

# USER MANUAL

Product : Cluster Hammer  
Type : D1180 / Bucket type  
Date : 2019.11



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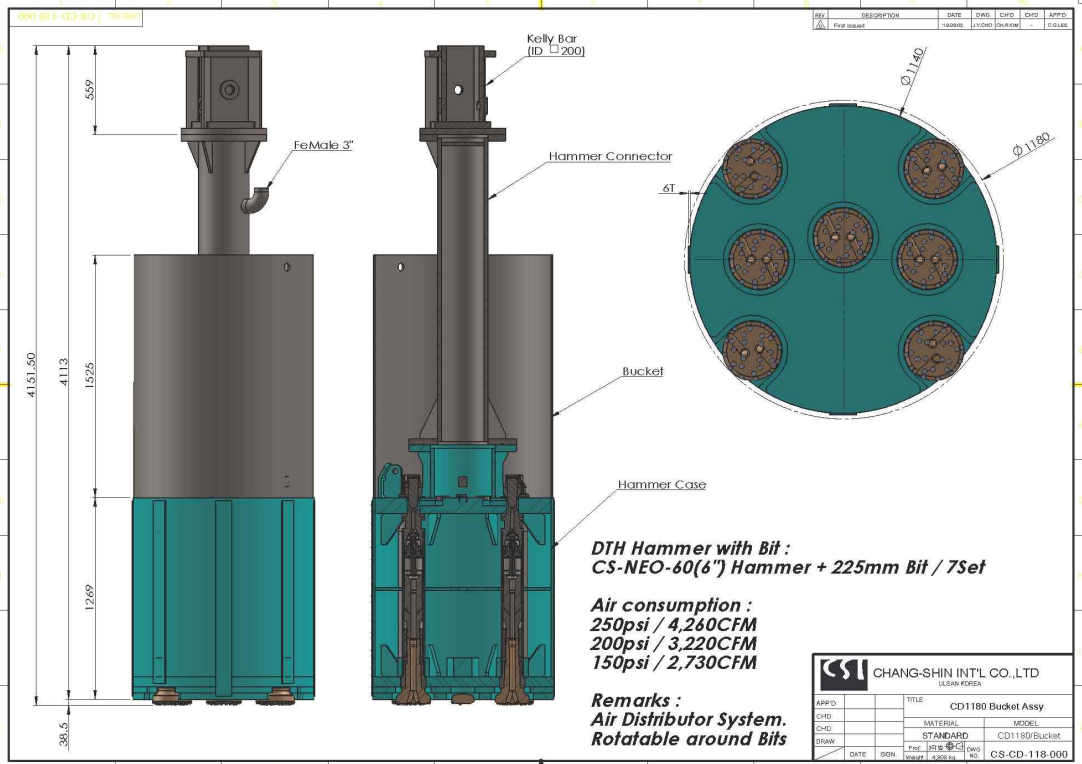
