and intermolar widths, overjet, and overbite. In addition, we utilized threedimensional (3D) analysis to obtain detailed information about the nature of relapse regarding displacements of teeth in 3 planes of space. With our research protocol, we are introducing a different perspective to assessing relapse that is not only limited to the irregularity expressed in the anteroposterior direction but also appraises the complete 3-dimensional surface alterations of the anterior dentition. For this purpose, digital casts of patients treated with a non-extraction approach and treated with extraction of 4 premolars were superimposed and evaluated using reverse-engineering methods.

The second part of my proposal developed my teaching and learning abilities. After starting my new position at Jacksonville University, I was assigned the responsibility of Literature Review IV and $V$ courses covering the American Board of Orthodontics articles. During my classes and supervision of more than 15 residents for their thesis projects, I observed that every individual has a different way of retaining information. Thus, to better reciprocate the residents' needs, I aimed to attend ADEA Annual Session \& Exhibition with the support the AAOF provided me. Additionally, this component of my developmental plan included running and publishing research that will further our profession and my data mining capacities.

The last component of my development plan was advancing my orthodontic training in orthognathic surgery. As surgical interventions require multi-disciplinary approaches, it is straightforward to land on outcomes that deviate from one that is sought. However, I was aware that Dr. William Arnett and Dr. Michael Gunson support replacing the isolated specialist approach with a multi-disciplinary team to provide an optimal outcome. Therefore, with the generous support that AAOF provided me, I set one of my goals as attending Dr. Arnett's orthodontics and orthognathic surgery course in Santa Monica to expand on my knowledge and diagnostic skills in planning orthognathic surgery cases.

## Responses to the following questions:

1. Were the original, specific aims of the proposal realized?
2. Were the results published?
3. Have the results of this proposal presented?

## (I) Research Component:

This section of my proposal aimed to scrutinize the relapse potential of extraction and nonextraction treatments in the long-term postretention phase. Although it is acknowledged that changes after orthodontic treatment are inevitable, the factors that contribute to it remain largely unknown, one of which is the treatment approach taken, i.e., having extraction or taking a nonextraction modality. Even though the relapse in the irregularity index of extraction vs. nonextraction treatments has been investigated in various studies with 2-dimensional methods, there is yet no study to report the detailed surface changes. And the most effective and precise approach to achieve this goal is the utilization of reverse engineering software for the analysis of movement in 3 dimensions of the space.

This study was approved by the Institutional Review Board (HSC-DB-14-0015). As per my proposed research, patients were selected according to the following inclusion criteria: moderate ( $4-7 \mathrm{~mm}$ ) amount of crowding, treatment rendered by extraction of 4 first premolars or nonextraction, treated with a full comprehensive multi-bracket 0.018-inch edgewise system, presence of cephalometric and digital cast records at pretreatment, posttreatment and postretention periods. None of the patients had congenitally missing teeth, systemic diseases, craniofacial anomalies, received rapid maxillary expansion, or undergone previous orthodontic treatment. According to a power analysis, with $81 \%$ power at the 0.05 level, -based on a clinically significant standard deviation of 2 mm and a 1.63 mm detectable difference in Little's Irregularity Index between extraction and non-extraction treatment modalities pretreatment, posttreatment, and postretention casts of 29 patients would be required. While there were initially 31 patients in each group, we realized that 2 patients were erroneously misplaced to the nonextraction modality. Thus, after the correction, there were 29 patients in the nonextracion
group, while 33 subjects were included in the extraction group. The mean ages were 12.54 $( \pm 1.66)$ and $13.16( \pm 2.25)$ in the nonextraction and extraction groups, respectively. Treatment duration was $27.42( \pm 5.65)$ months in the extraction patients, whereas the fixed appliance therapy lasted $22.23( \pm 1.61)$ months in the nonextraction patients. Retention duration in the extraction and nonextraction groups were 4.58 ( $\pm 1.94$ ) and 3.60 ( $\pm 1.26$ ) years, respectively. While the postretention follow-up was 17.09 ( $\pm 5.99$ ) years in the extraction group, it was 13.5 ( $\pm 5.85$ ) years in the nonextraction group.

The posttreatment and post-retention digital models were exported as Stereolithography (STL) files to Control X software (Geomagic, 3D Systems, Rock Hill, SC, USA). As the initial step for maxillary superimpositions Transform function was used, and 6 points were designated as proposed by Garib et al. for the rough alignment process: 2 points on the medial edges of the $2^{\text {nd }}$ rugae, 2 points on the medial edges of the $3^{\text {rd }}$ palatal rugae, and 2 points on the lateral borders of the $3^{\text {rd }}$ palatal rugae. In the next step, the images were aligned onto each other using the bestfit method based on the posterior limit of the incisal papilla and medial halves of the $1^{\text {st }}$ and $2^{\text {nd }}$ rugae and the entire $3^{\text {rd }}$ rugae. This 2 -step alignment process provided greater alignment accuracy; also, the initial superimpositions could shorten the time needed for the best-fit alignment. For the mandibular superimpositions, after picking 2 random points each on the lingual alveolar bone of the posterior mandible for the initial superimposition, the digital models were superimposed via best-fit on the lingual and buccal alveolar surface of the posterior mandible. Following superimpositions, 3 different tolerance levels of $0.25,0.5$, and 1 mm were designated for assessing the relapse in terms of surface changes. Negative and positive surface deviations were presented using color-coded maps. These measurements were carried out for 6 anterior teeth as a group, as well as assessing them individually. Considering the key parameters of the American Board of Orthodontics grading system, such as alignment, marginal ridge discrepancy, occlusal contacts, and overjet being sensitive to threshold values of 1.0 mm , for this specific manuscript, we decided to use the 1 mm threshold value. Detailed reports of different threshold values will be used in future manuscripts for a thorough investigation of the instability of the results achieved at the end of the treatment. Additionally, values that pertain to individual teeth will also be reported to determine the tooth groups with the greatest relapse potential. Sample pdf's regarding the surface superimpositions from one patient in each group are attached (Attachments 1 through 4). Additionally, conventional 2-dimensional measurements of the pretreatment, posttreatment, and postretention casts were carried out regarding the intermolar, intercanine, and arch depts as well as the irregularity index to be able to map out any correlations with the 3-dimensional measurements. Despite the presence of cephalometric measurements at all 3 time points, they will not be included in the current manuscript.

