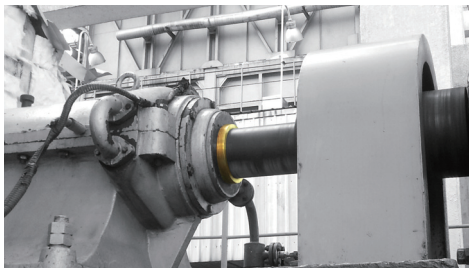
AIGI®

SPLIT ROTARY SEALS



For Large Diameter

- **Bearings**
- **Gearboxes**
- **Fans**
- **Motors**

Introduction

Why Split ?

In today' s ever more sophisticated plant environment most bearings are still protected by solid rotary seals, either rubber based or polymeric. When the rotary seal either wears out unexpectedly or simply fails, a common occurrence with rubber seals, the most costly maintenance and operations event occurs, unscheduled equipment shutdown which reduces operational output and drives maintenance costs significantly higher. With the recent introduction of **split rotary bearing seals** the duration and cost of these events can be dramatically reduced because of the very short amount of time required to replace the seal. In most cases the failed seal **replacement time can be reduced by 80%!** Simple and easy to use, split rotary seals can **reduce operational downtime and maintenance costs**.

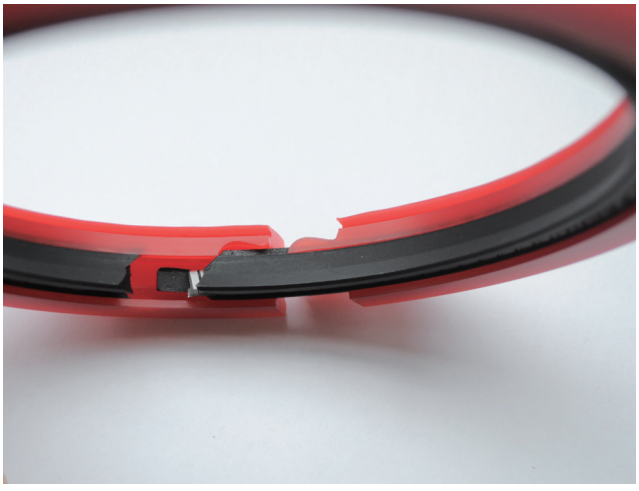
Why Double Split ?

The latest innovation in rotary seal technology is the introduction of **double split rotary bearing seals**. These seals take the already convenient split seal technology a dramatic step further by not only reducing equipment downtime and production losses but also by actually extending seal life. Double split seal designs provide the same advantages of ease of installation and reduced equipment downtime but also **increase the level of seal performance and dramatically extend seal life.**

Why AIGI's Patented Design ?

AIGI has taken **double split rotary seal design to a new level** with the introduction of its **patented duo-lock and wedge cutting technologies**. These technologies allow for the incorporation of two independent seal surfaces into the design which **dramatically improves sealing performance**. The duo-lock design **improves the overall elasticity of the seal** while the wedge cutting technology **significantly upgrades the integrity of the split joint**. These improvements significantly extend the seal performance, life and range of use for split rotary seals.

Locking Mechanism for Outer Ring

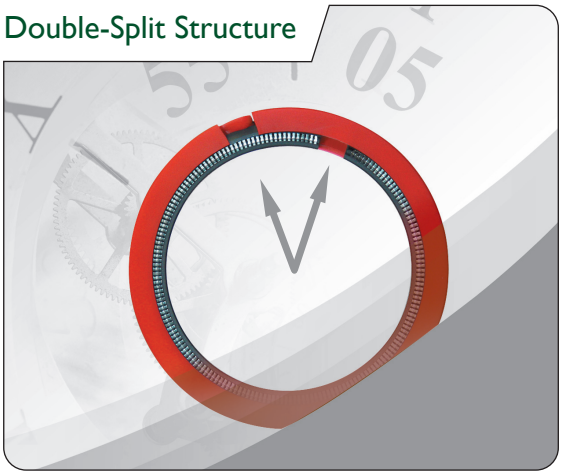


Wedge Mechanism for Inner Ring

Why do we call it “55” & “05” ?

