



Atlas Copco

DRILL ACCESSORIES CATALOG



Read the instruction manual before operating equipment.

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Table of Contents

GLOSSARY	1
GLOSSARY OF DRILLING TERMS	3
DRILL PIPE	21
DRILL PIPE	23
KELLY BARS	37
KELLY BARS	39
LOWER KELLY SUBS	45
UPPER KELLY SUBS	51
STABILIZERS	57
BIT BUDDY STABILIZER	59
BLADE STABILIZER	65
SPIRAL STABILIZER	71
BIT SUBS	75
BIT SUBS	77
INLINE SUBS	89
FLOAT VALVES	91
CROSSOVER SUBS	93
LOWER SUBS	97
UPPER SUBS	101
SAVER SUBS	104
SPINDLE SUBS	105
FLOATING SPINDLE SUB ASSY	107
SHOCK SUB ASSY	109

Table of Contents

BUSHINGS	111
BUSHINGS	113
BITS & CHUCKS	123
BITS	125
DETACH CHUCK	129
WRENCHES AND BREAKOUT FORKS	139
CHAIN WRENCHES	141
J WRENCHES	143
HAND BREAKOUT WRENCHES	145
AUTO B/O FORK	149
FORK CHUCKS	151
MISCELLANEOUS	153
FISHING TOOLS	155
LIFTING BAILS	159
LIFTING PLUG	161
ROD HANDLING TOOL	163
HOLE OPENERS	165

TABLE OF CONTENTS

Table of Contents

DRILL STRINGS	169
DM45/50 DRILL STRINGS	171
DML DRILL STRINGS	175
DMH DRILL STRINGS	179
DM25–SP DRILL STRINGS	191
DM25–SPH DRILL STRINGS	193
DM25–TH HAMMER	195
DM25–TH ROTARY	197
DMM2 DRILL STRINGS	199
DMM3 DRILL STRINGS	203
700 CRAWLER SERIES DRILL STRINGS	213

TABLE OF CONTENTS

Table of Contents

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TABLE OF CONTENTS

GLOSSARY

SECTION

GLOSSARY

SECTION

GLOSSARY

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GLOSSARY OF DRILLING TERMS

ACTUATOR

A motor or cylinder that is being put into motion by the flow of a hydraulic pump.

ADAPTER-ADAPTOR (BOTH SPELLINGS ARE ACCEPTED).

A device used to connect two different sizes or types of threads. It is used to connect rotary head spindles to drill pipe, drill pipe to stabilizers and stabilizers to drill bits.

ANFO

Ammonium Nitrate Fuel Oil mixture: explosive most commonly used in blastholes.

ANNULUS

The space between the drill pipe and the outer diameter of the hole made by the bit.

ANNUNCIATOR

An electrical signaling device on a switchboard.

API

American Petroleum Institute.

ASME

American Society of Mechanical Engineers.

ASTM

American Society of Testing Materials.

AUTO LUBE SYSTEM

An air powered pump that provides grease to various components of the drill through hoses. It can be manual or computer controlled.

AXLE (MAIN SHAFT)

The tube connecting the tracks of a Blasthole drill to the main frame.

BANK

Vertical surface of an elevation; also called face.

BECO THREAD

A coarse type of thread used on drill pipe for blastholes.

BENCH

Work area on top edge of an elevation. The work area for blasthole drills.

BIT, AUGER

A type of bit used to drill soft formations. It usually has a series of flutes on the outside.

GLOSSARY OF DRILLING TERMS

BIT, CLAW

A wing-type bit that has multiple flukes. Sometimes called a Drag Bit.

BIT BREAKER

A device installed in the centralizer table to hold a bit stationary while the drill pipe is being removed from the bit by reversing the rotation. Also called **Bit Basket**.

BIT, DHD

A solid, one piece bit, with shaped tungsten carbide inserts in the face. Used in percussion drilling.

BIT, ROLLER

Also called rotary bit or tricone bit. It usually has three conical rollers fitted with steel or tungsten carbide teeth that rip the rock loose using down pressure.

BITS

Tools that pulverize rock formations so that material can be removed from the hole. Generally 3-blade, 3-cone or percussion.

BLASTHOLE

A drilled hole used for purposes of excavation rather than exploration, geological information or water wells. Usually limited to 200 feet.

BLASTING

The act of igniting explosives in a borehole to produce broken rock.

BLOWDOWN

Term used when releasing compressed air from the receiver tank on a compressor when the drill is stopped.