The statistician has provided the outcomes of the statistical analysis (Attachments 5 through 8). However, the remote meeting in which he will elaborate on the findings will be held in January. Attached are the output files sent by the statistician. Therefore, the specific aims of the proposal were realized by the completion of detailed data that will shed light on the complex nature of relapse of the anterior dentition. We are at the stage of preparing the manuscript.

## (II) Teaching and Learning Components:

As a fulfillment of my teaching objectives, I attended ADEA Annual Session \& Exhibition. Participating in the annual session help me gain competence in the theory of teaching and improve my knowledge communication. As evidence of furthering my teaching efficiency, since the last year, I have not only been covering the recommended articles by the American Board of

Orthodontics but have been assigned to run 6 more courses that include diagnostic, progress, and management seminars as well as special topics.

Secondly, with the generous support of the AAOF, I became competent in my data mining capacities and the use of Meta-Analysis Software. We finalized the systematic review we were working on and had it published:
i- Kılıç A, Brown A, Aras I, Hui R, Hare J, Hughes LD, McCracken LM. Using Virtual Technology for Fear of Medical Procedures: A Systematic Review of the Effectiveness of Virtual Reality-Based Interventions. Ann Behav Med. 2021 Oct 27;55(11):1062-1079. (Impact Factor: 4.908)

Additionally, as a part of my learning activities, I got my 2-day training regarding the Control X and Wrap software (Geomagic, 3D Systems, Rock Hill, SC, USA). Having achieved proficiency in these software, I was able to run my main research project and published 2 more articles with the infrastructure Igained on reverse-engineering software.
ii- We finalized one more paper which was initiated before the approval of my current proposal. It was also related to the assessment of relapse using 3-dimensional methods. It got accepted by the American Journal of Orthodontics and Dentofacial Orthopedics. AA OF grant was acknowledged. It will be published in mid-2023. Our article is titled "Comparison of two wear protocols of vacuum-formed retainers with respect to the conventional parameters and 3dimensional superimposional analysis."
iii- Additionally, we initiated and finalized another 3-dimensional assessment study where the symmetry of the dentition was analyzed in peg-shaped lateral incisor cases. As we opted for an online-only option, this paper is readily available on the AJODO website with the title "ThreeDimensional Digital Evaluation of Tooth Symmetry and Volume in Patients with Missing and PegShaped Maxillary Lateral Incisors." The AAOF Grant is acknowledged.

Furthermore, we submitted 2 papers that evaluate swallowing using fiberoptic endoscopic evaluation.
iv- One of the manuscripts was submitted to the Angle Orthodontist, and we had positive feedback with minor revisions to be carried out within 90 days. The paper is titled "Evaluation of Swallowing in Relation to Transversal Maxillary Deficien cy and Rapid Maxillary Expansion." With this research, we evaluated the change in swallowing before and after rapid maxillary expansion with FEES, which has not previously been used as an assessment tool in maxillary transverse deficiency patients. The AAOF Grant is acknowledged.
v- The second manuscript that utilized FEES evaluation was submitted to the Journal of Craniofacial Surgery and is currently under revision. It is titled "Evaluation of swallowing function in relation to oropharyngeal dysphagia in patients with operated unilateral cleft lip and palate." Again, the AAOF Grant is acknowledged.
vi- Recently, we have undertaken a project related to direct-to-consumer orthodontics. It is titled " 3 - Dimensional Comparisons of the Accuracy of Impressions Taken by Patients and dental Providers". IRB approval is already obtained. Data collection will be initiated in July, and AAOF will be acknowledged in the manuscript.

Thanks to the opportunity I was granted by the AAOF, I was able to further my data mining knowledge. As a result, we got 3 articles published, 1 in minor revision and 1 under review, as well as the brand-new study we have recently initiated. These are all besides the primary research we have undertaken regarding the surface changes in the post-retention phase of orthodontic treatment.

Besides, I acted as a reviewer for 21 manuscripts since July 2021 for AJODO, 3 for the Angle Orthodontist, 4 for the Journal of Esthetic and Restorative Dentistry, 4 for the European Journal of Orthodontics and 3 for the Orthodontics and Craniofacial Research.

I was also extended an invitation by Dr. Lindauer to the Angle Society. So I attended the 2022 Angle Society North Atlantic Component Meeting as an Affiliate Member.

And finally, I virtually attended and purchased the conference archive for the AAO Congress. We had 4 poster presentations which comprised the work of our residents.

## (III) Clinical Patient Care:

The final element of my proposal was primarily aimed at mastering the multi-disciplinary approach in orthognathic surgery patients-however, the attendance to Orthodontics \& Orthognathic Surgery Course by Drs. Arnett and Gunson had to be delayed. Their office manager and lecture coordinator indicated in her email that they had to forgo having the course this year due to limitations on locations for the meeting, as the hotels were overbooked from the overlap of meetings being canceled due to COVID. Nonetheless, she added that they were tentatively planning to have the meeting next year during the week of October 23-27, 2023, and she would keep me in the loop. At this time, I am on a provisional list of course attendees.

In the meantime, I attended the Clincheck Masters Volume 2, which was related to advanced clear aligner treatment mechanics. Also, I completed the "Aligner Intensive Fellowship" Mazhar Moshiri, Jonathan Nicozisis. (August- December 2022, Online Course).