The double split rotary seal developed by AIGI has engineered splits at 2 locations, 55’ and 5’ as viewed on a clock face. These precision joints provide double security by maintaining the seal’s elastic compensation ability as well as preventing leakage by the Id and OD faces.

Double-Split Structure

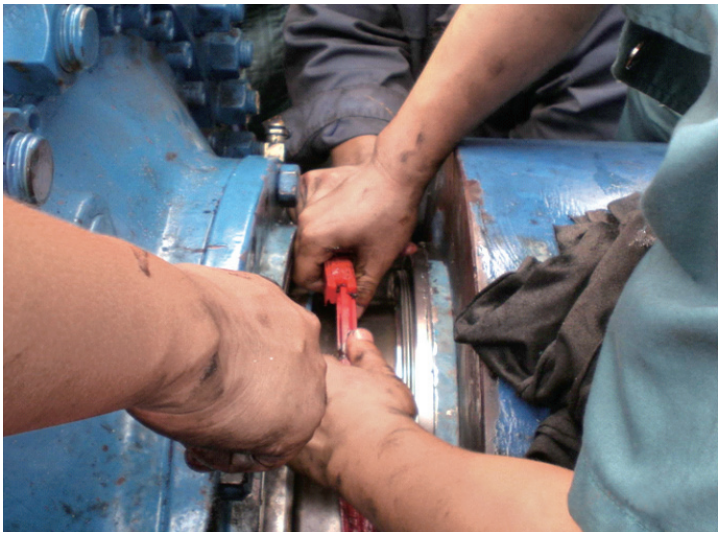


Duo-lock at 55” & 05”

Ball & Socket Locking

Seal for Both Axial & Vertical Direction

Application



AIGI Patented Double Split Rotary Seals

AIGI 5505 Duo-Lock Split (Patented)

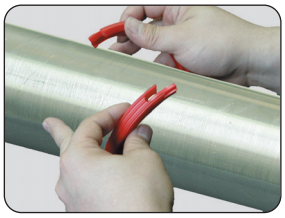
Polymeric material for medium speeds

AIGI 5505H Duo-Lock Split and Wedge-shaped Cutting (Patented)

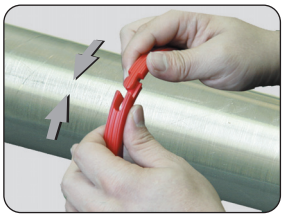
PTFE dynamic seal for high speeds

Installation Guide

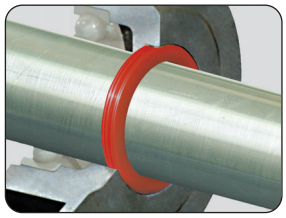
AIGI 5505



1. Open the seal, install it around the shaft



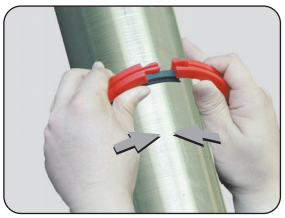
2. Connect and lock it



3. Replace the old seal, making sure the split joint faces upward

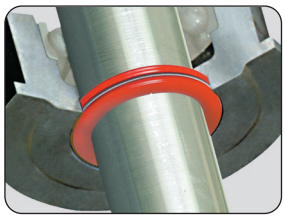
AIGI 5505H

1. Open the seal, install it around the shaft



2. Connect and lock it

3. Lock the spring



4. Replace the old seal, making sure the split joint faces upward

Features & Benefits

- Easy & fast installation
- No equipment disassembly required
- Low friction
- Reduces maintenance time by 80%

Design (AIGI 5505H)

