DEFENSE EQUIPMENT

Track shoe assembly and
Spare parts for combat vehicles

www.lstrackshoe.com
LS Mtron
Organization

Defense division consist of 6 teams

Machinery
Components

Track shoe

Tractor
Injection Molding Machine

Electronic Components
Copper Foil
FCCL
Automotive Parts
Ultracapacitor

SALES
PRODUCTION
PRODUCTION ENGINEERING
R&D
Q.A
MANAGEMENT
About us

Introduction

Defense Business of LS Mtron
We are the sole manufacturer of military track shoes in Korea that support the entire weight of combat vehicles such as main battle tanks, armored personnel carriers and self-propelled howitzers.

We have been supplying track shoes to the nation’s armed forces since 1975. Our commitment was recognized in early 2013 when we were chosen as an outstanding defense company by the DAPA (Defense Acquisition Program Administration) Commissioner. In late 2013, we were also honored with the National Defense Minister’s Commendation for our remarkable export results.

In 2013, our endeavors to diversify our customer portfolio in the national and global markets led to an 18% growth in sales from the previous year that allowed us to set a new record in sales.

We will continue to deliver new products based on emerging, forward-looking and market-leading technologies (durable and lightweight) while increasing sales at our overseas operations as part of our sustained effort to achieve sustainable growth.

Our goal is to develop new products through cutting-edge technologies and establish a stronger global presence so as to evolve into a global top manufacturer and pioneer for the advancement of the defense industry.

Performance & Major Plans

Performance

- The only track shoe manufacturer in South Korea
- Supplier to the Korean armed forces for over 40 years
- Selected as an ‘Excellent Defense Contractor’
- Exported to more than 20 countries
- All kinds of US and Russian tracks (BMP-3, T-80U)

Major Plans

- Begin full-fledged mass production of track shoes for the next-generation South Korean MBT (K2 Black Panther)
- Develop track shoes for the Turkish MBT (Altay)
- Secure future leading technologies (high durability, lightweight)
History

We started track business in 1974 and obtained responsible position as a sole track supplier for the Korean Army in 1984.

1974 09  Start of Military Track Business
1975 07  Localization of M47 MBT Track first in Korea
1982 07  Development of M113(K200) APC Track
1984 07  Designated as Sole Military Track & Revetment-Kit Manufacturer by Korean Government
1988 07  Designated as Core military business company by Korean Government
1996 03  Development of K1 MBT pad detachable track
1998 10  Development of K9 155mm New SPH Track
2000 08  Obtain certification of “Military Quality System” by Korean Government
2005 03  LG Cable was renamed as LS Cable
          05  Development of K1A1 MBT Track(Replacement Track of K1 MBT Track)
2002 ~ 2007 Development of new track for next generation IFV (K21)
2002 ~ 2008 Development of new track for next generation MBT (K2)
2007 ~ 2010 Development of K55A1 SPH Track(Performance Improve Plan)
2008 07  Machinery division was divided from LS Cable
2009 ~  Development of ALTAY MBT Track (Turkish National MBT)
2013 03  Honored with the DAPA Minister’s Citation
2013 12  Honored with the Korean Defense Minister’s Citation
R&D

With the technical expertise and experience acquired through the track development of all kinds of US/Russia platform as well as indigenous Korean combat vehicles for more than 40 years, we have also been developing track shoes for ALTAY (Turkish National Main Battle Tank) currently. We have the state of the art technology (durable and lightweight) and production capabilities for new developments as well as improvements or the modification of all track system for combat vehicles.

Design Process

Our competent R&D organizations have been providing the advanced and innovative products in conjunction with external resources including government defense agencies.

Quality Assurance

[Diagram of the Quality Assurance process]

Certificates

ISO 9001('08~)
KDS 0500-0900-2('00~)
ISO 14001('08~)
OHSAS 18001('08~)
ISO/IEC 17025('15~)
Our Facilities

Manufacturing Facilities

Our facilities are equipped with the best production and inspection equipment to ensure high quality and productivity.

