

TSK
BLAST
HOLE
BIT



TIX CORPORATION

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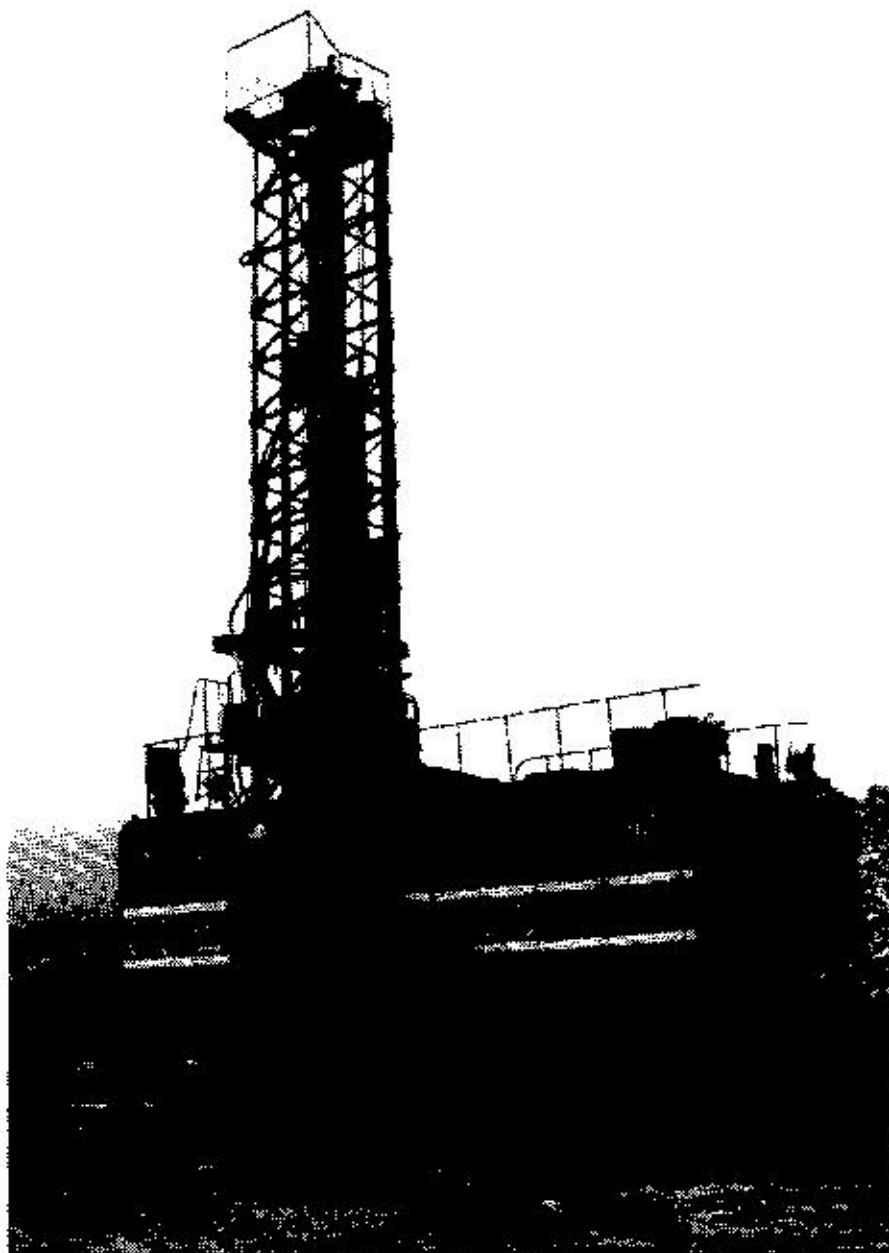
TSK, since its establishment in 1919, has consistently developed and manufactured drilling tools and equipments; especially various types of drilling bits, tools and measuring instruments, as well as a wide range of equipment essential to deep well drilling.

Among these tools, drilling bits, the most indispensable tools, have been TSK's principal products, and are being manufactured under TSK's long tradition and experience, by qualified engineering using exclusive machine tools and under a rigid quality control system.