## 4. To what extent have you used, or how do you intend to use, AAOF funding to further your career?

Owing to the generosity of AAOF, I was able to further my growth with the highest standards in teaching, research, and education. The 2 grants I received enabled me to up my game in patient care as well. With my initial AAOF grant, my major gain was implementing MARPE procedures in our clinic at Jacksonville University. Now, with the most recent award, I was able to master software that builds upon reverse engineering, which is the most precise and consistent method of assessing surface changes. As a result, we published 2 articles and have the data ready with the statistical outcomes regarding the long-term evaluation of relapse.

Also, I was able to build on my data collection and analyzing abilities, which let me get recognition from several journals, be accepted to the Editorial Board of the Angle Orthodontist, and be named among the top reviewers by the AJODO. I was also awarded (!) 6 more didactic lectures by our department chair due to the positive feedback from the residents regarding the lectures I was holding.
I am of the opinion that I was able to up my game regarding the clear aligner treatments, and I feel much more comfortable in terms of addressing more complex cases. However, I still have a
major goal that I have to fulfill regarding mastering the treatments of orthognathic surgery patients, which I will be attending Dr. Arnett's course as soon as they decide on a date.

In closing, I would like to express my heartfelt gratitude one more time for the generosity of the American Association of Orthodontists Foundation for presenting me with these invaluable opportunities to further my carrier as a well-rounded orthodontist in the fields of research, education, and patient care.

Respectfully submitted.

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## Result Data - 1: Reference Data - 9440130730 Upper



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## Result Data - 1: Measured Data - 9440130731 Upperfixed



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Result Data - 1: Transform1


Matrix

| 0.9942 | 0.0062 | -0.1076 | 7.918 |
| :---: | :---: | :---: | :---: |
| -0.0043 | 0.9998 | 0.0186 | -4.7961 |
| 0.1077 | -0.018 | 0.994 | 13.261 |
| 0 | 0 | 0 | 1 |


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## Result Data - 1: Best Fit Alignment1



| Min. | -0.2027 |
| :---: | :---: |
| Max. | 0.1996 |
| Avg. | 0.0006 |
| RMS | 0.0763 |
| Std. Dev. | 0.0763 |
| Var. | 0.0058 |
| +Avg. | -0.0575 |
| -Avg. |  |


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## Result Data - 1: 3D Compare1



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## Result Data - 1: 3D Compare2



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| Part Name | [Part Name] |


| Department | [Department] |
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| Inspector | [Inspector] |


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Result Data - 1: 3D Compare3


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
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| Inspector | [Inspector] |


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| Product Name | [Product Name] |
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| Part Name | [Part Name] |


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| Inspector | [Inspector] |


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## Result Data - 1: 3D Compare4



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
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| Inspector | [Inspector] |


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| Product Name | [Product Name] |
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| Part Name | [Part Name] |


| Department | [Department] |
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| Inspector | [Inspector] |


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| Unit | mm |

Result Data-1: 3D Compare5


| Product Name | [Product Name] |
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| Part Name | [Part Name] |


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| Inspector | [Inspector] |


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| Product Name | [Product Name] |
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| Part Name | [Part Name] |


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## Result Data - 1: 3D Compare6



| Product Name | [Product Name] |
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| Product Name | [Product Name] |
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| Department | [Department] |
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| Inspector | [Inspector] |


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## Result Data - 1: 3D Compare7



| Product Name | [Product Name] |
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| Inspector | [Inspector] |


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| Product Name | [Product Name] |
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| Part Name | [Part Name] |


| Department | [Department] |
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| Inspector | [Inspector] |


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Result Data - 1: 3D Compare8


| Product Name | [Product Name] |
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## Result Data - 1: 3D Compare9



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Result Data - 1: 3D Compare10


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## Result Data - 1: 3D Compare11



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Result Data - 1: 3D Compare12


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Result Data - 1: 3D Compare13


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## Result Data - 1: 3D Compare14



| Product Name | [Product Name] |
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| Product Name | [Product Name] |
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| Part Name | [Part Name] |


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Result Data - 1: 3D Compare15


| Product Name | [Product Name] |
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| Product Name | [Product Name] |
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Result Data - 1: 3D Compare16


| Product Name | [Product Name] |
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Result Data - 1: 3D Compare17


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Result Data - 1: 3D Compare18


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Result Data - 1: 3D Compare19


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| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare20 | -0.6268 | 1.0731 | 0.1637 |  | 0.3666 |  | 0.3281 | 0.1076 | 0.3784 | -0.2119 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | z | X | Y | Z |
| $\begin{aligned} & \text { 3D Compare20: } \\ & 1 \end{aligned}$ | Result Data - 1 | $\pm 0.5$ | 1.02 |  | -13.9551 | 2.8527 | 18.32 | -14.0048 | 1.9666 | 17.8172 |
| $\begin{gathered} \text { 3D Compare20: } \\ 2 \end{gathered}$ | Result Data - 1 | $\pm 0.5$ | 0.8827 |  | -4.0755 | 4.4818 | 21.4016 | -3.8889 | 3.8463 | 20.818 |
| $\begin{gathered} \text { 3D Compare20: } \\ 3 \end{gathered}$ | Result Data - 1 | $\pm 0.5$ | 0.5463 |  | -16.7177 | 3.2286 | 12.7693 | -16.3363 | 2.9575 | 12.4874 |
| $\underset{4}{\text { 3D Compare20: }}$ | Result Data - 1 | $\pm 0.5$ | -0.5019 |  | -11.8899 | 8.3701 | 20.1237 | -11.6908 | 8.2273 | 19.6857 |
| $\begin{aligned} & \text { 3D Compare20: } \\ & 5 \\ & \hline \end{aligned}$ | Result Data - 1 | $\pm 0.5$ | -0.5865 |  | -1.3318 | 4.4526 | 24.6043 | -1.3364 | 4.34 | 24.0288 |
| $\begin{aligned} & \text { 3D Compare20: } \\ & 6 \\ & \hline \end{aligned}$ | Result Data - 1 | $\pm 0.5$ | 0.5505 |  | 4.4323 | 4.743 | 20.9234 | 4.4135 | 4.2432 | 20.6933 |
| 3D Compare20: | Result Data - 1 | $\pm 0.5$ | 0.5907 |  | 17.3715 | 1.1824 | 13.8316 | 17.088 | 0.6918 | 13.6646 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare21