01 STEP

**Process:** Forging  
**Equipment:** 4,000Ton & 1,600Ton Press, 450 Ton Upsetter

02 STEP

**Process:** Heat treatment  
**Equipment:** Quenching & Tempering Furnace, Induction Heat Treatment Line

03 STEP

**Process:** Machining  
**Equipment:** Mass Production Line for track parts only

04 STEP

**Process:** Inspection  
**Equipment:** Magnetic Particle Inspection etc.

05 STEP

**Process:** Others  
**Equipment:** Assembly Line, Packing Line, Analysis & Test Room
• Vehicle Application ..................... K2 MBT
• ASSY N.S.N .......................... 2530-37-516-6745
• Pitch (mm) .............................. 193.6
• Width (mm) .............................. 635.0
• Height (mm) .............................. 202.5
• Q’ty for 1 Vehicle ................. 148
K1A1

TRACK SHOES FOR MAIN BATTLE TANK

Vehicle Application: K1A1 MBT
ASST N.S.N: 2530-37-512-5268
Pitch (mm): 193.6
Width (mm): 635.0
Height (mm): 196.4
Q’ty for 1 Vehicle: 152

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. End Connector
6. Wedge Nut
7. Wedge Bolt
8. Center Guide
9. Center Guide Cap
10. Guide Bolt
11. Guide Nut
K1

TRACK SHOES FOR MAIN BATTLE TANK

- **Vehicle Application**: K1, K1A1 MBT
- **ASSY N.S.N**: 2530-37-501-1291
- **Pitch (mm)**: 193.6
- **Width (mm)**: 635.0
- **Height (mm)**: 192.6
- **Q’ty for 1 Vehicle**: 152

1. Shoe Body
2. Pin
3. End Connector
4. Wedge Bolt
5. Wedge Nut
6. Center Guide
7. Center Guide Cap
8. Guide Bolt
9. Guide Nut
M60

TRACK SHOES FOR MAIN BATTLE TANK

- Model: T142
- Vehicle Application: M60 MBT
- ASS'Y N.S.N: 2530-00-150-5897
- Pitch (mm): 176.2
- Width (mm): 711.0
- Height (mm): 226.4
- Q’ty for 1 Vehicle: 160

1 _ Shoe Body
2 _ Pad Assembly
3 _ Pad Nut
4 _ Pin
5 _ End Connector
6 _ Wedge Nut
7 _ Wedge Bolt
8 _ Center Guide
9 _ Center Guide Cap
10 _ Guide Bolt
11 _ Guide Nut
T-80U

TRACK SHOES FOR MAIN BATTLE TANK

- Vehicle Application: T-80U MBT
- ASSY N.S.N: 2530-37-518-2786
- Pitch (mm): 164.0
- Width (mm): 574.0
- Height (mm): 211.0
- Q’ty for 1 Vehicle: 160

1. Shoe Body
2. Pin
3. Center Guide Bolt
4. Center Guide
5. Center Guide Cap
6. End Connector
7. Wedge Bolt (Screw)
8. Washer
M47 & M48 & M88

TRACK SHOES FOR MAIN BATTLE TANK

- **Model**: T84E1, T97E2, T107
- **Vehicle Application**: M47 MBT, M48 MBT, M88A1 ARV
- **ASS’Y N.S.N**: 2530-00-704-9657, 2530-00-337-6969, 2530-00-692-9316
- **Pitch (mm)**: 152.4, 176.3, 172.4
- **Width (mm)**: 584.3, 711.0, 711.0
- **Height (mm)**: 215.0, 213.0, 215.0
- **Q’ty for 1 Vehicle**: 172, 156, 168

1. Shoe Body
2. Pin
3. End Connector
4. Wedge Bolt
5. Wedge Nut
6. Center Guide
7. Center Guide Cap
8. Guide Bolt
9. Guide Nut
M113 & K200
TRACK SHOES FOR ARMORED PERSONNEL CARRIER

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. Pin Nut
6. Bushing (Long)
7. Bushing (Short)