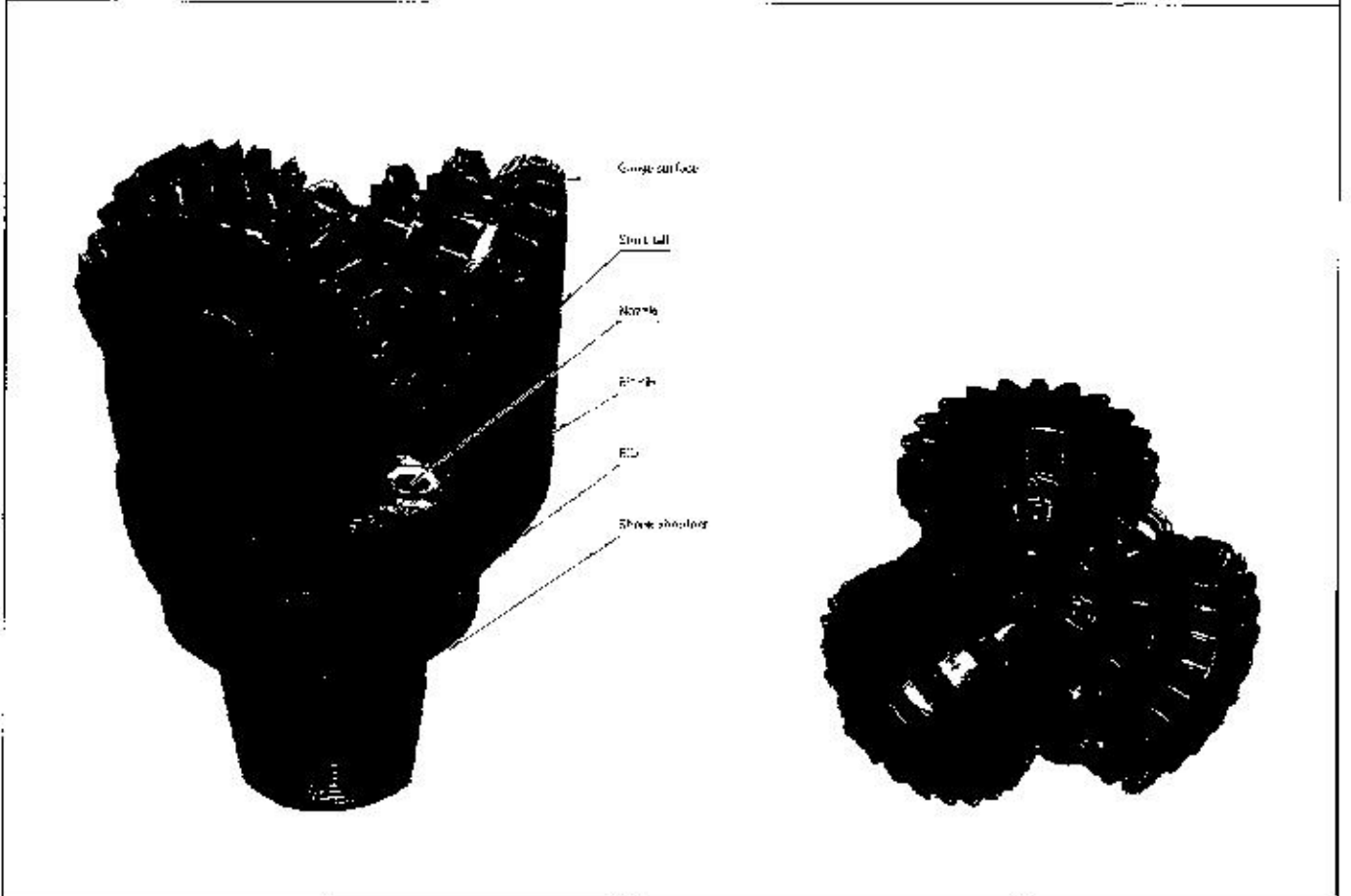
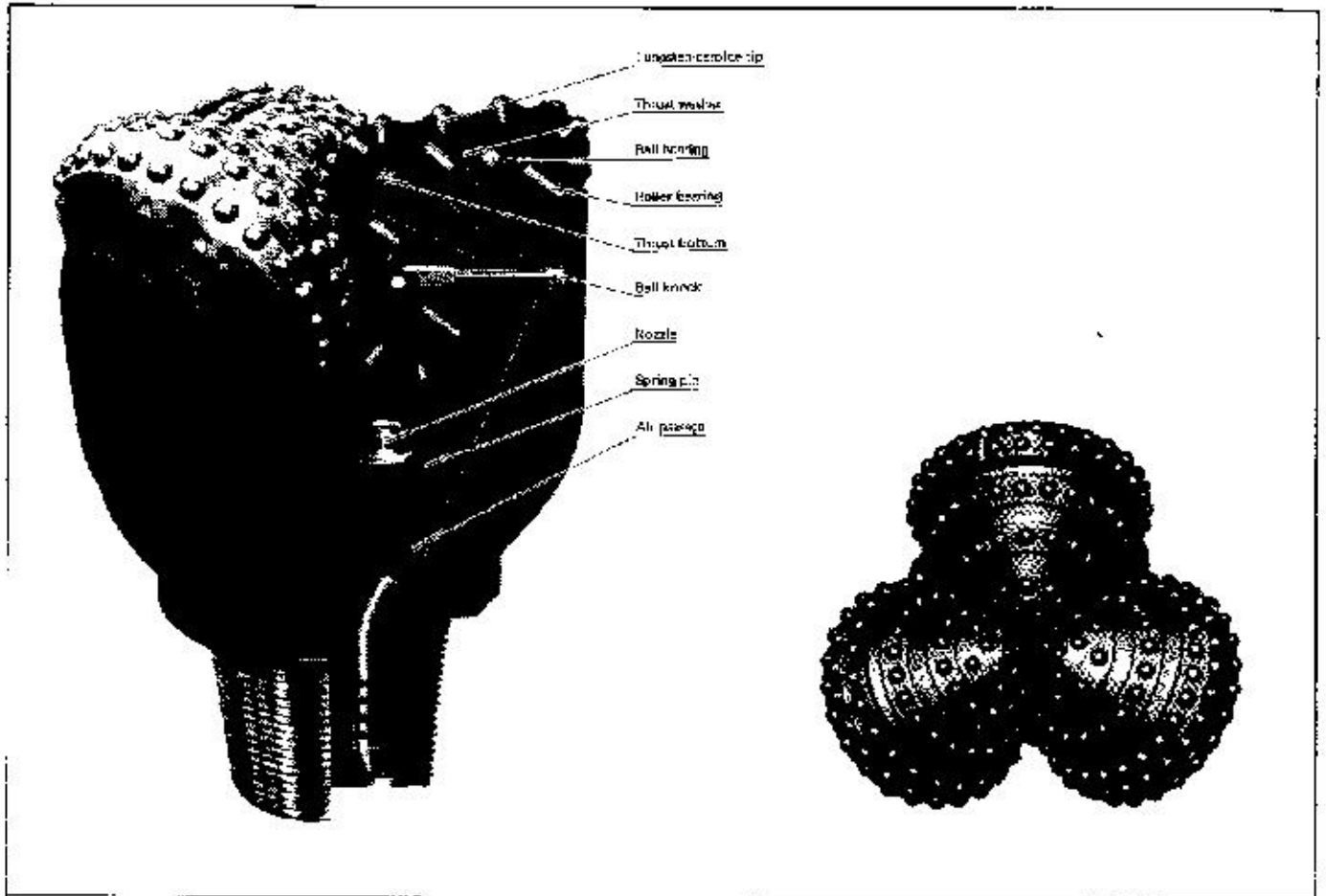
TSK drill bits are widely accepted and are receiving high reputation not only in the petroleum industry but also among geothermal, water well and hot spring drilling industries, in test boring of mines, dams, etc., in big hole boring, and among the full size tunnel boring industries.