- Two Engineered Splits at 55” and 5”
- Ball & Socket Duo-lock
- Inner & outer ring structure
- Unique Ball and Socket Joint Design on OD Ring

Benefits (AIGI 5505H)

- Double Security
  - Maintains Seal’s Elastic Compensation
  - No Leakage by the ID and OD Faces
- Creates reactive force to avoid relaxation
- Effective, long life sealing performance
- Duo-Lock split maintains joint integrity in vibrating equipment conditions

Application

- Low run out eqiupment

Technical Data

Item	Material	Temperature	Shaft Speed	Run Out
AIGI 5505	PU	-30 ~ 80°C	≤ 3m/s	≤ 0.2mm
AIGI 5505H	PTFE	-30 ~ 80°C	≤ 20m/s	≤ 0.1mm

Size Range

Item	Shaft Diameter-d(mm)	Outer Diameter-D(mm)	Radial Width-H(mm)	Axial Thickness-L(mm)
AIGI 5505	d ≥ 20	D ≤ 400	10 ≤ H ≤ 50	L ≥ 11
AIGI 5505H	d ≥ 20	D ≤ 400	12.5 ≤ H ≤ 50	L ≥ 12

AIGI 5505Z Duo-Lock Split (Patented)

with finger spring support for large run out

AIGI 5505HZ Duo-Lock Split and Wedge-shaped Cutting (Patented)

NBR/FKM dynamic seal for high temperatures

Features & Benefits

- Easy & fast installation
- No equipment disassembly required
- Low friction
- Reduces maintenance time by 80%

Application

- Larger run out equipment

Technical Data

Item	Material	Temperature	Shaft Speed	Run Out
AIGI 5505Z	PU	-30~80°C	≤ 3m/s	≤ 2mm
AIGI 5505HZ-N	NBR	-35~110°C	≤ 10m/s	≤ 2mm
AIGI 5505HZ-V	FKM	-20~200°C	≤ 15m/s	≤ 2mm

Size Range

Item	Shaft Diameter-d(mm)	Outer Diameter-D(mm)	Radial Width-H(mm)	Axial Thickness-L(mm)
AIGI 5505Z	d ≥ 200	D ≤ 2000	15 ≤ H ≤ 50	L ≥ 15
AIGI 5505HZ-N	d ≥ 200	D ≤ 1350	15 ≤ H ≤ 50	L ≥ 15
AIGI 5505HZ-V	d ≥ 200	D ≤ 580	15 ≤ H ≤ 50	L ≥ 15

AIGI Single Split Rotary Seals

AIGI 521S-PU

AIGI 521S-N

AIGI 521S Wedge-shaped Cutting and Anti-spiral Inclined Rib Patented Technology

Features & Benefits

- Easy installation & removal
- A variety of materials available
- Patented reverse wedge sealing technology, providing more holding power in cavity bore
- Less expensive than double split

Application

- Large diameter, low speed, poor concentricity and large run out equipment

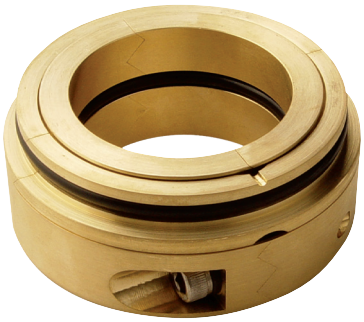
Technical Data

Item	Material	Temperature	Shaft Speed	Run Out
AIGI 521S-PU	PU	-30~80°C	≤ 3m/s	≤ 0.2mm
AIGI 521S-N	NBR	-35~110°C	≤ 10m/s	≤ 0.2mm
AIGI 521S-V	FKM	-20~200°C	≤ 15m/s	≤ 0.2mm