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |
| Part Number | [Part Number] |
| Department | [Department] |
| Inspector | Apr 23, 2022 |
| Date | mm |
| Unit |  |

## Disclaimer

The results of this analysis and forecastings are believed to be reliable but are not to be construed as providing a warranty,
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## Result Data - 1: Reference Data - 9440130730 Lowerfixed



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

## Result Data - 1: Measured Data - 9440130731 Lower



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

## Result Data - 1: Transform1



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Best Fit Alignment1


| Min. | -0.2088 |
| :---: | :---: |
| Max. | 0.2058 |
| Avg. | 0.0026 |
| RMS | 0.0785 |
| Std. Dev. | 0.0785 |
| Var. | 0.0062 |
| +Avg. | 0.0579 |
| -Avg. | -0.0685 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare1


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare1 | -1.4982 | 1.0324 | -0.2209 | 0.7387 |  | 0.7049 | 0.4969 | 0.4166 | -0.835 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  | Meas. Pos. |  |  |
| Name |  |  |  | $\times$ | Y | Z | $\times$ | Y | Z |
| 3D Compare1: 1 | Result Data - 1 | $\pm 0.25$ | 0.9919 | 15.6531 | -51.4025 | 7.6246 | 15.0266 | -51.0474 | 6.9426 |
| 3D Compare1: | Result Data - 1 | $\pm 0.25$ | -1.0906 | 18 | -52 | 7.852 | 17.0119 | -52.2941 | 7.4964 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare2


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare3


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  | RMS |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare3 | -1.4982 | 1.0324 | -0.2209 | 0.7387 |  | 0.7049 |  | 0.4969 | 0.4166 | -0.835 |
| Name | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  | Meas. Pos. |  |  |
|  |  |  |  | x | Y |  | Z | x | Y | Z |
| $\begin{gathered} \text { 3D Compare3: } \\ 1 \end{gathered}$ | Result Data - 1 | $\pm 1$ | -1.4223 | 16 |  | -54 | 10.5047 | 15.496 | -54.0322 | 9.1751 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare5


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare6


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare7


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare8


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare9


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare10


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare11


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare12


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare13


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare14


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare15


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  | RMS | Std. Dev. |  | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare15 | -1.7865 | 1.8282 | 0.1787 |  | 1.3465 |  | 1.3346 | 1.7812 | 1.3102 | -1.3111 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | Z | X | Y | Z |
| 3D Compare15: <br> 1 | Result Data - 1 | $\pm 1$ | 1.7772 |  | -5.763 | -51.8104 | 10.8328 | -5.4279 | -51.3029 | 9.1629 |
| $\begin{gathered} \text { 3D Compare15: } \\ 2 \end{gathered}$ | Result Data - 1 | $\pm 1$ | -1.7204 |  | -8 | -53 | 12.0611 | -7.2447 | -53.1132 | 10.5196 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare16


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare16 | -1.7342 | 1.8332 | 0.2148 |  | 1.163 |  | 1.143 | 1.3065 | 1.0601 | -1.1428 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | Z | X | Y | Z |
| $\begin{gathered} \text { 3D Compare16: } \\ 1 \end{gathered}$ | Result Data - 1 | $\pm 0.25$ | 1.8041 |  | -11.6536 | -51.6276 | 6.5716 | -10.6183 | -50.9691 | 5.2489 |
| 3D Comparel6: | Result Data - 1 | $\pm 0.25$ | -1.6335 |  | -10.4091 | -53.806 | 10.3847 | -9.9645 | -54 | 8.8248 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare17


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare17 | -1.7342 | 1.8332 | 0.2148 |  | 1.163 |  | 1.143 | 1.3065 | 1.0601 | -1.1428 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  | Meas. Pos. |  |  |
| Name |  |  |  |  | X | Y | Z | X | Y | Z |
| $\begin{gathered} \text { 3D Compare17: } \\ 1 \end{gathered}$ | Result Data - 1 | $\pm 0.5$ | 1.8041 |  | -11.6536 | -51.6276 | 6.5716 | -10.6183 | -50.9691 | 5.2489 |
| $\begin{aligned} & \text { 3D Compare17: } \\ & 2 \end{aligned}$ | Result Data - 1 | $\pm 0.5$ | -1.6163 |  | -10.6556 | -53.8572 | 10.3201 | -10.1962 | -54.0545 | 8.783 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare18


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare18 | -1.7342 | 1.8332 | 0.2148 |  | 1.163 |  | 1.143 | 1.3065 | 1.0601 | -1.1428 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  | Meas. Pos. |  |  |
| Name |  |  |  |  | X | Y | Z | X | Y | Z |
| $\begin{gathered} \text { 3D Compare18: } \\ 1 \end{gathered}$ | Result Data - 1 | $\pm 1$ | 1.8041 |  | -11.6536 | -51.6276 | 6.5716 | -10.6183 | -50.9691 | 5.2489 |
| 3D Compare18: | Result Data - 1 | $\pm 1$ | -1.6241 |  | -10.5144 | -53.7393 | 10.3483 | -10.0607 | -53.962 | 8.8048 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data-1: 3D Compare19


