

We are a pioneer company for future agricultural machinery components.



PRODUCT LINE-UP



The company that leads the market

We try to have zero customer complaints and zero error rates.
We actively reflect the needs of our customers by using leading technology.

D / A / E / S / O / N / G



A company that always does its best
and leads the market



Securing competitiveness through
continuous improvement and production of
flawless products

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01 Company Overview

| GREETING

Daesong Co., Ltd that has advanced by quality of product with credit

produces and supplies agricultural machinery components and diesel engine components with more than 30years of technology and experiences. Daesong will continuously endeavor to develop superior products. We promise that we will do our best for improvement of competitiveness and productivity improvement of the agricultural machinery components through out strict quality assurance.

As 'pioneers for future agricultural machinery components', we will work to our best to grow with our customers.

Thank you.

From all employees from Daesong

| VISION



| HISTORY

1988 ~ 1999 Beginning Period

November 1988 Established Daesong Giyeon

April 1990 Registered as a vender of Kukje Co., Ltd

February 1992 Begun to supply Jungang Industry Co., Ltd

October 1997 Developed connecting rod and established production lines

December 1999 Incorporated into Daesong Co., Ltd



2001 ~ 2009 Building a global company base

October 2001 Acquired ISO9002/QS9000 certificates

April 2002 Developed Rocker Arm assembly and established production line

May 2005 Opened an office in Tianjin, China

October 2005 Begun to export engine components to Komatsu Ltd in Japan

November 2005 Designated as a CLEAN workplace

April 2006 Registered as a vender of LS

March 2008 Won an official commendation as a faithful taxpayer business

August 2009 Developed universal joint compound for high speed rotation

November 2009 Entered into an agreement for co-prosperity between management and workers

2011 ~ 2019 Continued Technology Development

July 2011 Established Sewool Co., Ltd corporation (oversea business/SUB ASSY)

December 2011 Developed LS Mtron 4 cylinder crankshaft for TIER3

June 2012 Developed LS Mtron TIER4 engine and Moving system engine components (completed in November 2013)

October 2013 Developed cooling water pump assembly for KMC 4G

In 2014 Developed cooling water pump assembly for KMC D3400

July 2015 Participated developing a compact engine of LE&T Co., Ltd 30 HP class COMPACT multifunctional UTV

March 2016 Patent registration and application of connecting rods, three types of JIG for machining and processing method (four counts)

December 2016 Developed LS Mtron a compact (1 liter) engine moving system components

October 2017 Registered as a vendor of Daedong Industrial(KIOTI)

January 2018 Completed building Daesong Co., Ltd's the 2nd factory

December 2018 Completed building automation process production line for connecting rod

December 2019 Completed building automation production line for cylinder head

2020 ~ present New Chapter

April 2020 Selected as a participating company for '1 liter class diesel engine for industrial machinery to satisfy next generation exhaust regulations' (Korea Institute of Industrial Technology Evaluation and Management)

September 2020 Brought in a real-time tool monitoring system

November 2020 Brought in a vision camera system into the cylinder head production line