Blast hole bits having a high opportunity to face to hard formations and formation hard to drill, and, in addition, having to meet with the requirements of longer life, faster drilling, and less expensive in cost, which are raised by the specific character of blast hole drilling. Our laboratory studies have brought remarkable improvement in performance results, so that TSK bits have gained high reputation widely among various drilling industries as competent bits as those of world's top class.

TSK offers wide selection of bits appropriate to respective drilling object to contribute to drilling cost reduction, and is making daily endeavours on the development of better quality bits in order to fully meet with the users' requirements.



TERMINOLOGY OF ROCK BIT ELEMENTS



MEDIUM FORMATION

A-30



Formation:

Medium low compressive strengths
abrasive streaks.

(soft limestone, sandy shales, sand
stone, schist, peridotite.)

Drilling Weight:

2,500 to 4,500 lbs/in of bit diame-
ter.

1,100 to 2,000 Kg/in of bit diame-
ter.

Normal Rotary Speed:

80 to 45 rpm

(lower rpm with higher weight)

Rock Hardness Range:

Up to 30,000 psi

MEDIUM HARD FORMATION

A-40



Formation:

Soft to medium hardness moderate
compressive.

(dolomites, limestone, sandstone,
hard shales, schist, peridotite.)

Drilling Weight:

2,600 to 5,300 lbs/in of bit diame-
ter.

