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## DRILLING RIG

### CS - 2000 DHR



# **CS2000 DHR**

## **TECHNICAL SPECIFICATION**



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**CS-2000 DHR DRILLING RIG  
TRUCK MOUNTED VERSION**

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## **CS-2000 DHR DRILLING RIG** **TRUCK MOUNTED VERSION**

### **TECHNICAL SPECIFICATION**

#### **1. GENERAL**

CS-2000 DHR Drilling rig is heavy duty drilling rig with simple design providing excellent performance at minimum maintenance for percussion drilling with down the hole hammer, rotary drilling with mud, reverse drilling crown core drilling and reverse circulation drilling with optional drive head.

This rig adapts powerful engine & hydraulic pump, carries out various drilling task efficiently.

With robust structure of mast, it grants very stable & strong power in pull back & pull up operation.

Wide space on the frame with simple design provides easy maintenance.

The rig would be transferred to 'transport mode' during driving position.

#### **2. OVERALL DIMENSIONS**

Overall Length	:	15.30 M
Overall Width	:	2.63 M
Overall Height	:	4.30 M
Weight	:	28 Ton





## **CS-2000 DHR DRILLING RIG** **TRUCK MOUNTED VERSION**

### **3. RATED DRILLING CAPACITY**

In favorable condition

- **For DTH Hammering** : 1500 ~ 2000 meters  
(drill pipe :  $\phi$  114 ~  $\phi$  200mm)
- **For Rotary Drilling** : 2500 meters  
(Tricone bit, coring)
- **For Auger Drilling** : CFA 300 meters  
(Flight Auger :  $\phi$  200mm)

### **4. CARRIER**

#### **HYUNDAI NEW-POWER TRUCK CARGO 15 TON**

Model	:	HD320
Cab type	:	Sleeper Cab
Drive System	:	LHD, 8 x 4
Wheel Base	:	Extra Long
Application Engines	:	D6CA38A

#### **DIMENSIONS(mm)**

Wheel Base	:	1,700 + 4,850 + 1,300
Overall Length	:	12,245
Overall Width	:	2,495
Overall Height	:	3,005
Wheeltread Front	:	2,040
Wheeltread Rear	:	1,845
Overhang Front	:	1,925
Overhang Rear	:	2,855
Min. Ground Clearance	:	275





## CS-2000 DHR DRILLING RIG TRUCK MOUNTED VERSION

### WEIGHT(kg)

Curb Vehicle Weight	:	10,560
Max. Gross Vehicle Weight	:	36,200
On the Front Axle Load	:	12,600
On the Rear Axle Load	:	23,600

### CALCULATED PERFORMANCE

Max. speed km/h	:	104
Max. Gradeability Tan	:	0.422
Min. Turning Radius m	:	11.7

### ENGINE

Model	:	D6CA38A
Number of Cylinder	:	6in-line
Max. Power/Torque (ps/kgm)	:	380/160

### TRANSMISSION

Model	:	ZF16S151
Type	:	10 forward and 2 reverse speed

### BRAKE

Service Brake	:	Full air with dual circuit
Parking Brake	:	Spring loaded type chamber
Exhaust Brake	:	Air operated, butterfly valve type

### OTHERS

Battery	:	24V-150AH
Rear Axle Ratio	:	3.909
Tire	:	11.00 x 20 – 16PR
Suspension	:	Taper-Laminated leaf springs
Fuel Tank	:	400 liter



## **CS-2000 DHR DRILLING RIG TRUCK MOUNTED VERSION**

### **5. RIG FRAME**

Rig frame is an independent interface base between the truck chassis and all of drilling equipments in order to avoid any deformation or flexion of the whole system. Rig frame mounts every rig components with five hydraulic outriggers (two on front, three on rear), made of high resistance electrically welded steel.

### **6. MAST**

#### **FEATURES**

- Mast has strong lattice structure made of high grade R.H.S(Rectangular Hollow Section) square tubular steel, assures safe & easy handling for 12meter long drill pipes & drill strings.
- Mast is self standing & lying by hydraulic cylinders controlled on control panel.
- There are several wire sheaves at top & bottom of the mast for the operation of pull-back & pull-down.
- Especially, the mast has steering device on the top in order to control positioning of drill strings.

#### **SPECIFICATIONS**

Total Load Capacity	:	60Ton
Length	:	14m
Upper Part	:	4 sheaves mount
Hydraulic cylinder	:	2ea













## **CS-2000 DHR DRILLING RIG TRUCK MOUNTED VERSION**

### **13. CONROL PANEL**

Control panel console contains all engine drill gauges, controllers. It makes the driller control all operation easily at the platform located on Side of mast.