BLOWDOWN VALVE

The valve that opens when the drill is stopped and releases all the air pressure in the receiver tank.

BORE

To make a hole in the ground with a drill.

BOREHOLE

The hole made by a bit.

BOX END

Fitting on the female end of a drill pipe. See Pin End.

GLOSSARY OF DRILLING TERMS

BREAKOUT

Refers to the act of loosening threaded pipe joints; and of unscrewing one section of pipe from another, while coming out of the hole.

BREAKOUT WRENCH

A wrench, connected to a hydraulic cylinder, used to turn the upper piece of pipe while the lower pipe is being held by the Fork Chuck or Sliding Wrench.

BRIDGE

An obstruction in the hole. Usually caused by a caving formation or something falling into the hole.

BURDEN

Distance from the blasthole to the nearest face. Distance measured from face to a row of holes.

BUTTONS

Short, rounded teeth of sintered tungsten carbide inserts which serve as teeth in drill bits used for drilling very hard rock.

BUTTERFLY VALVE

The inlet valve of the air compressor.

BURDEN

Distance between a blasthole and the nearest free or open face; the material to be displaced.

CABLE

A strong heavy steel wire rope. Also known as **Wire Rope**. Used for pulldown and pullback in some derricks. Also used in hoisting. May be rotating or rotation resistant type.

CABLE REEL

A device that holds the electrical cable on electric driven blasthole drills.

CAROUSEL (LAZY SUSAN)

A rotating device that holds extra drill pipe. It can be moved under the rotary head to add and remove drill pipe from the string.

CARBIDE, TUNGSTEN

W_2C . A very hard compound used in inserts in rock bits. It has a very high melting point.

CASING

Special pipe used to hold the overburden back in water wells. May be steel or plastic.

GLOSSARY OF DRILLING TERMS

CASING, DRIVE SHOE

Coupling of forged steel to protect lower end of casing in overburden.

CATHEAD

Rotating drum used to spool hemp rope to pick up tools manually.

CATWALKS

Walkways around a working area of a drill.

CAVITATION

The pitting of a solid surface by the formation of low pressure bubbles formed in the fluid. Air being allowed into the inlet of pumps.

CENTRALIZER BUSHING

A circular ring installed around the drill pipe in the drill table to keep the pipe aligned properly with the rotary head. It usually has a replaceable insert in the center.

CFM

Cubic Feet per Minute. The volume produced by a compressor. It is measured at the inlet of the compressor.

CHAIN WRENCH

A special wrench, consisting of a chain section and a metal vee section, with jaws, that grips the drill pipe and/or the DHD to tighten or loosen the connections.

CHERRY PICKER

A track or truck mounted vehicle that has a boom or basket for picking up personnel. A form of manlift.

CLINOMETER

A device for measuring the angle of the drill pipe with the ground. Also referred to as an **Inclinometer**.

COLLAR THE HOLE

Opening at the top of the blasthole; the mouth where rock has been broken by blasting. Usually the first few feet of the blasthole that are cracked and broken.

COMPRESSOR

An asymmetrical rotary screw driven device for compressing air. May be single or two stages, depending on the discharge pressure.

CONSOLE

The panel that contains most of the drill's controls. Also called the Operator's Panel.

GLOSSARY OF DRILLING TERMS

CONVENTIONAL MUD

A drilling fluid containing essentially clay and water.

CONVEYOR

Equipment used to carry material to crushers and screens for reduction and separation.

COOLER (HOC, COC)

Most drills have two coolers; one for the hydraulic fluid and the other for the compressor oil. The engine radiator is sometimes referred to as an engine cooler.

CORING

The act of procuring a sample of the formation being drilled for geological information purposes.

COUPLING

A connector for drill rods, pipe or casing with identical threads, male or female, at each end.

CROWN SHEAVES

The upper sheaves in a derrick that supports the cable that connects to the rotary head or swivel.

CROSSHEAD

The outer metal can surrounding the leveling jack cylinders. The **crosshead slide** is the lower portion that connects to the bottom of the cylinders and the **crosshead cap** is the flanged piece on top of the crosshead.

CRUSHER

Device used to reduce broken rock to a smaller fragment size.

CUT (VERB)

Process of excavating material to lower the level of part of an elevation.

CUT (NOUN)

Part of an excavation of a specified depth and width.

CUTTINGS

Particles of formation being produced by the bit and blown from the hole during drilling operations.

DECKING

Process of alternating explosives with inert material in a blasthole to properly distribute explosives or reduce vibrations. Also refers to the metal catwalks around the outside of the drill.