1,200 to 2,400 Kg/in of bit diame-
ter.

Normal Rotary Speed:

60 to 40 rpm

(lower rpm with higher weight)

Rock Hardness Range:

20,000 to 50,000 psi

MEDIUM HARD FORMATION

A-60



Formation:

Medium hardness, high compressive
strength, medium hard abrasive.

(dolomites, limestone, hard sand-
stone, sulphide ores)

Drilling Weight:

3,000 to 5,500 lbs/in of bit diame-
ter.

1,400 to 2,500 Kg/in of bit diame-
ter.

Normal Rotary Speed:

55 to 40 rpm

(lower rpm with higher weight)

Rock Hardness Range:

20,000 to 60,000 psi

INSERT BITS

HARD FORMATION

A-80



Formation:

Hard and abrasive.
(granite, basalt, chert, granite, andesite, gneiss, hematite, sulphide ores)

Drilling Weight:

3,000 to 6,400 lbs/in of bit diameter.

1,400 to 2,900 Kg/in of bit diameter.

Normal Rotary Speed:

50 to 30 rpm

(lower rpm with higher weight)

Rock Hardness Range:

30,000 to 70,000 psi

EXTRA HARD FORMATION

A-90



Formation:

Extremely hard and abrasive.
(chert, basalt, quartzitic sand, quartzite, taconite, hematite, jaspilite)

Drilling Weight:

3,000 to 6,600 lbs/in of bit diameter.

1,400 to 3,000 Kg/in of bit diameter.

Normal Rotary Speed:

50 to 30 rpm

(lower rpm with higher weight)

Rock Hardness Range:

30,000 to 80,000 psi

SOFT FORMATION

3S-A



Formation:

Soft with low compressive strength
(Soft shales, clays, red beds, salt
broken shale, soft sands)

Drilling Weight:

2,200 to 4,400 lbs/in of bit diameter.
1,000 to 2,000 Kg/in of bit diameter.

Normal Rotary Speed:

180 to 80 rpm
(lower rpm with higher weight)

Rock Hardness Range:

Up to 20,000 psi

MEDIUM HARD FORMATION

3MH-A



Formation:

Medium strength with hard streaks
or abrasive rocks.
(limestones, shale, siltstones, me-
dium sands, gypsums, serpentine)

Drilling Weight:

2,200 to 5,000 lbs/in of bit diameter.
1,000 to 2,300 Kg/in of bit diameter.

Normal Rotary Speed:

100 to 50 rpm
(lower rpm with higher weight)

Rock Hardness Range:

15,000 to 40,000 psi

HARD FORMATION

3H-A



Formation:

Medium to hard strength with hard
streaks or hard abrasive rocks,
(chart, pyrite, granites, quartzites,
dolomitic and quartzite sands)

Drilling Weight:

3,000 to 6,000 lbs/in of bit diameter.
1,400 to 2,700 Kg/in of bit diameter.

Normal Rotary Speed:

70 to 40 rpm
(lower rpm with higher weight)

Rock Hardness Range:

20,000 to 60,000 psi

ROCK BIT CLASSIFICATION, TYPES AND SIZES AVAILABLES

STEEL TOOTH BITS

FORMATION	IADC CODE	TYPE
SOFT	112	3SS-A
	122	3S-A
	132	3MSS-A
MEDIUM HARD	232	3MH-A
HARD	322	3H-A

INSERT BITS

FORMATION	IADC CODE	TYPE
SOFT	512	A-20
	532	A-30
	612	A-40
MEDIUM HARD	622	A-50
	632	A-60
	732	A-70
HARD	742	A-80
	832	A-90
EXTRA HARD		

BIT SIZE		STD. API PIN SHANK SIZE	APPROX. WEIGHT kg (STEEL TOOTH)	NOZZLE CORD
inch	mm			
6-3/4	171.5	3-1/2 REG	20.5	ANA
7-7/8	200.0	4-1/2 REG	33.0	BNA
9	228.6	"	46.0	CNA
9-5/8	244.5	6-5/8 REG	56.0	"
9-7/8	250.8	"	59.0	"
10-5/8	269.9	"	75.0	"
11	279.4	"	80.0	"
12-1/4	311.2	"	99.0	"
13 3/4	349.3	"	131.0	"
15	381.0	7 5/8 REG	166.0	DNA
16	406.4	"	185.0	"
17-1/2	444.5	"	243.0	"

TUNGSTEN CARBIDE TOOTH SHAPES