#### **MAIN INDICATORS**

- Engine Throttle
- Engine start and stop
- Oil pressure. cooling water temperature
- Electrical charge
- Hydraulic pressure
- Hydraulic temperature
- Emergency stop
- All control lever including for outrigger
- Main indicator

### **14. CONNECTION MANIFOLD BLOCK**

Connection manifold block locates at side of mast in order to connect the fluid (air or mud) to top head drive for each operation. This manifold block has 4 ports operated independently by valves for each drilling application.

#### **FORT SIZE**

Air Port	:	2 connector
Mud Port	:	2 connector
Foam Port	:	1/2 connector
Lubricate Port	:	3/8 connector



## **CS-2000 DHR DRILLING RIG TRUCK MOUNTED VERSION**

### **15. LIGHTING & ELECTRICAL SYSTEM**

- 24V
- Water proof, low volt light on mast and frame adjustable

### **16. WATER INJECTION PUMP**

Main purpose	:	Foam drilling or cleaning
Control & Operation	:	Controlled by control panel & Hydraulically driven
Capacity	:	65ℓ /min
Pressure	:	28 bar

### **17. LUBRICATOR**

Air line lubricator assures positive displacement of lubricator oil automatically for D.T.H( Down The Hole) Hammer operation by venturi system

Tank Capacity	:	40ℓ
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### **18. STANDARD TOOLS**

<b>NO</b>	<b>DESCRIPTION</b>	<b>Q'TY</b>
1	ART. 351MM 150 CHISEL	1 EA
2	ART. 351MM 200 CHISEL	2EA
3	ART. 100M FIRST AID KIT	2EA
4	MOD. 25/EUR/80 TIRE INFLATING GUN 1 1/A	1 EA
5	MAGNETIC AIR LEVER 50CM LONG	1 EA
6	HEXAGON BIT SOCKET WRENCH SET	1 EA
7	COMBINATION WRENCH SET	1 EA
8	BALL L-WRENCH SET	1 EA



**CS-2000 DHR DRILLING RIG  
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9	OPEN JAW WRENCH	14MM	2EA
		19MM	2EA
		22MM	2EA
		24MM	2EA
		27MM	2EA
		30MM	2EA
		32MM	2EA
		36MM	2EA
10	PIPE WRENCH	10	2EA
		18	1EA
11	CHAIN WRENCH	20"	4EA
12	SNAP RING PLIERS	OUT DIAMETER : SS230	2EA
		IN DIAMETER : Hs230	2EA
13	GREASE GUN	100CC	1EA
14	GREASE HIGH PRESSURE HOSE		2EA
15	STANDARD LOCKING PLIERS		1EA
16	LINE COLOR DRIVERS	107 x 100	1EA
		107 x 200	1EA
		107 x 100	1EA
		107 x 250	1EA
		107 x 300	1EA
17	HAMMER DRIVER	8 x 200	1EA
18	BALL PEIN HAMMER	8 OUNCE	1EA
		32 OUNCE	2EA



## CS-2000 DHR DRILLING RIG TRUCK MOUNTED VERSION

### 19. PART LIST

PART ID	ITEM	DESCRIPTION	Q'TY
<b>A. Hydraulic System</b>			
A-1	PUMP	A-1-① K3V180DT GLASS	
A-2	CONTROL VALVE	A-2-① PROPORTIONAL VALVE (3/4 2PORT)	2EA
		A-2-② DIRECTIONAL VALVE (3/4 4PORT)	2EA
		A-2-③ DIRECTIONAL VALVE (1/2 4PORT)	2EA
A-3	ACC	A-3-① RELIEF VALVE ( 1 )	3EA
		A-3-② DIVIDE VALVE ( 1 à 3/4 )	1EA
A-4	FILTER	A-4-① 2 PT 10μ	3EA
A-5	BALL VALVE	A-5-① 2 PT	4EA
A-6	NIPPLE	A-6-① 2 PT	4EA
A-7	SOCKET		
A-8	HOSE		
A-9	CYLINDER	A-9-① BACK STAY ( 150 TELESCOPE)	2EA
		A-9-② TRAVEL CYLINDER ( 125 100 ROD)	2EA
		A-9-③ CLAMP ( 100 70 ROD)	2EA
		A-9-④ PULLER ( 100 70 ROD)	1EA
		A-9-⑤ MOVEMENT ( 140 70 ROD)	2EA
A-10	MOTOR	A-10-① POWER MOTOR (940CC/REV)	2EA
		A-10-② MAIN WINCH (140CC/REV)	2EA
		A-10-③ SERVICE WINCH (100CC/REV)	2EA
		A-10-④ PUMP DRIVE MOTOR(60CC/REV)	1EA
<b>B. Engine</b>			
B-1	ENGINE	B-1-① DAEWOO PI 158LE	
B-2	PART	AS PER ENCLOSURE	1 SET