GLOSSARY OF DRILLING TERMS

DEEPHOLE

Rotary drills used to drill water wells, exploration holes and monitoring holes.

DELAY INTERVAL

Elapsed time between detonation of individual blastholes in a multiple hole blast.

DERRICK

A tall framework over a drilled hole used to support drilling equipment. The part of the drill that contains the feed system and the rotary head. See Tower and Mast.

DHD

Down Hole Drill. An air driven, piston powered device for drilling hard rock. It is sometimes called a Hammer.

DHD BUSHINGS

The split bushings used to maintain alignment of the DHD while passing through the drill table. See Split Bushings.

DIFFERENTIAL PRESSURE

The difference in pressure between the inlet and outlet of a component, i.e., a cooler.

DIP

The angle between a horizontal plane and the plane of the ore vein, measured at right angles to the Strike.

DIVERTER VALVE

A two position, three way, valve that allows one hydraulic pump to perform two separate functions.

DRESSING A BIT

Sharpening DHD drill bits with a grinder to shape the carbides.

DRIFTER

An out-of-the-hole drill that rotates the drill rod and provides a percussive force, by means of a striking bar, through the rod to the bit.

DRILL

A machine for drilling rock, or unconsolidated formations. Also called a Rotary Drill. The act of boring a hole in the ground.

DRILL COLLAR

A heavy, thick-walled section of pipe used to add drilling weight to the bit and stabilize the drill string.

GLOSSARY OF DRILLING TERMS

DRILL ROD

See Drill Pipe. Hollow, flush-jointed, coupled rods used on small percussion type rock drills. Used with drifters mostly.

DRILL PIPE (ROD, STEEL, JOINT, STEM)

Hollow tubing, specially welded to tool joints, used in drilling larger holes than drill rods.

DRILL/PROPEL VALVE

A switch that shifts the diverter valves to allow pump flow to go from drill functions to propel motors.

DRILL STRING

The string of pipe, including subs, stabilizers and bit, that extends from the bit to the rotary head, that carries the air or mud down to the bit and rotates the bit.

DRILLER (OPERATOR)

The employee directly in charge of a drill. Operation of the drill is their main duty.

DRILL TABLE

The area at the bottom of the derrick that contains the centralizer bushing or master bushing that the drill pipe travels through.

DUST COLLECTOR

A vacuum device with a hose attached to the dust hood that pulls cuttings away from the hole and deposits them to the side of the drill.

FACE

Vertical surface on an elevation. Also called bank.

FEED CABLE

Cables, anchored on the top and the bottom of the derrick, that pass through the traveling sheave block and connect to the top and bottom of the rotary head. They are adjusted by tightening the threaded rods on each end. They cause the rotary head to move up or down as the cylinders move.

FEED CHAIN

Heavy duty chain links connected to the rotary head through upper and lower sprockets and the traveling sheave block. They are adjusted similar to cable. They function the same as the cable.

FILL

Process of moving material into a depression to raise its level; often follows the cut process.

GLOSSARY OF DRILLING TERMS

FISH

An object accidentally lost in the hole.

FISHING

Operations on the drill for the purpose of retrieving the fish from the hole.

FISHING MAGNET

Run in the hole on non-metallic line, to pick up any small pieces of metal.

FISHING TOOLS

Tools of various kinds run in the hole to assist in retrieving a fish from the hole. **Overshots** fit over the pipe while **Taps** fit inside the pipe.

FLATS

Machined areas on the side of drill pipe or other components where wrenches can be installed to hold or break the joints. Some pipe has two flats, others have four flats. Flats are found near the box and pin ends of the pipe.

FLOOR

Level area at the base of a bank or face.

FORK CHUCK

The hand held or “flop-down” wrench used to hold the top of the pipe in the Drill Table while adding or removing other pipe.

GROUTING

To fill the hole or annulus with grout, i.e., cement and water.

HAMMER

A different name for a Down Hole Drill.

HAMMER BUSHING

Split bushings installed in the drill table to allow the DHD to start the hole in a straight line. It is removed once the DHD is below the table. Also called DHD Bushings.

HAUL DISTANCE

Distance material has to be moved, such as from a *cut* to a *fill*.

HAULING EQUIPMENT

Trucks and other conveyances for moving material. Also called Haul Trucks.

HAZARD

Any condition of the drilling equipment or the environment that might tend to cause accidents or fire.

GLOSSARY OF DRILLING TERMS

HOIST

Windlass used to pick up drill pipe and other heavy objects. See Winch.