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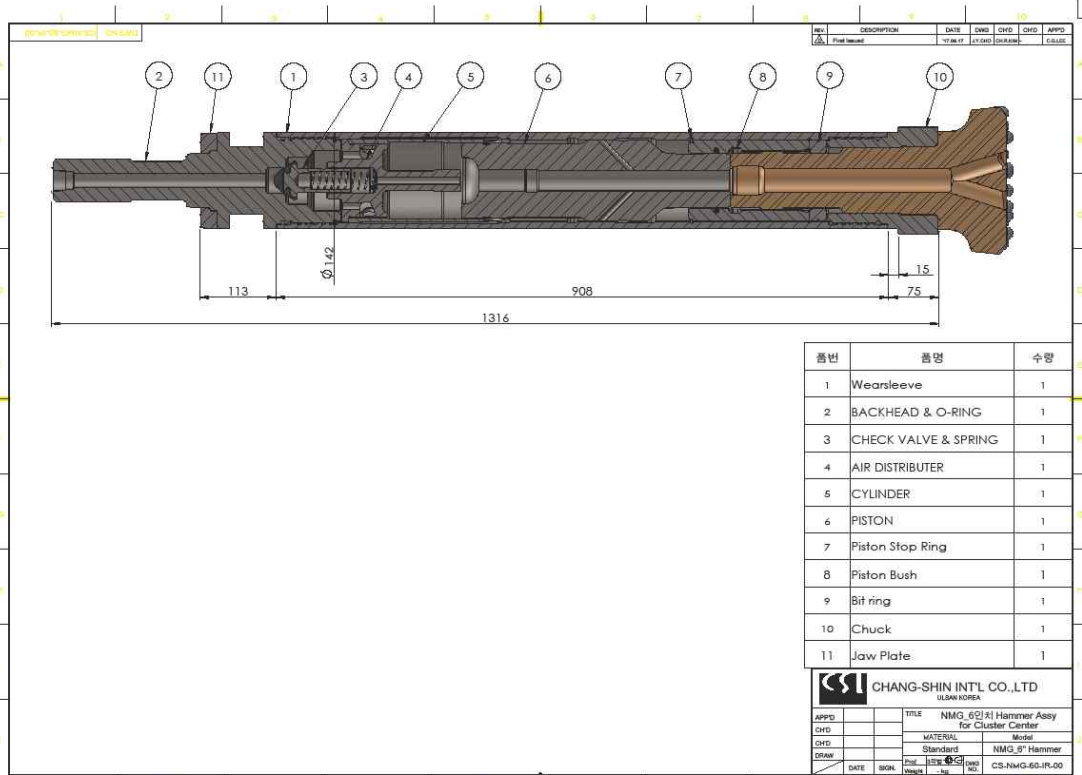
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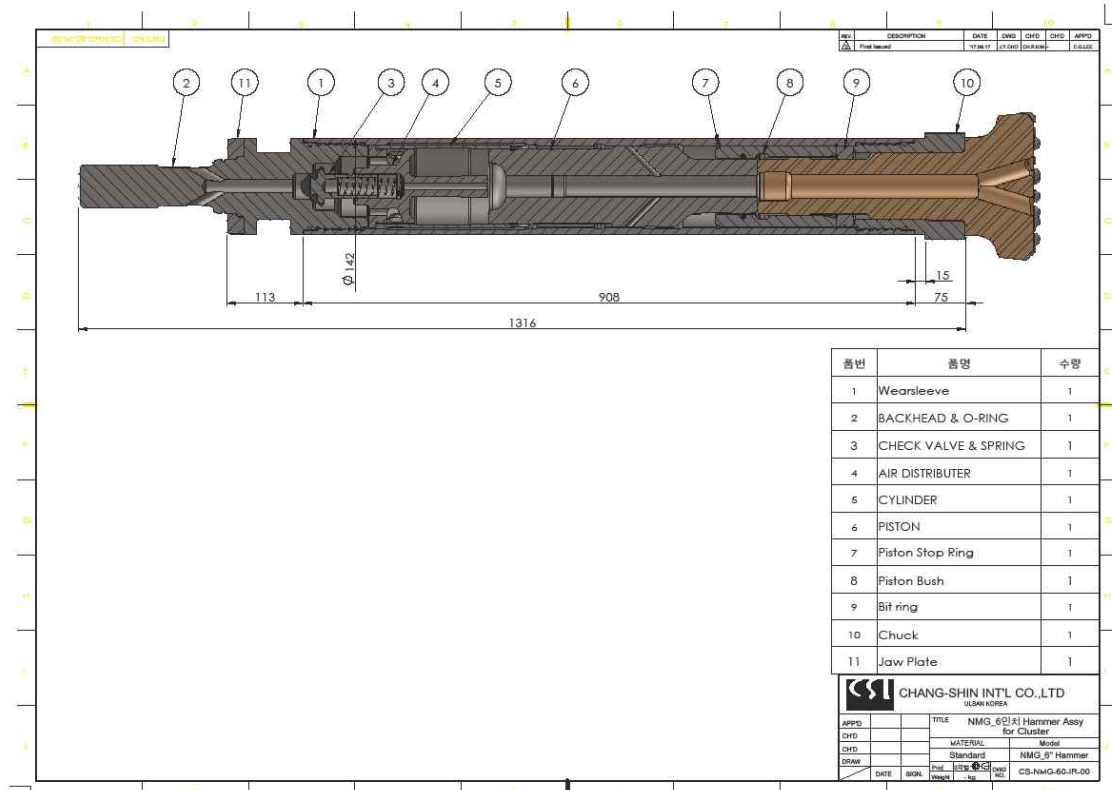
# 1. Lay Out & Part List



