FOREWORD

ISHIKAWA Yoshio
Senior Vice President,
JFE Steel

The functions required to automobiles in recent years have become increasingly diverse and advanced. In addition to the essential functions of drivability and comfort, protection of the global environment, as exemplified by improved fuel consumption and exhaust gas regulations, and people-friendly automaking are also demanded. The main issues for the auto industry as it attempts to satisfy these requirements are auto body weight reduction, improved crashworthiness, and longer product life. Moreover, achieving stronger competitiveness by shortening the new model development cycle is also an important task.

Traditionally, the steelmaker's role was to develop and propose new products which met the automaker's needs. In contrast to this conventional relationship, JFE Steel has not only strengthened its new product development system for all steel products, but also created an application technology development system in order to respond to the new requirements mentioned above.

To contribute to efficient development of higher performance automobiles, JFE Steel is extending the scope of its activities to new stages by implementing EVI (early vendor involvement) activities, in which the company participates from the initial stage of new model development and actively develops and proposes parts for automaking in line with the concept of the new model. These activities are not only limited to materials, but also include processing methods and performance evaluation.

JFE Technical Report No. 2, "Special Issue on JFE Steel," gave an overview of JFE Steel's automotive products and technologies. The current No. 4, "Special Issue on Materials and Application Technologies for Automotive Use," presents detailed discussions of JFE Steel's distinctive EVI technologies which are contributing to world-leading automaking, as well as JFE Steel's Only 1 and No. 1 product line as a basis of its EVI technologies. First, this special issue takes up application and evaluation technologies for steel products which contribute to weight reduction, improved crashworthiness, and shortening of the development cycle, and also corrosion prevention/evaluation technologies for automotive steel products, which governs the life of the auto body. This is followed by an introduction to

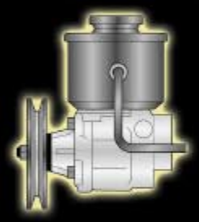
JFE Steel's new products. JFE Steel produces a wide range of iron and steel products for automotive applications, including automotive steel sheets, tubes, stainless steel, electrical steel sheets, steel bars, wire rods, and iron powder. Products in each field are discussed by type of part application. In addition to JFE Steel's wide line of automotive steel products, this issue also introduces innovative resin products for automotive interiors.

JFE Steel believes that its EVI activities, based on its new products and technologies, will create a Win-Win-Win relationship, in which it contributes to society, including people and environment, through improved automotive performance, assists automakers in shortening the development cycle while continuing to satisfy new car performance requirements, and develops new products and technologies for JFE Steel itself by responding to these needs.

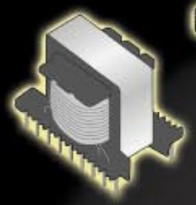
As a partner to the automotive industry, JFE Steel will continue to contribute to high performance automaking by developing new automotive products and technologies. We sincerely request the guidance and encouragement of all those concerned.

Contributing to Automotive Evolution

JFE Steel's Auto Product Line



Rotor vane/cam ring
- **Clean-Mix Iron Powder**



Conv erter /inv erter
- **Super-Core**
- **Mn-Zn ferrite**

Steering shaft
- **HISTORY steel tubes**

Motors
- **Electrical steel sheets for EPS motor cores**
- **Electrical steel sheets for EV, HEV motor cores**
- **Chromate-free steel sheets for motor cases**

Interior par ts
- **Chromate-free steel sheets**

Bearings
- **High-cleanliness steel for bearing use**
- **Bearing steel for semi-high temperature**

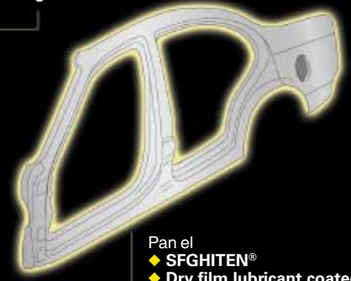
Sea t
- **Ultra-high strength steel sheets**
- **SUPERHOT®**
- **HISTORY steel tubes**
- **High strength low carbon wire rods**