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare20


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare20 | -1.7865 | 1.8332 |  | 0.0258 | 0.9834 | 0.9831 |  | 0.9664 | 0.8268 | -0.9756 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | Z | X | Y | Z |
| $\begin{gathered} \text { 3D Compare20: } \\ 1 \end{gathered}$ | Result Data - 1 | $\pm 0.5$ | 1.8041 |  | -11.6536 | -51.6276 | 6.5716 | -10.6183 | -50.9691 | 5.2489 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare21


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Custom View2


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Custom View3


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Custom View4


Result Data - 1: Custom View5


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Custom View6


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

## Result Data - 1: Custom View7



| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Dec 04, 2022 |
| :---: | :---: |
| Unit | mm |

## 悲 3D SYSTEMS

| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |
| Part Number | [Part Number] |
| Department | [Department] |
| Inspector | [Inspector] |
| Date | Oct 01, 2022 |
| Unit | mm |

Disclaimer
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Result Data - 1: Reference Data - 9486130730 Upper after wrap


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] | | Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Measured Data - 9486130731 Upper after wrap


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] | | Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: Transform1


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit |

Result Data - 1: Best Fit Alignment1


| Min. | -0.4364 |
| :---: | :---: |
| Max. | 0.4321 |
| Avg. | 0.005 |
| RMS | 0.1615 |
| Std. Dev. | 0.1614 |
| Var. | 0.0261 |
| +Avg. | 0.1289 |
| -Avg. | -0.1159 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare1


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.4239 |
| Avg. | 0.3511 |
| RMS | 0.734 |
| Std. Dev. | 0.6446 |
| Var. | 0.4155 |
| +Avg. | 0.6822 |
| -Avg. | -0.4946 |
| In Tol.(\%) | 20.4266 |
| Out Tol.(\%) | 79.5734 |
| Over Tol.(\%) | 59.8031 |
| Under Tol.(\%) | 19.7703 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare2


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.4239 |
| Avg. | 0.3511 |
| RMS | 0.734 |
| Std. Dev. | 0.6446 |
| Var. | 0.4155 |
| +Avg. | -0.49822 |
| -Avg. | 40.9352 |
| In Tol.(\%) | 59.0648 |
| Out Tol.(\%) | 46.3495 |
| Over Tol.(\%) | 12.7153 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare3


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.4239 |
| Avg. | 0.3511 |
| RMS | 0.734 |
| Std. Dev. | 0.6446 |
| Var. | 0.4155 |
| +Avg. | -0.49822 |
| -Avg. | 82.1165 |
| In Tol.(\%) | 17.8835 |
| Out Tol.(\%) | 15.7506 |
| Over Tol.(\%) | 2.1329 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare4



| Min. | -1.1966 |
| :---: | :---: |
| Max. | 1.6699 |
| Avg. | 0.1802 |
| RMS | 0.7832 |
| Std. Dev. | 0.7622 |
| Var. | 0.5809 |
| +Avg. | -0.7703 |
| -Avg. | 18.5185 |
| In Tol.(\%) | 81.4815 |
| Out Tol.(\%) | 46.77 |
| Over Tol.(\%) | 34.7115 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare5



| Min. | -1.1966 |
| :---: | :--- |
| Max. | 1.6699 |
| Avg. | 0.1802 |
| RMS | 0.7832 |
| Std. Dev. | 0.7622 |
| Var. | 0.5809 |
| +Avg. | -0.53703 |
| -Avg. | 39.8794 |
| In Tol.(\%) | 60.1206 |
| Out Tol.(\%) | 36.6064 |
| Over Tol.(\%) | 23.5142 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare6



| Min. | -1.1966 |
| :---: | :---: |
| Max. | 1.6699 |
| Avg. | 0.1802 |
| RMS | 0.7832 |
| Std. Dev. | 0.7622 |
| Var. | 0.5809 |
| +Avg. | -0.7703 |
| -Avg. | 77.6055 |
| In Tol.(\%) | 22.3945 |
| Out Tol.(\%) | 18.0879 |
| Over Tol.(\%) | 4.3066 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare7


| Min. | -1.1503 |
| :---: | :---: |
| Max. | 1.5058 |
| Avg. | 0.1036 |
| RMS | 0.5233 |
| Std. Dev. | 0.513 |
| Var. | 0.2632 |
| +Avg. | 0.4635 |
| -Avg. | -0.3561 |
| In Tol.(\%) | 40.3909 |
| Out Tol.(\%) | 59.6091 |
| Over Tol.(\%) | 34.3974 |
| Under Tol.(\%) | 25.2117 |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare8


| Min. | -1.1503 |
| :---: | :---: |
| Max. | 1.5058 |
| Avg. | 0.1036 |
| RMS | 0.5233 |
| Std. Dev. | 0.513 |
| Var. | 0.2632 |
| +Avg. | -0.36351 |
| -Avg. | 64.43 |
| In Tol.(\%) | 35.57 |
| Out Tol.(\%) | 24.5603 |
| Over Tol.(\%) | 11.0098 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare9


| Min. | -1.1503 |
| :---: | :---: |
| Max. | 1.5058 |
| Avg. | 0.1036 |
| RMS | 0.5233 |
| Std. Dev. | 0.513 |
| Var. | 0.2632 |
| +Avg. | 0.4635 |
| -Avg. | -0.3561 |
| In Tol.(\%) | 94.202 |
| Out Tol.(\%) | 5.798 |
| Over Tol.(\%) | 4.6254 |
| Under Tol.(\%) | 1.1726 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare10


| Min. | -0.6206 |
| :---: | :---: |
| Max. | 0.9261 |
| Avg. | 0.1994 |
| RMS | 0.3644 |
| Std. Dev. | 0.3051 |
| Var. | 0.0931 |
| +Avg. | 0.3635 |
| -Avg. | -0.15 |
| In Tol.(\%) | 48.2628 |
| Out Tol.(\%) | 51.7372 |
| Over Tol.(\%) | 46.3045 |
| Under Tol.(\%) | 5.4327 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |

Result Data - 1: 3D Compare11


| Min. | -0.6206 |
| :---: | :---: |
| Max. | 0.9261 |
| Avg. | 0.1994 |
| RMS | 0.3644 |
| Std. Dev. | 0.3051 |
| Var. | 0.0931 |
| +Avg. | -0.3635 |
| -Avg. | 82.4384 |
| In Tol.(\%) | 17.5616 |
| Out Tol.(\%) | 17.3089 |
| Over Tol.(\%) | 0.2527 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |

Result Data - 1: 3D Compare12


| Min. | -0.6206 |
| :---: | :---: |
| Max. | 0.9261 |
| Avg. | 0.1994 |
| RMS | 0.3644 |
| Std. Dev. | 0.3051 |
| Var. | 0.0931 |
| +Avg. | 0.3635 |
| -Avg. | -0.15 |
| In Tol.(\%) | 100 |
| Out Tol.(\%) | 0 |
| Over Tol.(\%) | 0 |
| Under Tol.(\%) | 0 |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |


| Name | Min. | Max. | Avg. |  | RMS |  | Std. Dev. |  |  | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare12 | -0.6206 | 0.9261 | 0.1994 |  | 0.3644 |  | 0.3051 |  |  | 0.0931 | 0.3635 | -0.15 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  |  |  |  | Meas. Pos. |  |  |
| Name |  |  |  |  | x | $Y$ |  | z |  | X | Y | Z |
| 3D Compare12: 1 | Result Data - 1 | $\pm 1$ | -0.1538 |  | 6.0328 |  | 4.8772 |  | 9.2316 | 6.077 | 5.0001 | 19.3126 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare13


| Min. | -0.4629 |
| :---: | :---: |
| Max. | 1.4026 |
| Avg. | 0.4767 |
| RMS | 0.6992 |
| Std. Dev. | 0.5116 |
| Var. | 0.2617 |
| +Avg. | -0.1888 |
| -Avg. | 28.3404 |
| In Tol.(\%) | 71.6596 |
| Out Tol.(\%) | 63.8298 |
| Over Tol.(\%) | 7.8298 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |


| Name | Min. | Max. | Avg. |  | RMS |  | Std. Dev. |  |  | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare13 | -0.4629 | 1.4026 | 0.4767 |  | 0.6992 |  | 0.5116 |  | 0.2617 |  | 0.6968 | -0.1888 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X |  |  | z | z | X | Y | z |
| 3D Compare13: 1 | Result Data - 1 | $\pm 0.25$ | 1.3529 | 12.2459 |  | 2.6611 |  | 19.0284 |  | 12.9076 | 1.9523 | 19.9718 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare14


| Min. | -0.4629 |
| :---: | :---: |
| Max. | 1.4026 |
| Avg. | 0.4767 |
| RMS | 0.6992 |
| Std. Dev. | 0.5116 |
| Var. | 0.2617 |
| +Avg. | 0.6968 |
| -Avg. | -0.1888 |
| In Tol.(\%) | 49.5319 |
| Out Tol.(\%) | 50.4681 |
| Over Tol.(\%) | 50.4681 |
| Under Tol.(\%) | 0 |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |


| Name | Min. | Max. | Avg. |  | RMS |  | Std. Dev. |  |  | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare14 | -0.4629 | 1.4026 | 0.4767 |  | 0.6992 |  | 0.5116 |  | 0.2617 |  | 0.6968 | -0.1888 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X |  |  | z | z | X | Y | z |
| 3D Compare14: 1 | Result Data - 1 | $\pm 0.5$ | 1.3529 | 12.2459 |  | 2.6611 |  | 19.0284 |  | 12.9076 | 1.9523 | 19.9718 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare15



| Min. | -0.4629 |
| :---: | :---: |
| Max. | 1.4026 |
| Avg. | 0.4767 |
| RMS | 0.6992 |
| Std. Dev. | 0.5116 |
| Var. | 0.2617 |
| +Avg. | -0.1888 |
| -Avg. | 81.9574 |
| In Tol.(\%) | 18.0426 |
| Out Tol.(\%) | 18.0426 |
| Over Tol.(\%) | 0 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |


| Name | Min. | Max. | Avg. |  | RMS |  | Std. Dev. |  |  | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare15 | -0.4629 | 1.4026 | 0.4767 |  | 0.6992 |  | 0.5116 |  | 0.2617 |  | 0.6968 | -0.1888 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X |  |  | z | z | X | Y | z |
| 3D Compare15: 1 | Result Data - 1 | $\pm 1$ | 1.3529 | 12.2459 |  | 2.6611 |  | 19.0284 |  | 12.9076 | 1.9523 | 19.9718 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare16


| Min. | -1.1506 |
| :---: | :---: |
| Max. | 1.3119 |
| Avg. | 0.3229 |
| RMS | 0.5791 |
| Std. Dev. | 0.4807 |
| Var. | 0.2311 |
| +Avg. | 0.5543 |
| -Avg. | -0.282 |
| In Tol.(\%) | 29.551 |
| Out Tol.(\%) | 70.449 |
| Over Tol.(\%) | 56.6531 |
| Under Tol.(\%) | 13.7959 |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare17


| Min. | -1.1506 |
| :---: | :---: |
| Max. | 1.3119 |
| Avg. | 0.3229 |
| RMS | 0.5791 |
| Std. Dev. | 0.4807 |
| Var. | 0.2311 |
| +Avg. | -0.2543 |
| -Avg. | 59.4286 |
| In Tol.(\%) | 40.5714 |
| Out Tol.(\%) | 36.4898 |
| Over Tol.(\%) | 4.0816 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare18



| Min. | -1.1506 |
| :---: | :---: |
| Max. | 1.3119 |
| Avg. | 0.3229 |
| RMS | 0.5791 |
| Std. Dev. | 0.4807 |
| Var. | 0.2311 |
| +Avg. | -0.28543 |
| -Avg. | 92.8163 |
| In Tol.(\%) | 7.1837 |
| Out Tol.(\%) | 7.102 |
| Over Tol.(\%) | 0.0816 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare19


