

# 6061-F | METAL<sup>+</sup> FORGING

FROM CANADA TORONTO

## FORGED x CARBON FIBER

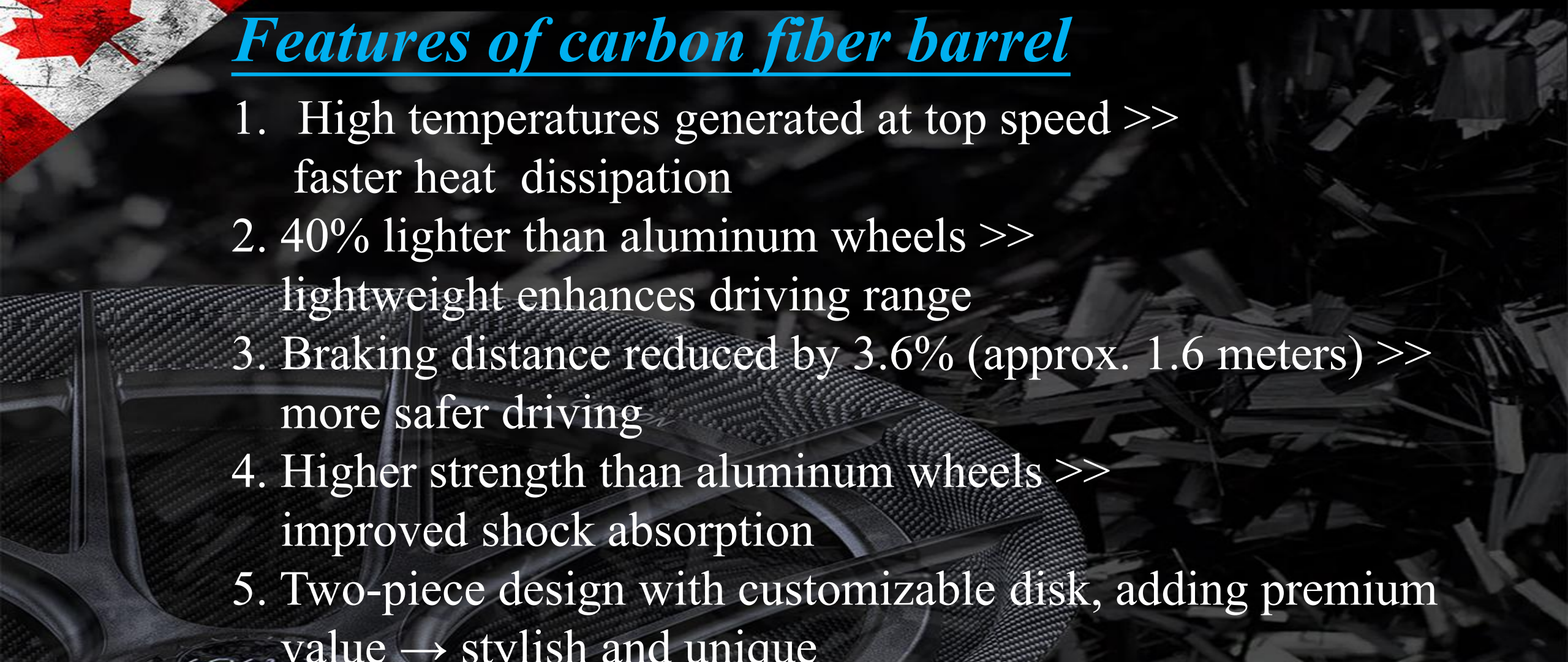
Carbon fiber content is above 75%



The background of the lower half of the image features a close-up of a carbon fiber wheel with a multi-spoke design. The word 'CARBON' is visible on one of the spokes. The wheel is set against a dark, textured background that appears to be a pile of scrap metal or carbon fiber debris. The overall aesthetic is industrial and high-tech.



## *Features of carbon fiber barrel*

1. High temperatures generated at top speed >>  
faster heat dissipation
  2. 40% lighter than aluminum wheels >>  
lightweight enhances driving range
  3. Braking distance reduced by 3.6% (approx. 1.6 meters) >>  
more safer driving
  4. Higher strength than aluminum wheels >>  
improved shock absorption
  5. Two-piece design with customizable disk, adding premium  
value → stylish and unique
- 



## *Carbon Fiber Wheel Technology*

### **German Patents**

- 5 patents for carbon fiber wheel production
- Manufacturer holds over 60 patents in carbon fiber composite materials

### **Manufacturing Technology**

- Modular performing system – enabling mass production
- Intelligent control high-pressure reactive injection technology – improving yield rate

### **Heat Dissipation Concept**

- Utilizing unique fibers (metalloid characteristics) – passed international high-temperature resistance tests

### **Vehicle Safety Testing Certified**

- Certified by German TÜV testing authority
- Certified by Japanese VIA testing authority

### **Structural Technology**

- Utilization of advanced preforming process – passed impact tests
- Multi-material integration – achieving stress dispersion
- Multi-layer fiber combined with NCF materials – ensuring fatigue resistance

### **Design Technology**

- Application of material mechanics – optimal lightweight wheel structure
- Precision FEA testing on wheel and joint area – verifying structural integrity



## TEST RESULTS

### German TÜV certificate

<i>Passed OEM standard biaxial test (15,000 km)</i>	20"	21"
Compression test (8Bars)/Strength inspection/Preheat damage test	✓	✓
75% bending fatigue test: 200,000 cycles	✓	✓
50% bending fatigue test: 1,800,000 cycles	✓	✓
Radial fatigue test: 300,000 cycles	✓	✓
13° impact test	✓	✓
Biaxial test (7,500km)	✓	✓

*\* TÜV guidelines for the testing and inspection of plastic wheels for passenger cars and motorcycles were followed.*



Product Service

And more. Inspire trust.