HOIST PLUG

A lifting device installed in the box end of a tool. Opposite of **Lifting Bail**.

HOLE

A bore made by rotating a bit into the ground.

HOLE OPENERS

Large bit with pilot used to increase the diameter of a hole.

HOSE, DRILLING

Connects rotary head to top of hard piping to allow movement of rotary head. Also called **Standpipe Hose**.

HOSE, SUCTION

Attaches to mud pump inlet with other end submerged in mud pit.

HYDRAULIC CYLINDERS

Double acting cylinders that are extended and retracted to perform various functions on a drill. They are powered by hydraulic fluid from a pump.

HYDRAULIC MOTORS

Piston or vane type motors, driven by hydraulic pumps, that rotate various devices on a drill.

HYDRAULIC PUMPS

Piston, vane and gear type hydraulic pumps that provide flow for the various actuators on the drill. All are positive displacement type.

HYDROSTATIC HEAD

The pressure exerted by a column of fluid, usually expressed in pounds per square inch (psi).

INCLINOMETER

An instrument for measuring the angle to the horizontal or vertical of a drill hole or vein.

I.W.R.C.

Abbreviation for *Independent Wire Rope Center*. This refers to type of construction of wire rope. This wire rope center is in effect a separate wire rope in itself that provides a core for the line and prevents it from crushing.

GLOSSARY OF DRILLING TERMS

INTERSTAGE PRESSURE

The air pressure measured between the first and second stages of a two-stage compressor.

J WRENCH

Specially shaped wrench to fit the backhead of a DHD. Used to hold DHD in the table or to remove the backhead from the wear sleeve.

KELLY BAR

A fluted or square drill pipe that is turned by a rotary table using a set of pins.

LEVELING JACKS

Hydraulic cylinders mounted in a crosshead that raise and lower the drill.

Also referred to as Outriggers or Stabilizers.

LIFTING BAIL

A threaded cap for picking up pipe, bits, DHDs and stabilizers. It screws on the pin end. Some bails have a swivel hook while others have solid tops. See **Hoist Plug**.

LOADERS

Large, front end bucket equipment used to pick up material for loading in various types of hauling equipment.

MAIN FRAME

The welded component of a track mounted drill. The truck frame on a wheeled drill.

MAKEUP

The act of tightening threaded joints. Making a connection.

MAKING HOLE

The act of drilling.

MAKING UP A JOINT

The act of screwing a joint of pipe into another joint or section of pipe.

MANIFOLD

A pipe or chamber that has several openings for hose connections.

MAST

A vertical pole. See Derrick.

MICRON - :- MU

A unit of length equal to one millionth part of a meter, or one thousandth part of a millimeter. About 4/100,000th inch.

GLOSSARY OF DRILLING TERMS

MID-INLET SWIVEL

Device for removing cuttings from the hole while drilling with Reverse Circulation Equipment.

MINE PLAN

Plan for making cuts and creating elevations, benches for efficient removal of material. The mine plan considers a variety of factors, including: the type and location of material, the size and number of shovels, loaders, and hauling equipment, haul distances, blasthole patterns, etc.

MIST DRILLING

A method of rotary drilling where water is dispersed in the air as the drilling fluid.

MUD

A water or oil -base drilling fluid whose properties have been altered by solids. Mud is a term commonly given to drilling fluids. It is used in place of air when drilling unconsolidated formations.

MUD DRILLING

Using a clay based mud as the drilling fluid.

MUD PIT

A hole dug in the ground or a steel pit to hold the drilling mud as it is being circulated in the hole.

MUD PUMP

Pumps that are used to circulate the drilling mud.

OSCILLATION YOKE

The beam connecting each track of a blasthole track drill with the main frame that allows the tracks to move independently up and down.

OPEN HOLE

Any uncased portion of a hole.

OPERATOR

The person who performs the drilling operation with the drill. See Driller.

OVERBURDEN

Any unconsolidated material lying on top of the bedrock or the coal seam.

PARASITIC LOAD

The load imposed on the engine by the direct connection of the compressor and main pump drive during starting.

GLOSSARY OF DRILLING TERMS

PATTERN

Layout and distances between blastholes, specifically including burden and spacing.

PENETRATION RATE

Speed at which a bit advances into the rock while drilling, measured in feet per hour.

PERCUSSION DRILL

Drill that chips and penetrates rock with repeated blows. Refers to both older style weighted steel with bit on the end and the DHD method that uses compressed air to drive a steel piston onto the top of a bit.