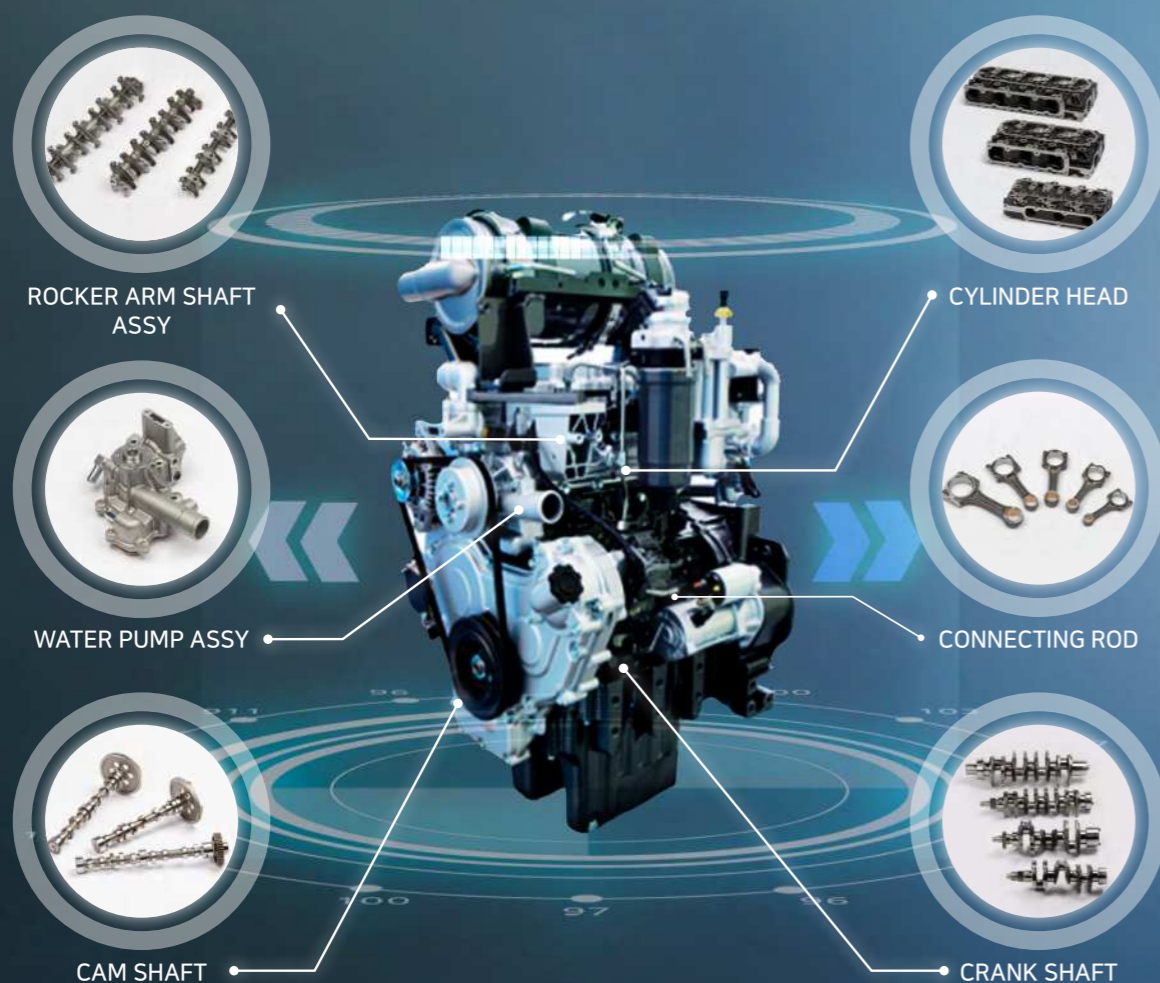
December 2020 Won official commendation as a selected investment attracting company by a governor of Chungbuk province



DAESONG Production Items

Engine Parts

As Daesong Co., Ltd is a company that produces agricultural machinery components and diesel engine components; we try our best to manage superior quality strictly and to produce competitive products.



PRODUCT INTRODUCTION

Cylinder Head
Crank Shaft
Cam Shaft
Connecting Rod
Rocker Arm Shaft Assy
Water Pump Assy
Balance Assy
Rear Case
Exhaust Manifold
Engine Gear(Grinding Gear)
Universal Joint

02 Product Introduction

Cylinder Head



Cylinder head that is one of the core 5C components of engine sits above on top of the cylinder block. It's a housing that is set up the valves, guide, fuel injectors.

Material	GC25
Scale	From 18 up to 75 HP
Annual Production capacity	Over 30k annually, possessed automated production lines
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Applied precised cleaning that uses robots, after completing machining.

Cam Shaft



It is a product that is one of the core 5C components of engine; it controls intake and exhaust valves. It is available to assemble a crankshaft(single) or grinding gear upon the customer's request.

Material	SM50C or SCM440
Scale	From 18 to 140 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Global outsourcing

Crank Shaft



As it is one of the core movement systems of a diesel engine's internal combustion engine; it is a product that performs between reciprocating motion and rotational motion that is connected to a crank. It is available to assemble a cam shaft(single) or grinding gear upon the customer's request.