<CD1180 Hammer Assy>



<Fix type for center>

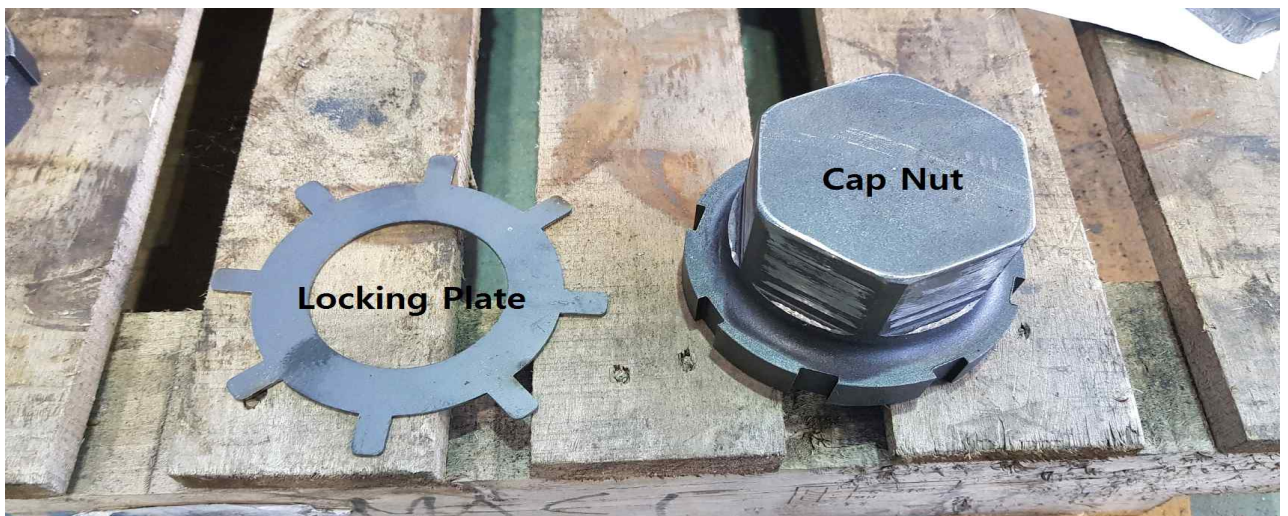
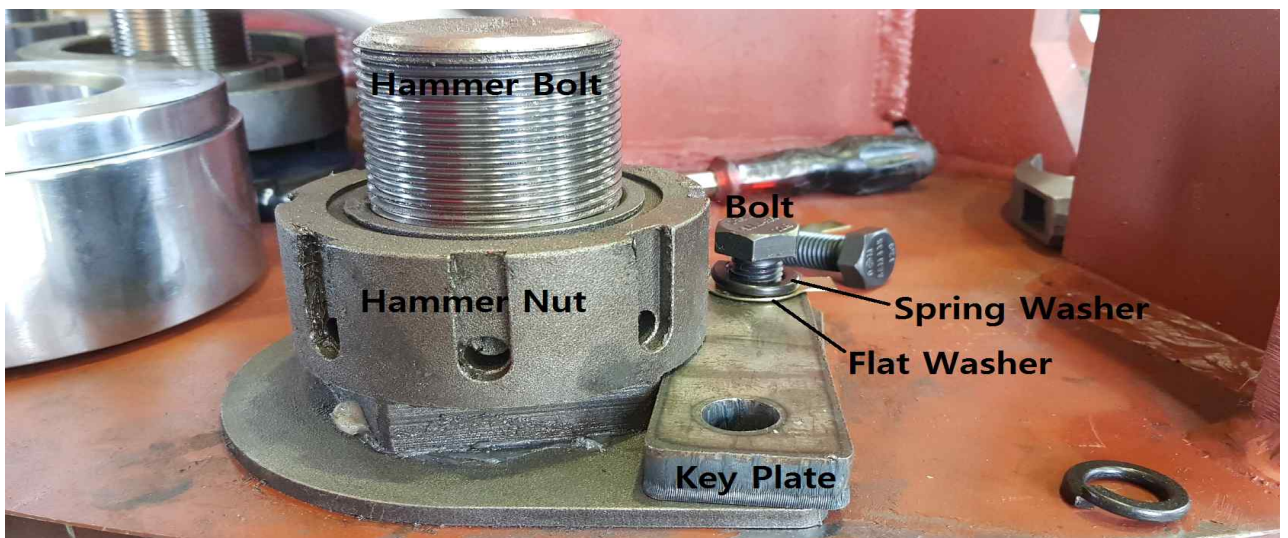