**CS-2000 DHR DRILLING RIG  
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**C. Winch**

C-1	MAIN	C-1-① CENTER GEAR & BEARING	1 SET
		C-1-② IDLE GEAR & BEARING	1 SET
C-2	SERVICE	C-2-① CENTER GEAR & BEARING	1 SET
		C-2-② IDLE GEAR & BEARING	1 SET

**D. Mast**

D-1	TRAVEL ROLLER		8EA
D-2	ROLLER BEARING		16EA
D-3	ROLLER PIN		8EA
D-4	GUIDE ROLLER		4EA
D-5	GUIDE BEARING		8EA
D-6	GUIDE PIN		4EA
D-7	WIRE TENSION BOLT		4EA
D-8	WIRE TENSION NUT		4EA
D-9	MAIN SHEAVE	D-9-① ROLLER	2EA
		D-9-② BEARING	4EA
		D-9-③ PIN	2EA
D-10	SERVICE SHEAVE	D-10-① ROLLER	2EA
		D-10-② BEARING	4EA
		D-10-③ PIN	2EA

**E. Rotary Head**

E-1	MOTOR SHAFT	E-1-① MOTOR BEARING	1 EA
E-2	GEAR	E-2-① MAIN	1 EA
		E-2-② PINION	1 EA
E-3	BEARING	E-3-① BALL	2EA
		E-3-② TAPER	2EA





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E-4	RETAINER		2EA
E-5	SPINDLE	E-5-① 130 IN HOLE 40	
E-6	SWIVEL	E-6-① BEARING	2EA
		E-6-② PACKING	10EA
		E-6-③ SPINDLE	1EA
		E-6-④ NIPPLE	1EA
		E-6-⑤ RETAINER	2EA
E-7	SHOCK ABSORBER	E-7-① RETAINER	2EA
		E-7-② U-PACKING	4EA
		E-7-③ SPINDLE	1EA
		E-7-④ CASE	1EA
		E-7-⑤ JOINT	1EA
<b>F. Outrigger</b>			
F-1	UP. DOWN	F-1-① CYLINDER ( 120 60 ROD)	4EA
		F-1-② IN CASE (180 X 180)	4EA
		F-1-③ OUT CASE (200 X 200)	4EA
		F-1-④ NIPPLE (1/2 )	4EA
<b>G. Hydraulic Tank</b>			
G-1	TANK		
G-2	DRAIN VALVE	3/4	2EA
G-3	IN PUT VALVE	2	2EA
G-4	FILTER		3EA
<b>H. Pannel</b>			
H-1	PRESSURE GAUGE	H-1-① POWER PUMP PRESS GAUGE	2EA
		H-1-② POWER OPERATING PRESSURE GAUGE	2EA
H-2	ENGINE GAUGE	H-2-① VOLT METER	1EA
		H-2-② OIL PRESSURE GAUGE	1EA