Material	SCM440H
Scale	From 18 up to 140 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Global outsourcing



▲ Crankshaft main and pin part, cut surface of heat-treated quenched part

- The plane section of quenching depth is 1.5~3mm
- It is more than 1.5mm at R subsection

Connecting Rod



It is a product that is one of the core 5C components of an engine; it is an engine component that connects piston and crank spindle.

Material	S48C/S50C, SCM435
Scale	From 18 up to 140 HP
Annual Production capacity	300,000EA (two lines)
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Production Lot and quality history management through laser marking

Rocker Arm Shaft Assy



As it is OHV (OVER HEAD VALVE) type; it sets over the cylinder head. It moves by Camshaft and Push Rod. It is an installation that the intake and exhaust valve operates when it burns fuel.

Material	S48C/S50C, SCM435
Scale	From 18 up to 140 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A)

02 Product Introduction

Water Pump Assy



It is a product that has a role that prevents engines from overheating through cooling water circulating.
(It assembles a pump case, bearing, mechanical seal, impeller, and so forth)

Material	ALDC10~12
Scale	From 18 up to 140 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Product performance verification through discharge volume test

Exhaust Manifold



As it is a component that connects to an exhaust pipe, it smoothly transmits exhaust that is discharged from a combustor to an exhaust system.

Material	FC25 / FCD50HS
	FCD50HS: since the exhaust regulation (Tier4) has been strengthened, the exhaust manifold should be able to withstand higher temperature exhaust/emission; therefore, it takes raw materials that contains such as Si, Mn, Mo and etc.
Scale	From 18 to 75 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A)

Balance Assy



It is a product that offsets/countervails vibration that is occurred when engine works.

Material	GC250
Scale	From 40 up to 75 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	Applied on a four-cylinder engine

Engine Gear(Grinding Gear)



It is a product that transmits engine power to peripheral functional components.

Material	SCM420
Scale	Able to use for any engines
Purpose	Agricultural machinery diesel engine / Industrial diesel engine Able to apply to other motors or power equipment
Feature	1. Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A) 2. Minimized noise through gear grinding

Rear Case



It is a product that connects engine assembly and mission assembly

Material	GCD450
Scale	From 35 up to 75 HP
Purpose	Agricultural machinery diesel engine / Industrial diesel engine
Feature	Applied on engines that have a certificated exhaust regulation (Tier4 Final/interim, Stage III B/A)

Universal Joint



It combines two spindles and transmits power from a spindle to other spindle.

Material	SM30C ~ SCM415 (cold forging)
Purpose	High speed precision joint, ø15, ø16, ø20 joint, etc.
Feature	<ul style="list-style-type: none"> A joint assembly the use of agricultural machinery power transmit A joint assembly the use of tractor handle assembly A joint assembly the use of tractor forward and backward operation assembly Rice transplant machine Compact tractor Other cars, ship, machine tools, etc.

Pioneering future agricultural machinery parts

Daesong Co., Ltd. will grow as a company that will be at the forefront of future agricultural machinery components by better technology and products through a continuous view of the company's growth and endless research development.



FACILITY STATUS

Quality Assurance & Management System
Processing equipment
Measuring equipment

03 Facility Status

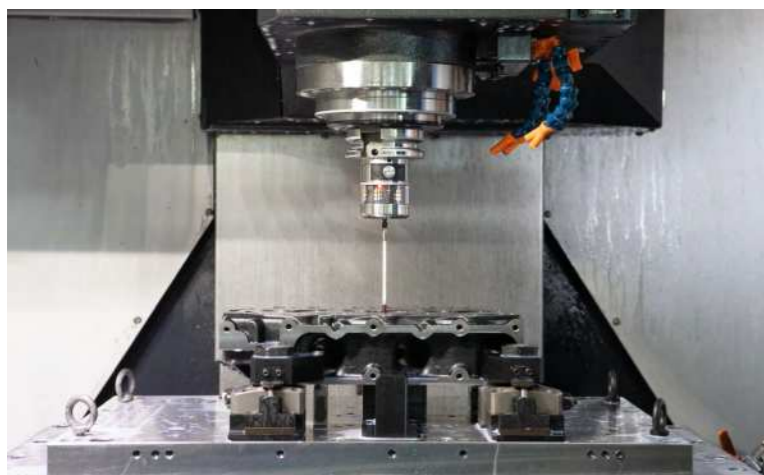
Quality Assurance & Management System



Application of Vision Camera Systems

This is a system that checks in real time whether the valve seat and guide are press-fitted and photographed with a vision camera.

