

REPAIR & OVERHAUL SERVICES FOR USFK HELICOPTER ENGINES

Oct. 2009





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INTRODUCTION TO SAMSUNG TECHWIN

Oct. 2009



❑ 3 Plants, 4,024 Employees, \$2,161M Revenue

Financials as of the end of 2008

Divisions	Power Systems	Defense Programs	SIS Security Imaging Solutions	DIS Digital and IT Solutions	IMS Intelligent Machinery & Solutions
Business Activities	 <ul style="list-style-type: none"> • Gas Turbine • Turbo machinery 	 <ul style="list-style-type: none"> • SPH • ARV • KAAV 	 <ul style="list-style-type: none"> • CCTV • Presenter • RFID 	 <ul style="list-style-type: none"> • Lead Frame • Flex Substrate • Optical Module 	 <ul style="list-style-type: none"> • Surface Mount Technology • Wire Bonder
Employee	1,160	3,080			
Revenue	\$625M	\$1,536M			

* SPH: Self-Propelled Howitzer, ARV: Ammunition Re-supply Vehicle, KAAV : Korean Assault Amphibian Vehicle



Power Systems Overview

❑ Started Engine Overhaul Business in 1979

❑ Current Capacity

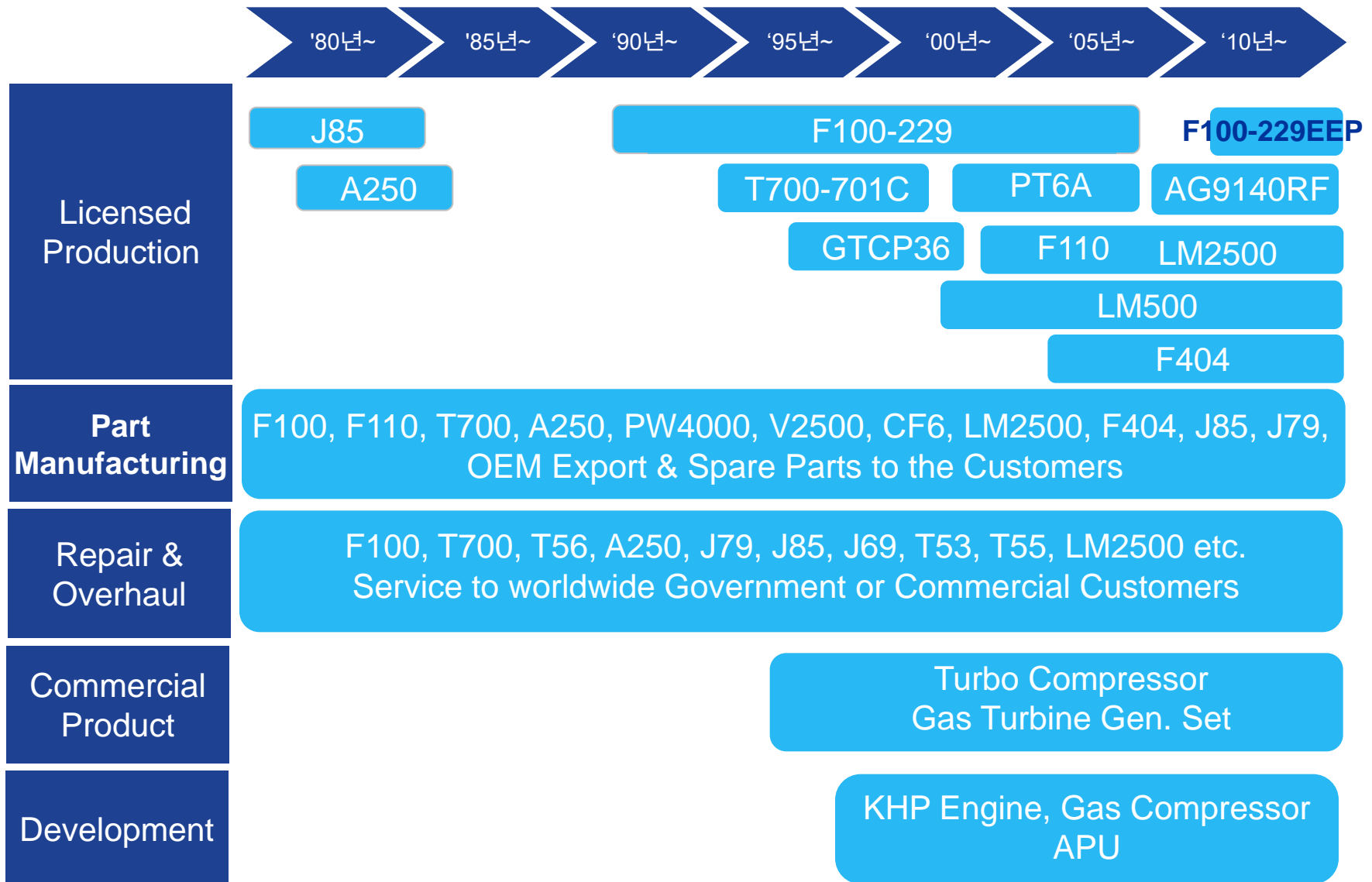
- *Production Capacity : 400 Engines/Year*