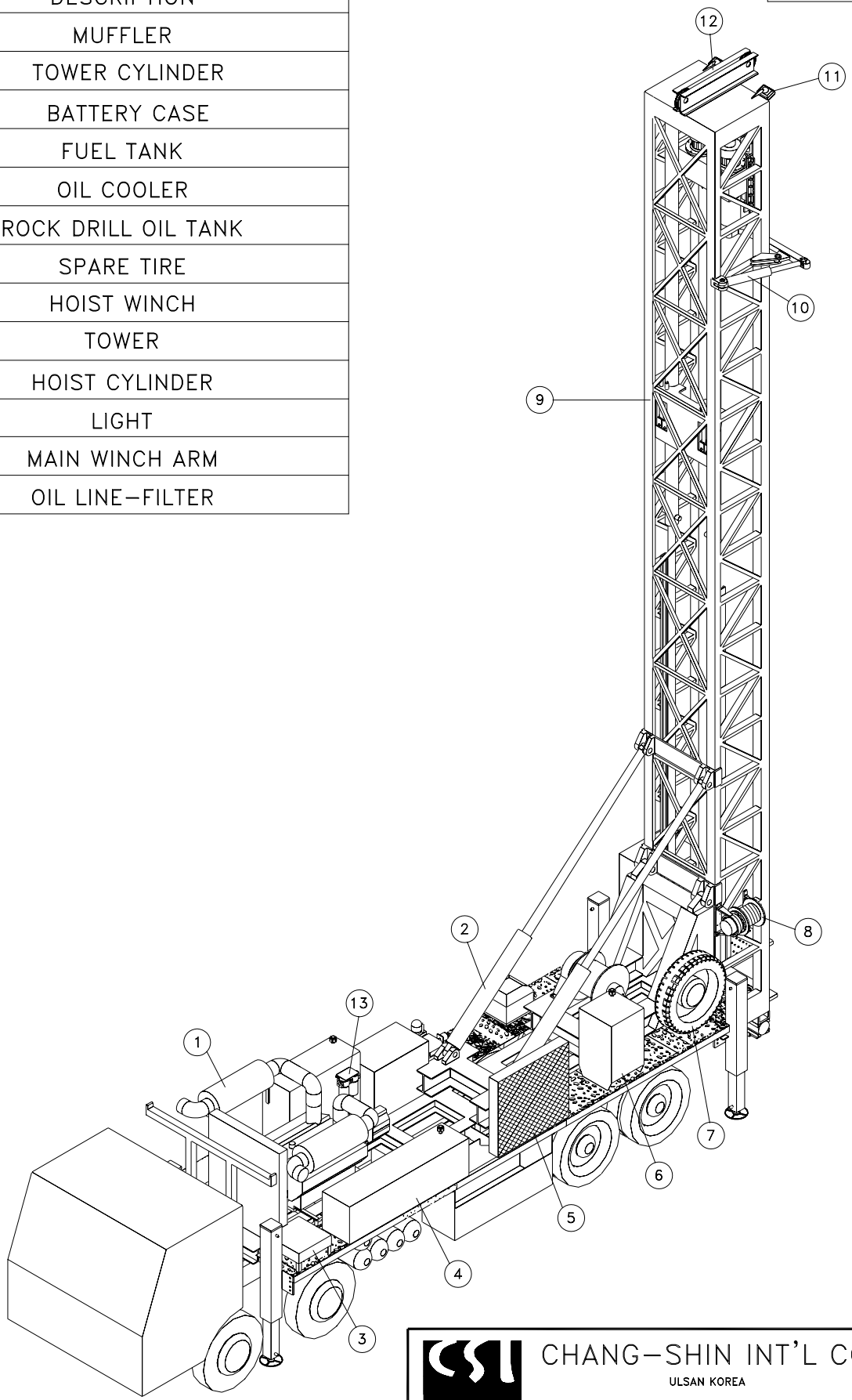



**CS-2000 DHR DRILLING RIG**  
**TRUCK MOUNTED VERSION**

		H-2-③ OIL TEMPERATURE	1 EA
		H-2-④ COOLING WATER TEMPERATURE GAUGE	1 EA
<b>I. Truck</b>			
I-1	TRUCK	I-1-① HYUNDAI 15T CARGO TRUCK	
		I-1-② OUTPUT 410PS	
		I-1-③ TORQUE 173 KG·M	



NO	DESCRIPTION
1	MUFFLER
2	TOWER CYLINDER
3	BATTERY CASE
4	FUEL TANK
5	OIL COOLER
6	ROCK DRILL OIL TANK
7	SPARE TIRE
8	HOIST WINCH
9	TOWER
10	HOIST CYLINDER
11	LIGHT
12	MAIN WINCH ARM
13	OIL LINE-FILTER