This function prevents defects such as damage and cracks from being transferred to the next process .



OMP60 applied

OMP60 is used before machining to measure and inspect products, and it performs to work more precisely through automatic correction.



Precision cleaning by using robots

As the cylinder head is structured as complicated, we apply robots to wash intensively where needs precision wash in order to removed foreign matter completely.

We own production line that are specialized to small quantity batch production by flexible manufacturing system. We are able to wash precisely/accurately any products depending on the situation.

QUALITY GUARD applied

The tools that are applied for cylinder head are 60-70 types, and to manage them efficiently, the quality guard would be applied.

Quality guard is a system to analyze load pattern of each tool, detects the load in real time, and automatically controls the equipment when an error is detected.

Moreover, it is able to manage tool life, tool-changing time, program changes and history, etc. at once.



Connecting Rod automation measuring equipment

It measures the weight of the product, the roundness of large diameter and small diameter, and provides statistical data through SPC to customers in real time.

Products that have passed quality testing will be marked with the production date, 2D barcode, weight grade, and Lot numbers through a laser machine.



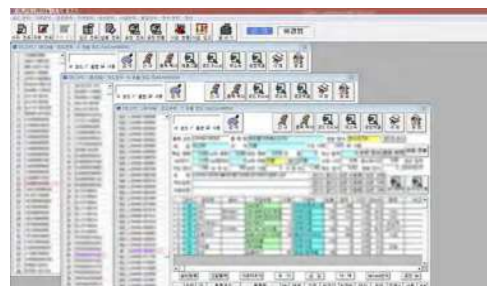
03 Facility Status

| Quality Assurance & Management System



■ TOOL PRESETTER

Tool pre-setter is a tool that measures the length of tool and diameter (DIA). It is able to measure the shape of tools, and also used for measuring the manufactured tools. It can process more precisely since it analyzes tool wear using defect detection at 40 times zoom.



■ Computerized System

We manage incoming materials, product production process, and delivery by using computerized systems that are developed by ourselves. Also the system carries out product production history, quality history, equipment failure repair history, business partners' management history, mold and jig history, and every management through a computerized system.



■ Tool Management System

Since we currently use more than 1,000 types of tools, we use a Tool Management System to manage them efficiently. It is used as a system that reduces tool waste through management of warehousing, carrying out, and returning of tools, analyzing average tool usage by setting a period, and setting stable stock and appropriate stock until automatic ordering. It effectively reduces the waste of using tools required for production, and plays a big role in maximizing production line efficiency by holding the tools required for product production at the right time.

| Processing Equipment

Horizontal Machining Center - 4axis



Vertical Machining Center - 3axis



Vertical Machining Center -3axis, 2 tables



Horizontal Turning Center



| Measuring Equipment

■ Three dimensional measuring instrument



It is equipment that inspects precision processed products with optimization

■ Illuminance Photometer



It is a device that measures the surface roughness of processed products

■ Projector



It is an optical device that enlarges and projects an object on a screen and measures and inspects the shape or dimension of the object

04 Customers and Certification Status

| Major Customers



| Certification and patent status



ISO 9001:2015



ISO 14001:2015



Company-affiliated research institute certificate



Inno-Biz confirmation



Patent certificate: Jig-1 for connecting rod processing



Patent certificate: Jig-2 for connecting rod processing



Patent certificate: Jig-3 for connecting rod processing



Patent certificate: connecting rod processing method



MCT Line



Connecting Rod Line



Cylinder Head Line

BEST PRODUCT AND
BEST SERVICE
DAESONG



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