<Rotating Type>

## 2. Assemble & disassemble

### 2.1-Each Hammer with Cluster Case

#### 1. Parts Name



## 2. Assembly/Disassembly Procedure

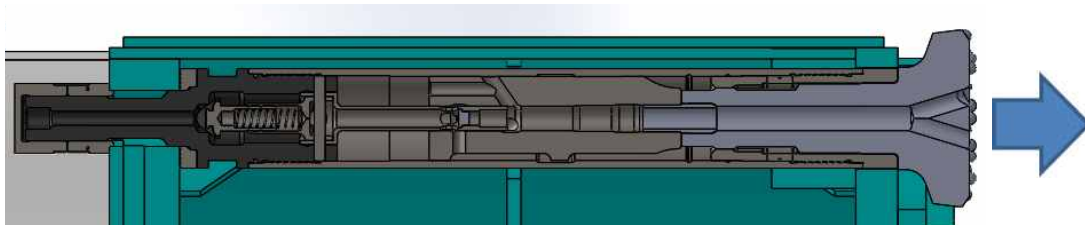
<p>1</p>	<p>Assemble each of the hammers on correct places</p> <p>Caution : When do temporary assembly, provided Screw Protector should be used for preventing the breakage of screw thread</p>	 
<p>2</p>	<p>Assemble the Hammer Nut as attached Pic.</p>	
<p>3</p>	<p>Please set up the support ring position in order to assemble the Key Plate.</p>	
<p>4</p>	<p>Set up Hydraulic Tensioner and Nut Ring as attached picture. Tighten Nut Ring until space between upper and bottom of Hydraulic Tensioner would be minimum. (Min. 1mm ~ Max. 19mm)</p>	

5	Tightening condition.	
6	Tensile strength of the bolt should be 400 Bar by using Hydraulic Hand Pump.	
7	Fasten the Hammer Nut with Round Bar, hammer or driver through the hole on Support Ring.	

8	<p>Align Key Plate and Bolt Hole on the bottom.          If Key Plate do not match with Bolt Hole, please correctly place them by turning Hammer Nut with Hydraulic Hand Pump.</p>	
9	<p>Disassemble jigs such as Hydraulic Tensioner.          And then assemble Key Plate by torque wrench and Bolt by Spring Washer and Flat Washer.</p>	
10	<p>Bend Flat Washer for preventing screw loosening.</p>	
11	<p>Assemble Cap Nut and Locking Plate.</p>	