PIN END

Fitting on male end of drill pipe. Threads are exposed. See **Box End**.

PIONEER WORK

Drilling in rough, broken or inclined areas. Removing the original layers of dirt and rock.

PIPE DOPE

Special lubricant used to protect the threads on pipe joints. See **Thread Lube**.

PIPE SUPPORT

A device that holds the lower section of pipe in place while connecting to the next joint with the rotary head when angle drilling. Also called **Rod Support**.

PIT

An excavation in the ground for the removal of mineral deposits.

PLC

Programmable Logic Controller. A device that monitors many aspects of a drill's operation.

POTABLE WATER

Water that is safe to drink.

POWDER FACTOR/SPECIFIC CHARGE

Relationship between the weight of explosives in a blasthole and the volume of materials to be displaced. It is measured in pounds per cubic yard or kilograms per cubic meter.

POWER PACK BASE

The welded channel frame that contains the prime mover, the compressor and the hydraulic pumps and gearbox.

GLOSSARY OF DRILLING TERMS

POWER PACK

The complete sub-assembly of base, engine, compressor, and hydraulic drive.

PRESPLITTING

Process of drilling a line of small diameter holes spaced relatively close together, generally before drilling a production blast and loaded with light explosive charges to create a clean, unbroken rock face.

PRODUCTION RATE

Penetration during a given reporting period. This rate includes all lost time, including maintenance, breakdowns, long moves, inclement weather, etc.

PROPEL

To cause to move forward or onward. To drive or tram.

PROTECTORS, THREAD

Steel or plastic covers to cover the box and pin ends of drill pipe when they are not being used.

PSI

Pounds per square inch. Refers to the output of the compressor.

PUMP, WATER INJECTION

Pump used to pump water into the drill air stream to keep the dust settled and to assist in flushing the hole.

PULLBACK

The force available to remove the drill string from the hole.

PULLDOWN

Force exerted on the drill bit by the thrust of the drill rig and from the weight of the drill string.

RAISE

A mine opening, like a shaft, driven upward from the back of a level to a level above, or to the surface.

RATE OF PENETRATION

The rate in which the drill proceeds in the deepening of the hole. It is usually expressed in feet per hour.

REAMER

Bit-like tool, generally run directly above the bit to enlarge and maintain a straight hole.

GLOSSARY OF DRILLING TERMS

RESERVOIR

The tank used for storing the hydraulic oil used in the hydraulic system.

REVERSE CIRCULATION DRILLING

Using a double wall pipe to force air/water down the hole and removing the cuttings between the two pipes. See Mid-Inlet Swivel.

ROD CHANGER

See Carousel. A device that holds extra drill rod (pipe).

ROTARY DRILLING

The method of drilling that depends on the rotation of a column of pipe to the bottom of which is attached a bit. Air or fluid is circulated to remove the cuttings.

ROTARY HEAD

A movable gearbox used to provide rotation to the drill string. It is connected to the feed chains or cables on each end and to the drill string through the spindle.

SAFETY HOOK

Attached to end of hoist line to secure hoist plug or lifting bail. Has a safety latch to prevent load from slipping off hook.

SCALES

Equipment used to determine the weight and *value* of material being transported from a quarry.

SCREENS

Devices used to separate broken material into groups of similar size.

SHOCK SUB

A device used to isolate the shock of drilling from the rotary head. It is made of hard rubber layers mounted inside of steel outer rings.

SHOOTING

Exploding high explosives in a hole to shatter the rock. See Blasting.

SINGLE PASS DRILL

Drill rig with a long tower that permits drilling a blasthole without stopping to add drill pipe (rod). Uses a Kelly in place of regular pipe.

Uses a rotary table to turn the Kelly instead of a rotary head.

STEMMING

Material of a specified depth added on top of a powder column to confine the blasthole and make the explosion more efficient.

GLOSSARY OF DRILLING TERMS

STRIP MINE

A large section of land used to remove coal deposits.

SHOT

A charge of high explosives deposited in a series of holes to shatter the rock.

SHUTDOWN

A term that can mean the end of the shift or workday or an unplanned stopping of the drill due to a system failure.

SLIDING FORK

A wrench that slides around the flats of the drill pipe to hold lower section. Controlled by hydraulic cylinder(s). Used in place of **Fork Chuck**.

SLIPS

Used in the rotary table to hold and break out drill pipe. Also used to hold casing in the table.

SPACING

Distance between blastholes measured parallel with the face.

SPEAR

Tools of various design that are screwed or wedged inside of bits, pipe, etc., that are lodged in the hole. See Fishing Tools.