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.6699 |
| Avg. | 0.2618 |
| RMS | 0.6148 |
| Std. Dev. | 0.5562 |
| Var. | 0.3094 |
| +Avg. | -0.3719 |
| -Avg. | 32.198 |
| In Tol.(\%) | 67.802 |
| Out Tol.(\%) | 50.3545 |
| Over Tol.(\%) | 17.4475 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare20


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.6699 |
| Avg. | 0.2618 |
| RMS | 0.6148 |
| Std. Dev. | 0.5562 |
| Var. | 0.3094 |
| +Avg. | -0.3727 |
| -Avg. | 57.8121 |
| In Tol.(\%) | 42.1879 |
| Out Tol.(\%) | 33.9453 |
| Over Tol.(\%) | 8.2426 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare21


| Min. | -1.2913 |
| :---: | :---: |
| Max. | 1.6699 |
| Avg. | 0.2618 |
| RMS | 0.6148 |
| Std. Dev. | 0.5562 |
| Var. | 0.3094 |
| +Avg. | -0.3427 |
| -Avg. | 89.0225 |
| In Tol.(\%) | 10.9775 |
| Out Tol.(\%) | 9.7746 |
| Over Tol.(\%) | 1.2028 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |


| Name | Result Name | Tol. | Dev. | Ref. Value | Meas. Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Linear Dim. 1 | Result Data - 1 | $\pm 0$ | -1.2773 | 34.4924 | 33.2151 |
| Linear Dim. 2 | Result Data-1 | $\pm 0$ | 0.9339 | 35.0052 | 35.9392 |
| Linear Dim. 3 | Result Data - 1 | $\pm 0$ | -1.7505 | 22.7342 | 20.9837 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: Custom View1


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

## 悲 3D SYSTEMS

| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |
| Part Number | [Part Number] |
| Department | [Department] |
| Inspector | [Inspector] |
| Date | Oct 01, 2022 |
| Unit | mm |

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Result Data - 1: Reference Data - 9486130730 Lower after wrap


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] | | Date | Oct 01, 2022 |
| :---: | :---: |

Result Data - 1: Measured Data - 9486130731 Lower after wrap


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] | | Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |

## Result Data - 1: Transform1



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |

Result Data - 1: Best Fit Alignment1


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |

Result Data - 1: 3D Compare1


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  | RMS | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare1 | -1.4803 | 1.3769 |  | 0.7335 |  | 0.6861 | 0.4707 | 0.8277 | -0.4495 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  | Meas. Pos. |  |  |
| Name |  |  |  | $\times$ | Y | Z | $\times$ | Y | Z |
| 3D Compare1: 1 | Result Data - 1 | $\pm 0.25$ | 1.2649 | 35.3325 | -2.7302 | -1.7896 | 34.5606 | -2.2322 | -2.6592 |
| 3D Compare1: 2 | Result Data - 1 | $\pm 0.25$ | -1.1081 | 38.8159 | -6.6304 | -2.9705 | 37.8105 | -7.0962 | -2.9659 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare2



| Min. | -1.4803 |
| :---: | :---: |
| Max. | 1.3769 |
| Avg. | 0.2595 |
| RMS | 0.7335 |
| Std. Dev. | 0.6861 |
| Var. | 0.4707 |
| +Avg. | -0.8277 |
| -Avg. | 35.7944 |
| In Tol.(\%) | 64.2056 |
| Out Tol.(\%) | 48.0374 |
| Over Tol.(\%) | 16.1682 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  | RMS | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare2 | -1.4803 | 1.3769 |  | 0.7335 |  | 0.6861 | 0.4707 | 0.8277 | -0.4495 |
|  | Result Name | Tol. | Dev. | Ref. Pos. |  |  | Meas. Pos. |  |  |
| Name |  |  |  | $\times$ | Y | Z | $\times$ | Y | Z |
| 3D Compare2: 1 | Result Data - 1 | $\pm 0.5$ | 1.2649 | 35.3325 | -2.7302 | -1.7896 | 34.5606 | -2.2322 | -2.6592 |
| 3D Compare2: 2 | Result Data - 1 | $\pm 0.5$ | -1.1081 | 38.8159 | -6.6304 | -2.9705 | 37.8105 | -7.0962 | -2.9659 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare3


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare4


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare5


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare6


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare7


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare8


| Min. | -1.1837 |
| :---: | :---: |
| Max. | 1.9142 |
| Avg. | 0.3195 |
| RMS | 1.0186 |
| Std. Dev. | 0.9673 |
| Var. | 0.9356 |
| +Avg. | -0.8073 |
| -Avg. | 7.8212 |
| In Tol.(\%) | 92.1788 |
| Out Tol.(\%) | 53.9106 |
| Over Tol.(\%) | 38.2682 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare9


| Min. | -1.1837 |
| :---: | :---: |
| Max. | 1.9142 |
| Avg. | 0.3195 |
| RMS | 1.0186 |
| Std. Dev. | 0.9673 |
| Var. | 0.9356 |
| +Avg. | -0.8073 |
| -Avg. | 63.4078 |
| In Tol.(\%) | 36.5922 |
| Out Tol.(\%) | 31.4246 |
| Over Tol.(\%) | 5.1676 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare10


| Min. | -0.9912 |
| :---: | :---: |
| Max. | 1.7999 |
| Avg. | 0.3063 |
| RMS | 0.8699 |
| Std. Dev. | 0.8142 |
| Var. | 0.663 |
| +Avg. | 0.9755 |
| -Avg. | -0.4995 |
| In Tol.(\%) | 8.0868 |
| Out Tol.(\%) | 91.9132 |
| Over Tol.(\%) | 51.7751 |
| Under Tol.(\%) | 40.1381 |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare11



| Min. | -0.9912 |
| :---: | :---: |
| Max. | 1.7999 |
| Avg. | 0.3063 |
| RMS | 0.8699 |
| Std. Dev. | 0.8142 |
| Var. | 0.663 |
| +Avg. | 0.9755 |
| -Avg. | -0.4995 |
| In Tol.(\%) | 32.0513 |
| Out Tol.(\%) | 67.9487 |
| Over Tol.(\%) | 46.4497 |
| Under Tol.(\%) | 21.499 |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare12