Size Range

Item	Shaft Diameter-d(mm)	Outer Diameter-D(mm)	Radial Width-H(mm)	Axial Thickness-L(mm)
AIGI 521S-PU	d ≥ 20	D ≤ 2000	7.5 ≤ H ≤ 50	L ≥ 7
AIGI 521S-N	d ≥ 20	D ≤ 1350	7.5 ≤ H ≤ 50	L ≥ 7
AIGI 521S-V	d ≥ 20	D ≤ 580	7.5 ≤ H ≤ 50	L ≥ 7

AIGI Patented Split Bearing Protectors



AIGI 322S

Design

- Updated split structure & material
- Non-contact seal
- Waterproof and dustproof

Benefits

- Substitute of traditional labyrinth seal
  Easy installtion & long seal life
- No shaft damage
- Dramatically extends bearing life

Application

- High speed eqiupment (not applicable for vertical equipment or grease bearings)

AIGI 322SQ

Design

- Split construction
- Direct bonding to housing face
- Patented self-positioning
- Copper construction
- High temperature rubber

Benefits

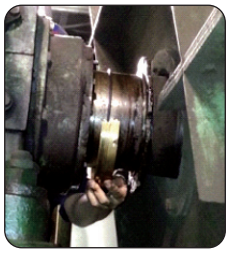
- No equipment modification required
- Easy installation
- Automatic alignment
- Safe usage in all plant environments
- Reliable continuous operation

Application

- Reducers, bearing housing and motors (not applicable for vertical equipment)

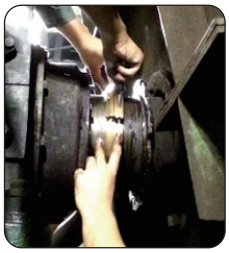
Installation Guide - AIGI 322S

1. Bond and join split o-ring

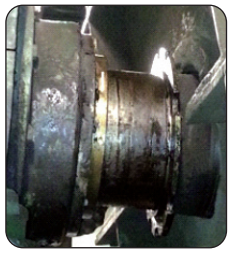


2. Install bottom half

3. Install top half



4. Tighten Bolts



5. Finish assembly

Technical Data

Item	Material	Temperature	Shaft Speed
AIGI 322S	Copper / NBR (FKM)	-35 ~ 120°C (NBR) -20 ~ 200°C (FKM)	≤ 60m/s
AIGI 322SQ	Copper	≤ 120°C	≤ 60m/s

In addition to our split rotary seals, AIGI offers a complete line of -

Non-split Rotary Seals

• AIGI Bearing Protectors

Item	Design	Material	Temperature	Shaft Speed
AIGI 322A		Copper / PTFE / NBR (FKM)	Copper / PTFE / NBR -35~110°C Copper / PTFE / FKM -20~200°C	≤ 20m/s
AIGI 322B		Copper / NBR (FKM)	Copper / NBR -35~110°C Copper / FKM -20~200°C	≤ 12m/s
AIGI 324A		PTFE / NBR (FKM)	PTFE / NBR -35~110°C PTFE / FKM -20~200°C	≤ 60m/s
AIGI 324B				

• AIGI Composite Materials Rotary Seals

Item	AIGI 521-PU	AIGI 521-N	AIGI 521-V	AIGI 521-H
Material	PU	NBR	FKM	PTFE
Temperature	-30~80°C	-35~110°C	-20~200°C	-150~200°C
Shaft Speed	≤ 3m/s	≤ 10m/s	≤ 15m/s	≤ 20m/s
Run Out	≤ 0.5mm			≤ 0.25mm
Pressure	≤ 0.5bar			
Size Range (mm)	d ≥ 20, D ≤ 2000 7.5 ≤ H ≤ 50, L ≥ 7	d ≥ 20, D ≤ 1350 7.5 ≤ H ≤ 50, L ≥ 7	d ≥ 20, D ≤ 580 7.5 ≤ H ≤ 50, L ≥ 7	d ≥ 20, D ≤ 400 7.5 ≤ H ≤ 50, L ≥ 7