SPINDLE

The short section of pipe that rotates within the rotary head or rotary table and protrudes out each end.

SPEED SWITCH

An electronic device that changes states when the engine reaches a certain speed. Used to control dual oil pressure switches.

SPLIT BUSHINGS

The removable bushings that allow the DHD or Stabilizer to pass through the drill table while drilling a straight hole. See DHD Bushings.

STABILIZER, DRILL PIPE

Heavy -walled pipe having special spiral or fluted ribs extending around the diameter, within 1/8 "to 1/4" of hole size. Most stabilizers are fitted just above the bit, while in-line stabilizers keep the hole straight.

STATIC WATER LEVEL

The distance from the top of ground down to the standing water level.

GLOSSARY OF DRILLING TERMS

STRIKE

The bearing of the outcrop of an inclined bed or structure on a level surface. See Dip.

STUCK IN THE HOLE

Refers to drill pipe inadvertently becoming fastened in the hole.

SUBDRILLING

Bottom portion of a blasthole drilled below the floor level to permit upward displacement of material and thereby prevent a toe at the bottom of a face.

SUBSTITUTE (SUB)

A coupling with different type or diameter of threads at either end. The term pin denotes a male thread, and box, a female thread. To connect two components with different threads. See Adapter.

SUPERCHARGE PRESSURE

Inlet oil pressure to the main pump(s) that has been pressurized to prevent cavitation.

SWIVEL

A coupling on top of the rotary head or kelly that allows the spindle to rotate while the main hose remains stationary.

TABLE DRIVE (KELLY DRIVE)

Drill design that locates the drill pipe rotation mechanism on the drill deck in a stationary position instead of using the rotary head.

THREAD LUBE

A special compound used to lubricate the threads of drill pipe. See Pipe Dope.

TONGS

A type of wrench used to make up and break out drill pipe using external forces, such as hydraulic cylinders or cables.

TOOL JOINT

A drill pipe coupler consisting of a pin and box of various designs and sizes. Deephole drills normally use API style threads, while Blasthole drills use Beco style threads.

TOP HEAD DRILL

Drill design that locates the drill pipe rotation head in the drill tower and it moves the drill string up and down. See Rotary Head.

GLOSSARY OF DRILLING TERMS

TORQUE

A turning or twisting force. A moment caused by force acting on an arm. A one pound force acting on a one foot arm would produce one lb-ft of torque.

TOWER

A tall, slender structure used for observation, signaling or pumping. See **Derrick and Mast**. Term sometimes used to indicate the derrick on a blasthole drill.

TURNING TO THE RIGHT

Slang term for making hole.

TRAM

A cable car or a four-wheeled open box in a coal mine. See **Propel**.

TRAMMED

To move in a tram.

TRAMMING

Process of moving a drill with the tower up from a completed blasthole to the location of the next. See propelling.

TRAVELING SHEAVE BLOCK

A series of sheaves, connected to the feed chains or cables, that are moved up and down the derrick by the feed cylinders.

TWIST OFF

To twist a joint of pipe in two by excessive torque applied by the rotary head or rotary table.

UL88

The unloader valve that controls pressure and volume on a high pressure compressor system.

UNDERCARRIAGE

The means of moving a track type vehicle . It contains the track frame, rollers, grousers, rock guards, drive sprocket, propel motors and planetary drive.

UPHOLE VELOCITY

The speed (in feet per minute) that the cuttings travel coming out of the hole. This is dependent on the bit size, the compressor size and the drill pipe size.

WASHPIPE

Hard surfaced steel tubes inserted in swivels to allow rotation of drill string and prolong life of packing. They are replaceable in most swivels.

GLOSSARY OF DRILLING TERMS

WATER TABLE

The underground level at which water is found. See Static Level.

WATER WELL

A hole drilled for the purpose of obtaining potable water.

WEIGHT ON BIT

In rotary drilling, a specified weight is required on the bit for maximum performance. A gauge on the console is calibrated to correspond to the drill string weight.

WHIPSTOCK

A device inserted in the well used for deflecting or directional drilling.

WIGGINS QUICK FILL

A Centralized Service Station that connects to various systems on the drill to allow remote filling of engine oil, compressor oil and hydraulic oil.

WINCH

A stationary hoisting machine having a drum around which is wound a rope.

WIPER, PIPE

An annular rubber disk for wiping drill pipe clean of cuttings when it is being withdrawn from the hole.