Garching, 2022-06-21  
Unit: PG-COM-1-K008  
Page 1 of 1

**Fatigue Tests on Hybrid Wheel**  
Advanced International Multitech Co. Ltd, Taiwan

**Conformity sheet**  
About fatigue tests on hybrid wheel  
Dated 2022-06-21

**Basic wheel information:**  
Dimension: 10Jx21" H2 ET28  
Offset: 28mm  
PCD: 112mm  
Mass of Wheel: 10.5kg  
Wheel Load: 650kg  
Tire: 295/30 ZR21



The wheels of applicant Advanced International Multitech Co. Ltd, have been tested according to the requirements „Material-specific Annex to: Section 30 StVZO (German Road Traffic Licensing Regulation): Directive for the testing and inspection of custom wheels for motor vehicles and their trailers“.

The report "LB\_AIMCL\_10x21 - 713257921-00, dated 2022-06-21" is admissible to apply for a permit.

**Result: PASS**

Project manager:  
*Thomas Tallafuss*  
Thomas Tallafuss  
Garching, 2022-06-21

Laboratory report checked:  
*Frank Schmidt*  
Frank Schmidt  
Garching, 2022-06-21



Product Service

And more. Inspire trust.

Garching, 11.08.2022  
Unit: PG-COM-1-K008  
Page 1 of 6

**Laboratory Report**  
about Fatigue tests on  
Hybrid-Wheel construction of the size 9J x 20 H2 offset 40

Report number: 713265924-00



Customer : Advanced International Multitech Co. Ltd  
Lin Hai Industrial District  
No. 26, Chung Lin Road  
71260 Kaohsiung City  
TAIWAN

Type of construction : Fiber composite rim with light alloy star  
screwed in, by means of 10 connecting  
screws

Item number : NCV 20\_1\_51

Wheel size : 9J x 20 offset 40

Permitted wheel load [kg] : 650

Tire size : 245/35 ZR20

Wheel weight [kg] : 9,2

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## German Advanced High-Tech Manufacturing Technology

MADE IN TAIWAN



**HP-RTM (The only ultra-high-pressure injection machine in Taiwan)**

- Rapid infusion
- Enhanced impregnation efficiency
- Reduced molding time
- High-quality production



**C-RTM (The only three-component mixing injection machine in Taiwan)**

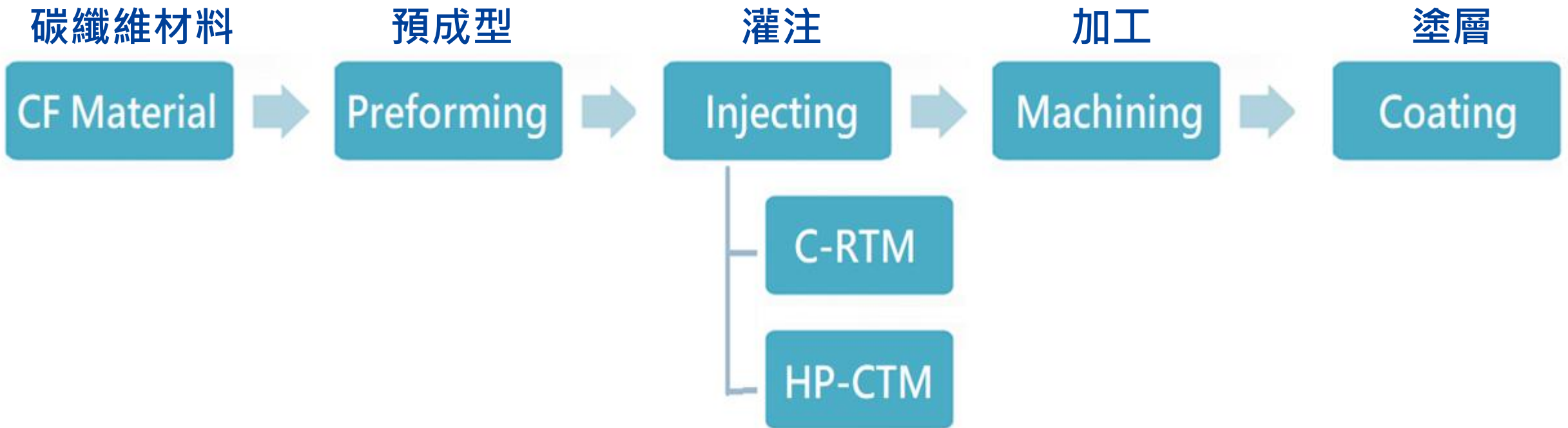
- Safe and fast control of resin injection volume
- Modularized injection functionality