AIGI 521-PU

Continue

• AIGI Composite Materials Rotary Seals

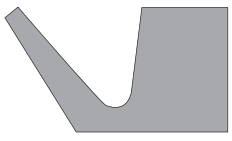
Item	AIGI 523-PU	AIGI 523-N	AIGI 523-V	AIGI 523-H
Material	PU	NBR	FKM	PTFE
Temperature	-30~80°C	-35~110°C	-20~200°C	-35~110°C
Shaft Speed	≤ 3m/s	≤ 10m/s	≤ 15m/s	≤ 20m/s
Run Out	≤ 0.3mm			≤ 0.15mm
Pressure	≤ 0.5bar			
Size Range (mm)	d ≥ 20, D ≤ 400 7.5 ≤ H ≤ 50, L ≥ 7			d ≥ 20, D ≤ 400 7.5 ≤ H ≤ 50, L ≥ 9

AIGI 523 Metal-casing Finger-spring Energized Rotary Seal

• AIGI Moulded Oil Seals

Item	AIGI MZG-PU	AIGI MZG-N	AIGI MZG-V
Material	PU	NBR	FKM
Temperature	-30~80°C	-35~110°C	-20~200°C
Shaft Speed	≤ 3m/s	≤ 10m/s	≤ 15m/s
Run Out	≤ 3mm		
Pressure	≤ 0.5bar		
Size Range (mm)	d ≥ 200, D ≤ 2000 15 ≤ H ≤ 50, L ≥ 15	d ≥ 200, D ≤ 1350 15 ≤ H ≤ 50, L ≥ 15	d ≥ 200, D ≤ 580 15 ≤ H ≤ 50, L ≥ 15