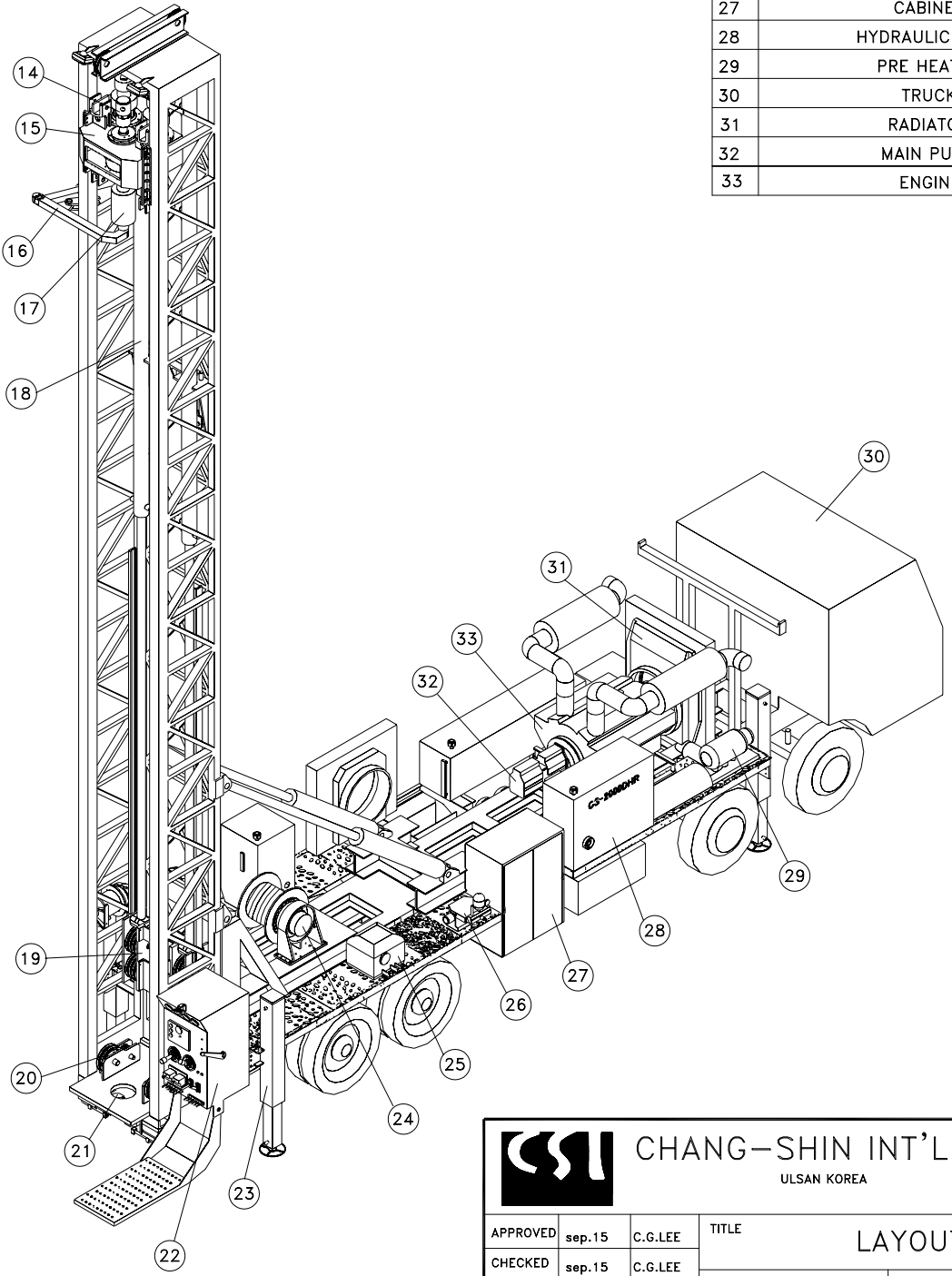





**CHANG-SHIN INT'L CO.,LTD**  
ULSAN KOREA

APPROVED	sep.15	C.G.LEE	TITLE				LAYOUT	
CHECKED	sep.15	C.G.LEE	MATERIAL		MODEL			
CHECKED	sep.15	Y.J.LEE	-		CS-2000DHR			
DRAW	sep.15	W.S.SEO	SCALE	1:1	DWG NO.	LA001	REV NO.	△
	DATE	SIGN.	Q'TY	1EA				

NO	DESCRIPTION
14	SWIVEL
15	POWER HEAD
16	HOIST ARM
17	APSOBAR
18	FEED CYLINDER
19	FEED BRACKET
20	PULLEY
21	CLAMP
22	CONTROL PANNEL
23	OUTRIGGER
24	MAIN WINCH
25	MAIN CONTROL VALVE
26	WATER INJECTION PUMP
27	CABINET
28	HYDRAULIC TANK
29	PRE HEATER
30	TRUCK
31	RADIATOR
32	MAIN PUMP
33	ENGINE



		<b>CHANG-SHIN INT'L CO.,LTD</b> ULSAN KOREA			
		APPROVED sep.15 C.G.LEE		TITLE <b>LAYOUT</b>	
CHECKED sep.15 C.G.LEE		MATERIAL —		MODEL <b>CS-2000DHR</b>	
CHECKED sep.15 Y.J.LEE		SCALE 1:1		DWG NO. <b>LA002</b>	
DRAW sep.15 W.S.SEO		DATE		Q'TY 1EA	
SIGN.		DATE		REV NO. <b>△</b>	