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare13


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare14


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare15


| Min. | -1.3608 |
| :---: | :---: |
| Max. | 1.8101 |
| Avg. | 0.1102 |
| RMS | 0.8951 |
| Std. Dev. | 0.8883 |
| Var. | 0.7891 |
| +Avg. | -0.9517 |
| -Avg. | 69.541 |
| In Tol.(\%) | 30.459 |
| Out Tol.(\%) | 23.6439 |
| Over Tol.(\%) | 6.815 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare16


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare17



| Min. | -1.1575 |
| :---: | :---: |
| Max. | 1.3503 |
| Avg. | -0.0895 |
| RMS | 0.5934 |
| Std. Dev. | 0.5866 |
| Var. | 0.3441 |
| +Avg. | -0.524952 |
| -Avg. | 49.8554 |
| In Tol.(\%) | 50.1446 |
| Out Tol.(\%) | 20.0579 |
| Over Tol.(\%) | 30.0868 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |



| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare18


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |

Result Data - 1: 3D Compare19


| Min. | -1.4803 |
| :---: | :---: |
| Max. | 1.9142 |
| Avg. | 0.18 |
| RMS | 0.8252 |
| Std. Dev. | 0.8053 |
| Var. | 0.6485 |
| +Avg. | -0.5706 |
| -Avg. | 11.6034 |
| In Tol.(\%) | 88.3966 |
| Out Tol.(\%) | 46.9697 |
| Over Tol.(\%) | 41.4269 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] | Department | [Department] |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | Date |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare19 | -1.4803 | 1.9142 | 0.18 |  | 0.8252 |  | 0.8053 | 0.6485 | 0.8588 | -0.5706 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | Z | X | Y | z |
| 3D Compare19: 1 | Result Data - 1 | $\pm 0.25$ | 1.8594 |  | 23.3154 | -3.1695 | 4.2552 | 23.2265 | -2.7543 | 2.4449 |
| 3D Compare19: 2 | Result Data - 1 | $\pm 0.25$ | -1.343 |  | 11.964 | -3.109 | 2.852 | 12.714 | -3.4422 | 1.789 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare20


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare20 | -1.4803 | 1.9142 |  | 0.18 | 0.8252 |  | 0.8053 | 0.6485 | 0.8588 | -0.5706 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | X | Y | z | $\times$ | Y | z |
| 3D Compare20: 1 | Result Data - 1 | $\pm 0.5$ | 1.8594 |  | 23.3154 | -3.1695 | 4.2552 | 23.2265 | -2.7543 | 2.4449 |
| 3D Compare20: 2 | Result Data - 1 | $\pm 0.5$ | -1.343 |  | 11.964 | -3.109 | 2.852 | 12.714 | -3.4422 | 1.789 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |

Result Data - 1: 3D Compare21


| Min. | -1.4803 |
| :---: | :---: |
| Max. | 1.9142 |
| Avg. | 0.18 |
| RMS | 0.8252 |
| Std. Dev. | 0.8053 |
| Var. | 0.6485 |
| +Avg. | -0.8588 |
| -Avg. | 77.2919 |
| In Tol.(\%) | 22.7081 |
| Out Tol.(\%) | 20.0038 |
| Over Tol.(\%) | 2.7043 |
| Under Tol.(\%) |  |


| Product Name | [Product Name] |
| :---: | :---: |
| Part Name | [Part Name] |


| Department | [Department] |
| :---: | :---: |
| Inspector | [Inspector] |


| Date | Oct 01, 2022 |
| :---: | :---: |
| Unit | mm |


| Name | Min. | Max. | Avg. |  |  |  | Std. Dev. | Var. | +Avg. | -Avg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3D Compare21 | -1.4803 | 1.9142 |  | 0.18 | 0.8252 |  | 0.8053 | 0.6485 | 0.8588 | -0.5706 |
| Name | Result Name | Tol. | Dev. |  | Ref. Pos. |  |  | Meas. Pos. |  |  |
|  |  |  |  |  | x | Y | z | x | Y | Z |
| 3D Compare21: 1 | Result Data - 1 | $\pm 1$ | 1.8594 |  | 23.3154 | -3.1695 | 4.2552 | 23.2265 | -2.7543 | 2.4449 |
| 3D Compare21: 2 | Result Data - 1 | $\pm 1$ | -1.343 |  | 11.964 | -3.109 | 2.852 | 12.714 | -3.4422 | 1.789 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |


| Name | Result Name | Tol. | Dev. | Ref. Value | Meas. Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Linear Dim. 1 | Result Data - 1 | $\pm 0$ | -1.3503 | 25.9848 | 24.6345 |
| Linear Dim. 2 | Result Data - 1 | $\pm 0$ | -0.4991 | 35.5671 | 35.068 |
| Linear Dim. 3 | Result Data - 1 | $\pm 0$ | -1.6665 | 18.1193 | 16.4528 |


| Product Name | [Product Name] | Department | [Department] | Date |
| :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit 2022 |



| Product Name | [Product Name] | Department | [Department] | Date | Oct 01, 2022 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Part Name | [Part Name] | Inspector | [Inspector] | Unit | mm |




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