WIRE ROPE

Rope made of twisted strands of steel wire. Also called Cable.

DRILL PIPE

SECTION

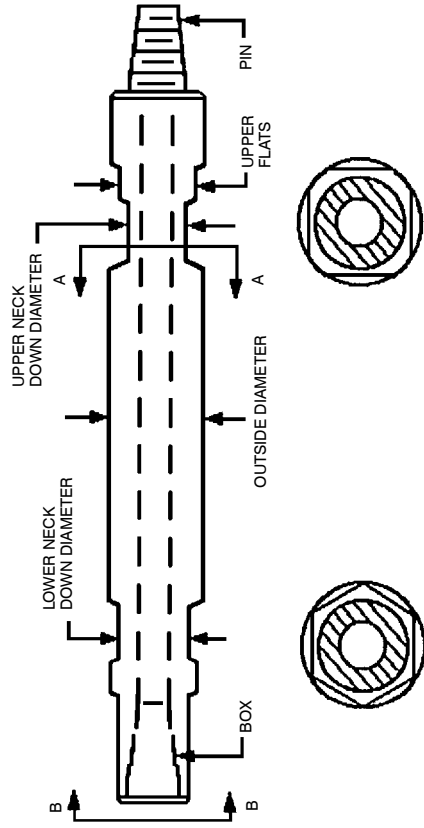
DRILL PIPE

SECTION

DRILL PIPE

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DRILL PIPE



SECTION A-A

SECTION B-B

FIGURE #1

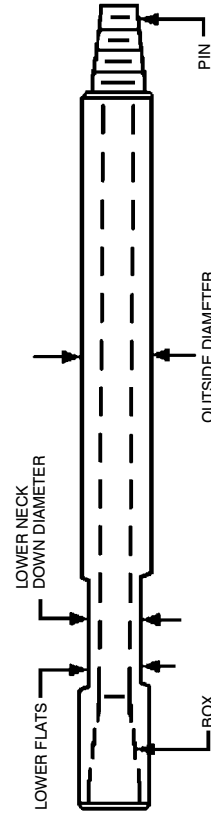


FIGURE #2

DRILL PIPE

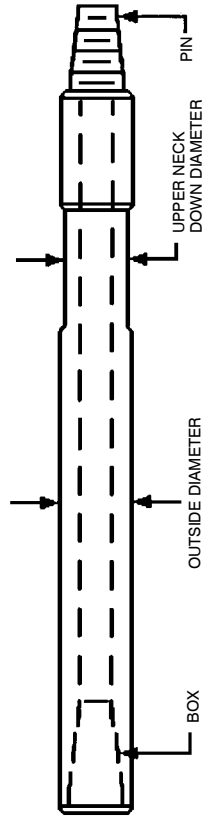


FIGURE #3

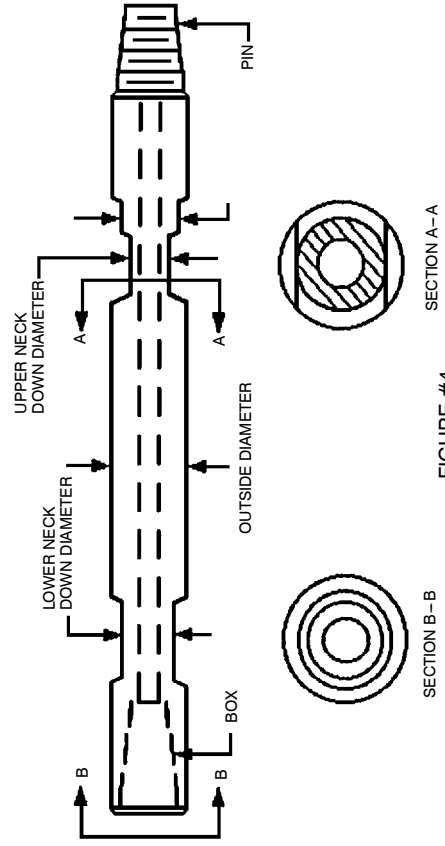


FIGURE #4

DRILL PIPE

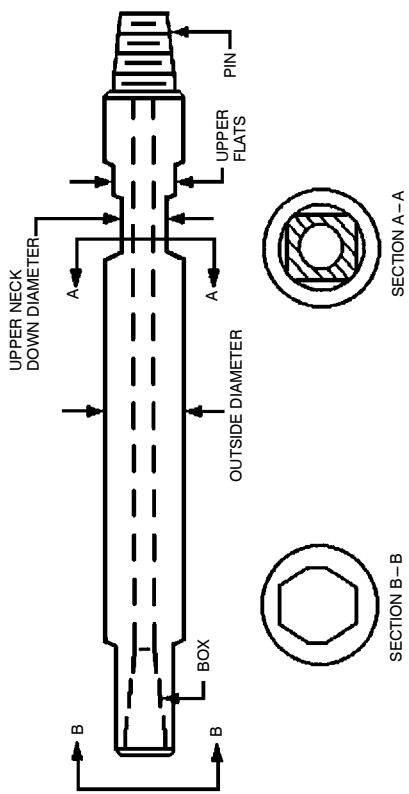


FIGURE #5

DRILL PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>3" O. D. DRILL PIPE</u>											
56971641	25'0"	2 3/8 API IIF (MOD)	2 3/8 API IIF (MOD)		.337	NONE	2 1/2"	NONE	2 1/2"	NONE	260
<u>3 1/2" O. D. DRILL PIPE</u>											
58160896	20'0"	2 3/8 API IIF	2 3/8 API IIF		.368	NONE	NONE	NONE	2 3/4"	NONE	270
56970775	25'0"	2 3/8 API REG	2 3/8 API REG		.337	NONE	2 1/2"	NONE	2 1/2"	NONE	300
57323917	30'0"	2 3/8 API REG	2 3/8 API REG		.500	NONE	3 1/2"	NONE	3 1/2"	NONE	480
<u>4" O. D. DRILL PIPE</u>											
50350156	25'0"	2 7/8 API REG	2 7/8 API REG		.330	3 1/4"	3 1/2"	3 1/2"	NONE	3 1/2" HEX	400
57006769	25'0"	2 7/8 API REG	2 7/8 API REG		.337	3"	3"	NONE	3"	NONE	370
56970791	25'0"	2 7/8 API REG	2 7/8 API REG		.337	NONE	3 1/2"	NONE	3 1/2"	NONE	370
57155806	30'0"	2 7/8 API REG	2 7/8 API REG		.337	3 1/2"	3 1/2"	3 1/2"	NONE	3 1/2" HEX	435
57156317	30'0"	2 7/8 API REG	2 7/8 API REG		.750	3 1/2"	3 1/2"	3 1/2"	NONE	3 1/2" HEX	780
<u>4 1/2" O. D. DRILL PIPE</u>											
58160953	20'0"	2 7/8 API IIF	2 7/8 API IIF		.337	NONE	NONE	NONE	3 1/2"	NONE	335
57155459	20'0"	2 7/8 API IIF	2 7/8 API IIF		.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	335
58160912	20'0"	3 1/2 API REG	3 1/2 API REG		.337	NONE	NONE	NONE	3 1/2"	NONE	335