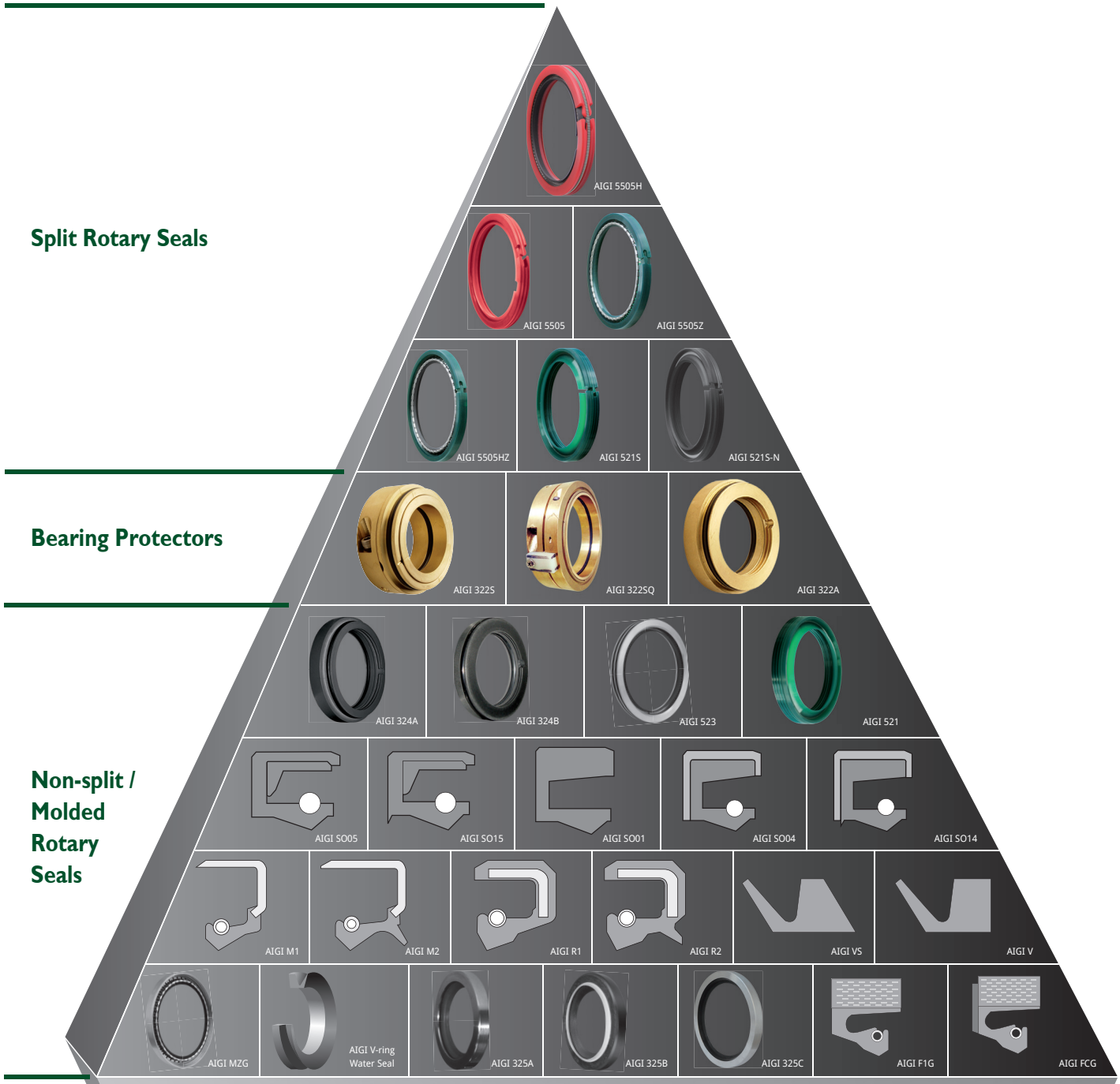
AIGI MZG Rubber Casing Moulded Oil Seal

AIGI VA	
AIGI VS	

Material: NBR (FKM is also available)

AIGI V-ring Water Seal

The Most Complete & Innovative Rotary Seal Series Available To You



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Installation Precautions: Users are recommended to arrange for independent study under actual working conditions, and shall only proceed to mass usage upon success of the same. Since this product is a "fitting", users should pay sufficient attention to the condition of the original device when using this product and shall pay attention to the correct installation of this product, since these factors are crucial to the performance of this product. Firstly, before usage, users should confirm that the pressure of the system and the device are free from unusual systematic factors; secondly, before usage, users should ensure that the device appears to act in concert with the installation requirements (this point is especially crucial to old devices). After installing this product, users should try their best to inspect manually or through other means as to whether any abnormal phenomenon exists, and shall only switch on the device upon confirmation that everything is in order. Lastly, if there appears to be any abnormal phenomenon during installation or after switching on the device, users should shut down the devise immediately and should try to find out the reasons.

Remark: Our company inspected this product under experimental conditions. Yet when used in practice, this product cannot function independently, and has to work in coordination with the device. The performance of the product depends on other related factors (including factors not existent under the conditions of laboratory experiments). Users shall judge independently whether to use this product, and shall ensure correct storage, installation and application of this product. As such, our company assumes no responsibility with regard to any situation arising from inappropriate storage, installation and application. All products of our company were strictly examined under the relevant national or business standards. Users shall complete checking this product within 30 working days upon receipt of the same. If users discover any problem related to the quality of this product, they shall raise their concerns within the above-mentioned period. If users fail to raise their concerns upon expiration of the above-mentioned period, this shall be treated as full acceptance of the product. Our company guarantees the provision of products of premium quality. Should any dispute arise with regard to the quality of the products, the verification of a third-party authority shall then be required. If any defect in quality is spotted out during inspection upon delivery, our company undertakes to provide a new product of equivalent value. Our company reserves the right to change the manufacturing processes, the materials and sources of the materials without further notification. In addition, our company assumes no responsibility or liability for any unintentional typographical error or omission during printing, or any non-timely update of information. Thank you for your consideration.

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