- *No. of Employees : 1,160 Persons (As of Dec. 2008)*

(Person)

	Total
Direct Manpower	674
Engineering	143
Quality	115
Overhead	155
Sales & Marketing	73
Total	1,160

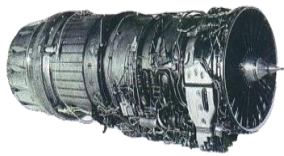
Major Business Milestone



License Program

License Production

F100 Engine



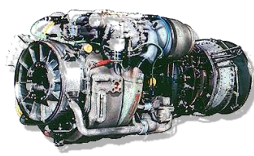
F-16 Falcon

F404 Engine



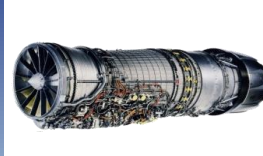
T-50 Golden Eagle

T700 Engine



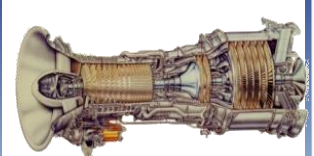
UH-60 Black Hawk

F110 Engine



F-15 Eagle

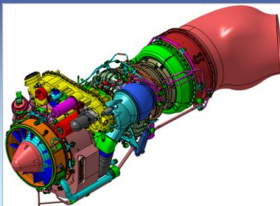
LM2500 Engine



Destroyer

Co-development Production – on going

T700-701K

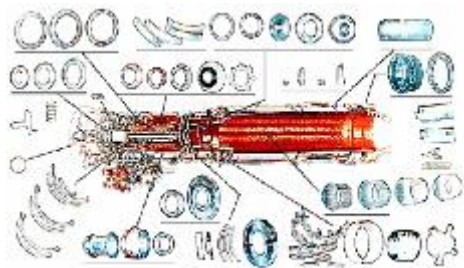


KHP

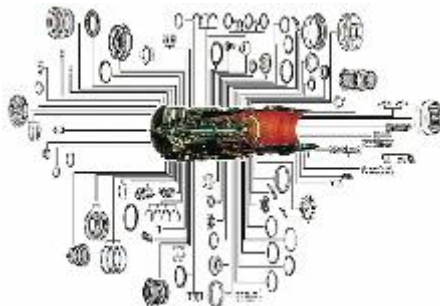


Licensed Program – Localized Parts

J85



F100



T700



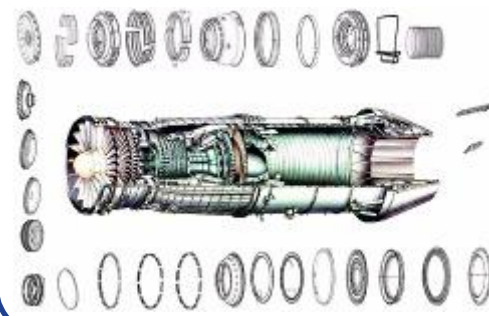
LM2500



F110



F404



Engine Repair and Overhaul

**Turbo
Jet
/
Turbo
Fan**

F100-PW



J85-GE



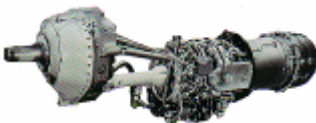
J79-GE



LM2500-GE



T56-RR



A250/T63-RR



T53-Honeywell



T55- Honeywell



**Turbo
Prop
/
Turbo
Shaft**

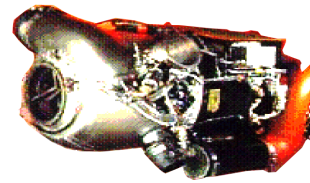
T700-GE



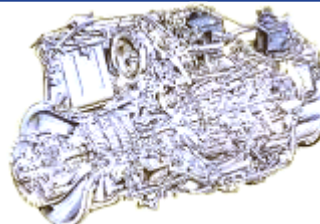
UH60/CH47 APU



**UH60 APU
Honeywell**



GEM42 - RR





T700/T55 Capability

T700/T55 Engine Overview



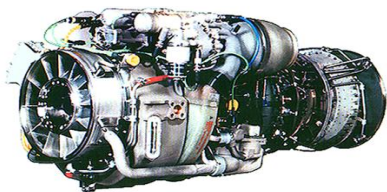
T700/T55 Engine Licenses

Model	T700 series	T55 series
License	<ul style="list-style-type: none">- Manufacturing License and Technical Assistance Agreement with GE- Technical Assistance Agreement with GE	Honeywell's Authorized Service Center
Major Customer	ROK Army, Colombian Air Force	ROK Army,
Major Program	<ul style="list-style-type: none">- Repair, Overhaul and Test- Parts Manufacturing- Engine Production- LPT Module Supplier of GE- T700-GE-701K Production for ROK Army KHP program	<ul style="list-style-type: none">- Repair, Overhaul and Test- Upgrade / Modification