**Preforming System**

- Modularized preforming system
- Flexible adjustment for width and diameter requirements

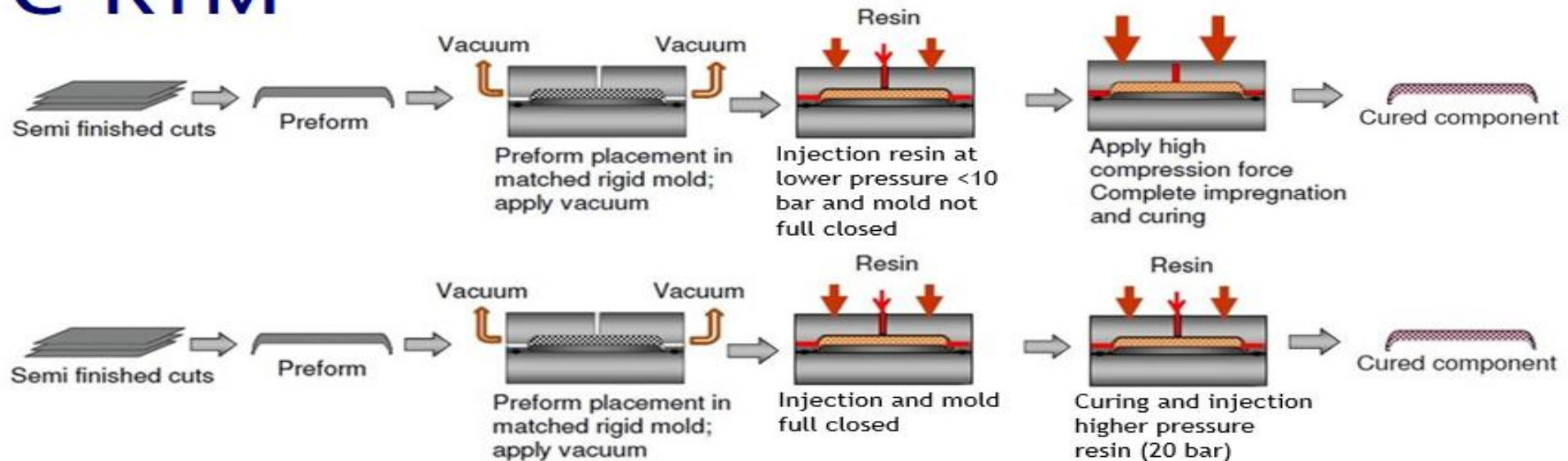
*Manufacturing Technology*  
(Core competence for CFRP RIM)



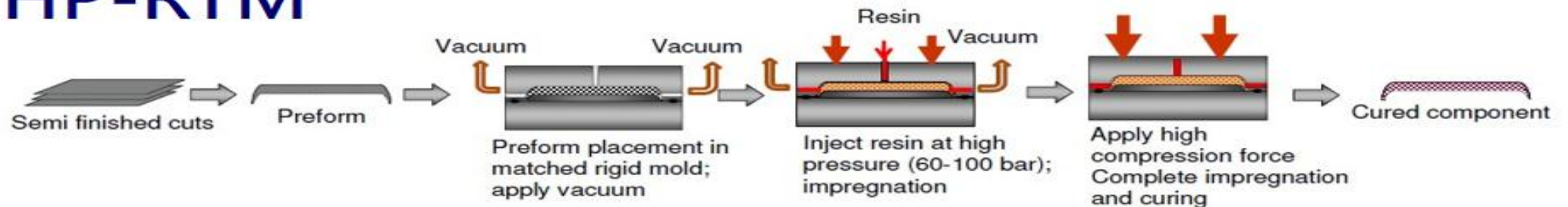


## Manufacturing Technology – C-RTM & HP-RTM

### C-RTM



### HP-RTM



## CFRP wheel specifications

SIZE	Weight	Mass Production Timeline
19x8.5J	~4.5kg	Available now
19x9.5J	~4.7kg	Available now
20x9.0J	~4.3kg	Available now
20x10.5J	~4.8kg	Q4 2025
20x11.0J	~5.2kg	Q4 2025
21x9.0J	~4.9kg	Available now
21x10.5J	~5.0kg	Available now
21x12J	~5.5kg	Available now

>>More sizes under development



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FROM CANADA TORONTO

## Customized Carbon Fiber Wheels

### Customization Process :

2D/3D Custom Design

CAE Simulations

6061-T6 Forged Disk Production Launched

Carbon Fiber Barrel Production Launched

Assembly of Forged Disk & Carbon Fiber Barrel

Final Quality Inspection after Assembly

Production Lead Time: 45~60 Days

### Unique Personalized Disk Design:

Changeable center disk and options for hidden/exposed bolts for assembly

Customizable concavity, width, chamfer, and other design requirements

### Carbon Fiber Different Pattern Options:

SMC Forged / Braid / Twill Weave