- Model: T130E1
- Vehicle Application: M113A1, K200 APC Series
- ASS'Y N.S.N: 2530-00-078-2908
- Pitch (mm): 152.4
- Width (mm): 381.0
- Height (mm): 150.0
- Q’ty for 1 Vehicle: 127(M113)/128(K200)
K21

TRACK SHOES FOR INFANTRY FIGHTING VEHICLE

- Vehicle Application: K21 IFV
- ASSY N.S.N: 2530-37-513-6168
- Pitch (mm): 152.4
- Width (mm): 435.0
- Height (mm): 180.0
- Q’ty for 1 Vehicle: 178

1_ Shoe Body
2_ Pad Assembly
3_ Pad Nut
4_ Pin
5_ End Connector
6_ Wedge Nut
7_ Wedge Bolt

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BMP-3

TRACK SHOES FOR INFANTRY FIGHTING VEHICLE

- Vehicle Application: BMP-3 IFV
- ASSY N.S.N: 9999-37-514-0873
- Pitch (mm): 150.0
- Width (mm): 381.0
- Height (mm): 178.0
- Q’ty for 1 Vehicle: 174

1. Shoe Body
2. End Connector
3. Pin
4. Pad Assembly
5. Center Guide
6. Center Guide Cap
7. Pad Bolt
8. Pad Nut
9. Center Guide Bolt
10. Wedge Bolt (Screw)
AAV & MLRS & M2

TRACK SHOES FOR ARMORED PERSONNEL CARRIER

- **Model**: T157I
- **Vehicle Application**: AAV-7A1 (Amphibious Assault Vehicle) 
  - MLRS (Multiple Launch Rocket System)
- **ASS’Y N.S.N**: 2530-01-288-2719
- **Pitch (mm)**: 152.4
- **Width (mm)**: 533.4
- **Height (mm)**: 180.7
- **Q’ty for 1 Vehicle**: 170(AAV) / 177(MLRS)
BIHO & CHUNMA

TRACK SHOES FOR ARMORED PERSONNEL CARRIER

1 _ Shoe Body
2 _ Pad Assembly
3 _ Pad Nut
4 _ Pin
5 _ End Connector
6 _ Wedge Nut
7 _ Wedge Bolt

- Model: T154 Mod.
- Vehicle Application: BIHO & CHUNMA Self-Propelled Surface to Air Missile System
- ASSY N.S.N: 2530-37-505-3168
- Pitch (mm): 152.4
- Width (mm): 458.0
- Height (mm): 170.1
- Q’ty for 1 Vehicle: 170
M109 & K55
TRACK SHOES FOR SELF-PROPELLED HOWITZER

- Model: T136
- Vehicle Application: M109, K55 Self-Propelled Howitzer
- ASS'Y N.S.N: 2530-00-799-0020
- Pitch (mm): 153.5
- Width (mm): 384.1
- Height (mm): 170.0
- Q’ty for 1 Vehicle: 158

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. End Connector
6. Wedge Nut
7. Wedge Bolt
M107 & M110 & M578

TRACK SHOES FOR SELF-PROPELLED HOWITZER

Model: T132E1
Vehicle Application: M107, M110 Self-Propelled Artillery, M578 Light Recovery Vehicle
ASS’Y N.S.N: 2530-00-076-7115
Pitch (mm): 152.4
Width (mm): 457.2
Height (mm): 175.0
Q’ ty for 1 Vehicle: 151

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. Pin Nut
6. Bushing(Long)
7. Bushing(Short)
K9 & K10
TRACK SHOES FOR SELF-PROPELLED HOWITZER

• Model .................................................. LS-2
• Vehicle Application .......................... K9 Self-Propelled Howitzer
                           K10 Ammunition Resupply Vehicle
• ASSY N.S.N ................................. 2530-37-505-6982
• Pitch (mm) ............................................ 160.0
• Width (mm) ........................................... 548.0
• Height (mm) .......................................... 176.3
• Q’ty for 1 Vehicle ................................... 186

1 _ Shoe Body
2 _ Pad Assembly
3 _ Pad Nut
4 _ Pin
5 _ End connector
6 _ Wedge Nut
7 _ Wedge Bolt
8 _ Center Guide
9 _ Center Guide Cap
10 _ Guide Bolt
11 _ Guide Nut
K55A1