### 3. Hammer Pulling Out

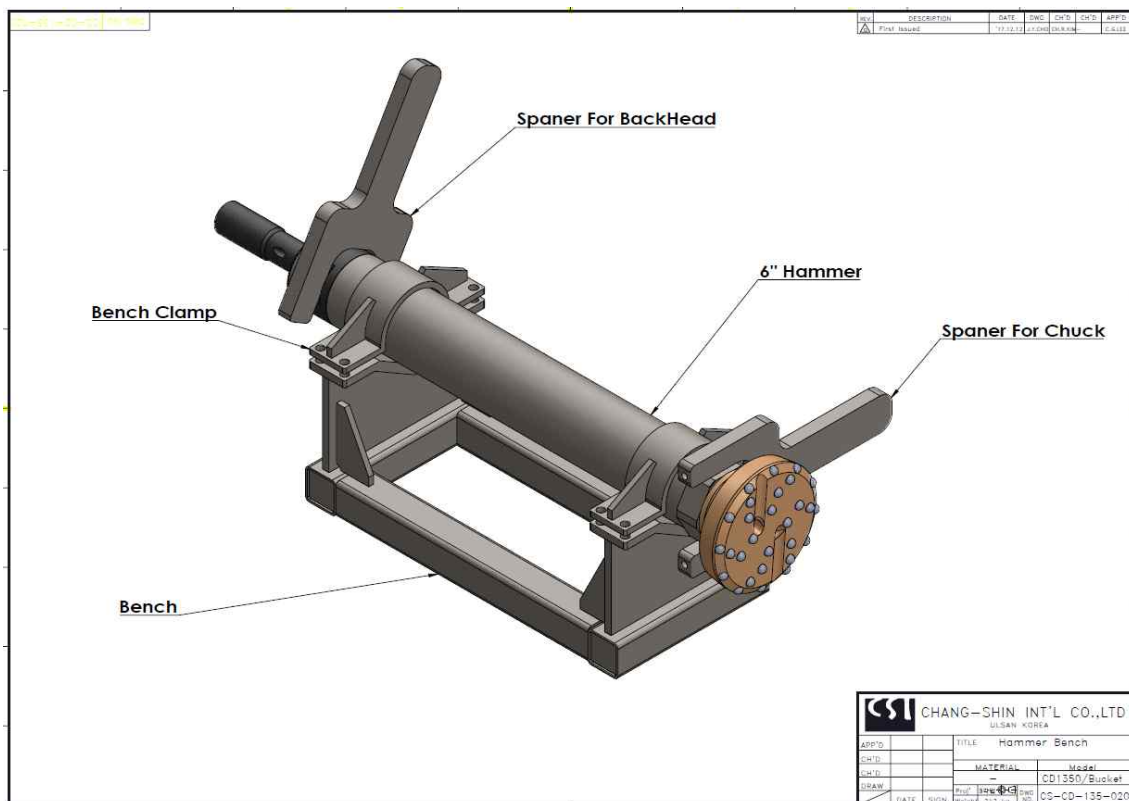


After removing the cap nuts, each hammer can be pulled out from the cluster case.

Caution : Before pulling out, Protect the thread of the hammer head. By using the supplied protector.

### 2.2-Each Hammer itself

For maintenance, Use the bench with each spanner.



Caution :

During assemble, All parts should be cleaned and lubricated with rockdrill oil.

At the finish stage of the assemble, both side thread should be tightened strongly by "HAND HAMMER".

That means, the backhead and chuck part should be strongly assembled by spanner with hand hammer.

### 3. Drilling Operation

#### 3-1. Rotation & Torque

Cluster hammer is not need strong rotation torque.

If possible the lower rotation torque is the better.

Because too strong rotation torque makes any kind of wear, damage or breakage of the bit and the chuck.

If possible reduce the rotation torque.

3 ~ 5rpm rotation speed is recommended.

But the rotation speed and rotation torque is related with drilling condition. so above mention is just a guidance.

#### 3-2. Pull down

The weight of the cluster hammer is almost enough for W.O.B

Therefore additional pull down force is not needed.

But consider the air pressure and rock strength, Under the high air pressure with strong rock strength(=Hard rock formation) condition, additional pull down force is needed.

#### 3-3. Lubrication

Generally, 1.5 ~ 2Litter lubrication oil is consumed for 1 unit air compressor.

But Cluster hammer has rotation bit, so at least 2 times of lubrication oil is consumed.

If lubrication is not sufficient, bits and chuck can be weared easily.