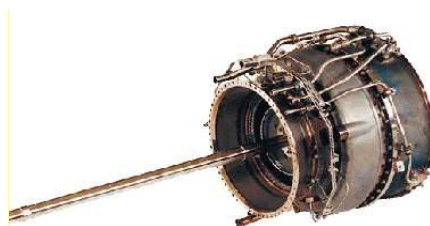
T700/T55 Engine Overview

T700/T55 Engine Production Record

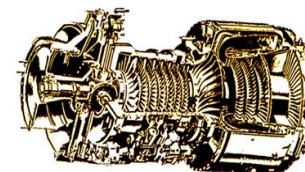
Year		~02	~04	05	06	07	08	09	Total	Model
Engine Overhaul	ROK ARMY	31	14	6	5	6	2	3	67	T55-L-712S/SB
			36	14	10	10	10		80	T700-701C
	Colombian Air Force	2		5	2		2		11	T700-700 T700-701C
Module Overhaul for ROKA		17	9	3	5	8	3		45	T700-701C
Complete Engine Production for ROKA		155							155	T700-701C
LPT Production					10	66	74	15	165	T700



T700 Engine



T700 LPT



T55 Engine

T700/T55 Engine Capability



- **Disassembly / Assembly**
- **Cleaning**
- **NDT**
- **Inspection**
- **Engine Test**
- **Accessories**
- **Repair Process**
 - **Welding / Brazing**
 - **Bench Repair**
 - **Machining**
 - **Plating & Surface Treatment**
 - **Painting/Coating**
 - **Thermal Spray**
 - **Heat Treatment / Stress Relieving**
 - **Shot Peening**
 - **Static & Dynamic Balancing**

Our goal and duty is:
Providing competitive price to the customer
by expanding repair work

IN-COUNTRY SUPPORT FOR USFK HELICOPTER ENGINE

Oct. 2009



- **T700 engine R&O services**
- **T55 engine R&O services**
- **Spare Parts supply by US OEM for in-country R&O**
- **On-site technical support for USFK helicopter engines**

Benefit of In-Country Service



- **Enhanced (war/peace time) combat readiness through reduced TAT**
 - . Close R&O support is essential to the USFK fleet in war time
 - . USFK will have a reliable in-country MRO source
- **Cost effective way by using in-country MRO center**
 - . Transportation and service cost can be reduced
 - . Close depot support to the USFK fleet
- **Cooperation program between US OEM and Samsung**

“In-Country Service” provides:

**Enhanced mission readiness
with low operational cost**

Thank you