Vehicle Application: K55A1 SPH
ASSY N.S.N: 2530-37-520-3490
Pitch (mm): 153.5
Width (mm): 379.5
Height (mm): 180.5
Q’ty for 1 Vehicle: 158

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. End Connector
6. Wedge Nut
7. Wedge Bolt
M9ACE(C66)

TRACK SHOES FOR DOZERS

1. Shoe Body
2. Pad Assembly
3. Pad Nut
4. Pin
5. Pin Nut
6. Bushing(Long)
7. Bushing(Short)
8. Washer(Pad)
9. Washer(Pin)

- Model ................................................. T164
- Vehicle Application ...................... M9ACE(C66) Combat Dozer
- ASS'Y N.S.N .......................... 2530-01-234-1917
- Pitch (mm) .................. 152.4
- Width (mm) .................. 457.2
- Height (mm) .................. 207.4
- Q’ty for 1 Vehicle .................. 116
Revetment-kit for protecting the aircraft and other principal military facilities

| USAGE |

1. Protection of aircraft, ammunition depot communication center, fuel storage and other facilities from the attacks of enemy or typhoon.

2. Protection from inflammability.

| CHARACTERISTICS |

1. Multiformity of size and dimension for required purposes.

2. Easy assembling with cover and quick installation by movable bolt type.

3. Corrosion resistibility by use of special steel.
**FILLING AND SEALING**

- **WELDED WIRE MESH**
  (KS D 7071 #4 ¥ 5.8×100×100)

- **CK=210kg/㎡+CONC**

- **SAND FILL**

- **FILTER MAT** (KS-K-2616-2)

- **12~19 GRAVEL**

**3 STEPS**

1. **STEP** 1 2 3 4

2. **STEP** 1 2 3 4

3. **STEP** 1 2 3 4

**4 STEPS**

1. **STEP** 1 2 3 4 5

2. **STEP** 1 2 3 4

3. **STEP** 1 2 3 4

**5 STEPS**

1. **STEP** 1 2 3 4

2. **STEP** 1 2 3 4

3. **STEP** 1 2 3 4

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**MATERIAL THICKNESS NEEDED FOR PROTECTION**

<table>
<thead>
<tr>
<th>Material</th>
<th>High-explosive shells and rocket</th>
<th>Vechicle Application</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>75mm cm(in)</td>
<td>105mm cm(in)</td>
</tr>
<tr>
<td>Sand</td>
<td>30(12)</td>
<td>46(18)</td>
</tr>
<tr>
<td>Earth</td>
<td>61(24)</td>
<td>91(36)</td>
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**DIMENSION**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Unit</th>
<th>Type</th>
<th>General description</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Width</td>
</tr>
<tr>
<td>Revetment -kit</td>
<td>KIT</td>
<td>3 STEPS</td>
<td>5.5' (1,676mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 STEPS</td>
<td>7.2' (2,185mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 STEPS</td>
<td>7.2' (2,185mm)</td>
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<tr>
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## PRODUCTS LIST

<table>
<thead>
<tr>
<th>Track Shoes for MBT</th>
<th>Track Shoes for APC &amp; IFV</th>
<th>Track Shoes for SPH</th>
<th>Others</th>
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<tbody>
<tr>
<td>K2</td>
<td>M113 &amp; K200 (T130E1)</td>
<td>M109 &amp; K55 (T136)</td>
<td>M9ACE (T164)</td>
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<tr>
<td>K1A1</td>
<td>K21</td>
<td>M107 &amp; M110 &amp; M578 (T132E1)</td>
<td>REVETMENT-KIT</td>
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<td>K1</td>
<td>BMP-3</td>
<td>K9 &amp; K10</td>
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<td>M60 (T142)</td>
<td>AAV &amp; MLRS (T157I)</td>
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<td>T-90U</td>
<td>BIHO &amp; CHUNMA (T154Mod.)</td>
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<td>M47 (T84E1)</td>
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<td>M48 (T97E2)</td>
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<td>M88 (T107)</td>
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