Headliner, r ear baggage
- **KP Sheet**

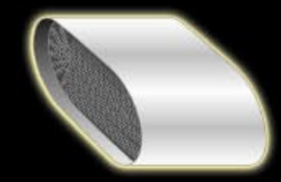
Pillar
- **Ultra-high strength steel sheets**
- **NANOHITEN**
- **BHT® high strength steel sheets**
- **Tailored welded blanks**

Gasoline tank
- **Ferritic stainless steel sheets**
- **Pb-free and Cr (VI)-free organic composite coated steel sheets**

Wheel
- **DPH high strength steel sheets**



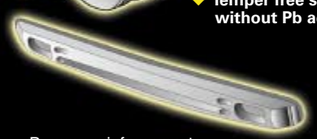
Pan el
- **SFGHITEN®**
- **Dry film lubricant coated galvanealed steel sheets**



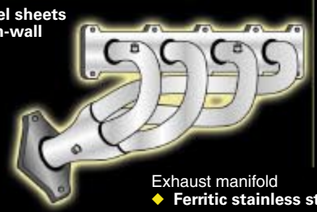
Honey comb
- **Stainless foil**

Bolts
- **Annealing-free alloy steel wire rods**

Crankshaft
- **Temper free steel bars without Pb addition**



Bumper reinforcement
- **Ultra-high strength steel sheets**
- **Ultra-high strength thin-wall ERW tubes**

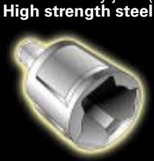


Exhaust manifold
- **Ferritic stainless steel tubes**

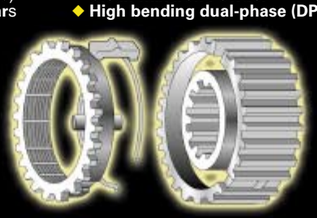
Suspension members
- **NANOHITEN**
- **BHT® high strength steel sheets**
- **HISTORY steel tubes**
- **High-formability ERW tubes**
- **Tube hydroforming**

Low er arm
- **NANOHITEN**
- **Super HSLA**
- **HISTORY steel tubes**
- **High-formability ERW tubes**
- **Tube hydroforming**

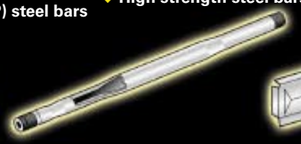
Knuckle
- **Temper free steel bars**



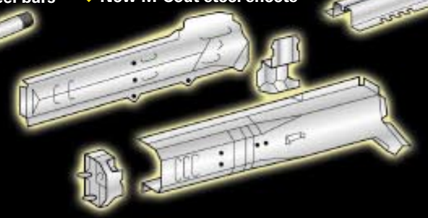
Constant velocity joint (CVJ)
- **High strength steel bars**



Tra nsmission
- **Hyper-Burring SC**
- **Non-oriented SC**
- **SUPERHOT®**
- **Clean-Mix Iron Powder**
- **High bending dual-phase (DP) steel bars**

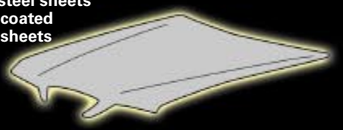


Drive shaf t
- **HISTORY steel tubes**
- **Seamless steel tubes**
- **High strength steel bars**



Members
- **Ultra-high strength steel sheets**
- **NANOHITEN**
- **BHT®high strength steel sheets**
- **Tailored welded blanks**
- **New M-Coat steel sheets**

Reinforcements
- **Ultra-high strength steel sheets**
- **NANOHITEN**



Pan el
- **BH high strength steel sheets**
- **Dry film lubricant coated galvanealed steel sheets**

Muff ler
- **High-formability high corrosion resistance stainless steel**