52202033	25'0"	2 7/8 API IIF	2 7/8 API IIF		.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	429
52202454	25'0"	2 7/8 API IIF	2 7/8 API IIF		.674	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	630
56970817	25'0"	3 1/2 API REG	3 1/2 API REG		.337	3 1/2"	3 1/2"	3 1/2"	NONE	NONE	430
50425859	25'0"	3 1/2 API REG	3 1/2 API REG		.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	429
56792534	25'0"	3 1/2 API REG	3 1/2 API REG		.500	NONE	3 1/2"	NONE	3 1/2"	NONE	570
50262187	25'0"	3 1/2 API REG	3 1/2 API REG		.625	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	630
52256369	30'0"	2 7/8 API IIF	2 7/8 API IIF		.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	515
57136228	30'0"	3 1/2 API REG	3 1/2 API REG		.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	495
57178824	30'0"	3 1/2 API REG	3 1/2 API REG		.500	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	662
57155780	30'0"	3 1/2 API REG	3 1/2 API REG		.750	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	900

DRILL PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>5" O. D. DRILL PIPE</u>											
50348358	25'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.375	3 1/4"	3 1/2"	4"	NONE	4" HEX	488
50452697	25'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.500	3 1/4"	3 1/2"	3 1/2"	NONE	4" HEX	600
52185261	25'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.750	3 1/4"	3 1/2"	3 1/2"	NONE	4" HEX	839
57155814	30'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.337	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	550
57155798	30'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.500	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	721
57354557	30'0"	3 1/2 API REG	3 1/2 API REG	3 1/2 API REG	.750	3 1/2"	3 1/2"	3 1/2"	NONE	4" HEX	1020
57236903	30'0"	3 1/2 BECO	3 1/2 BECO	3 1/2 BECO	.750	3 1/2"	3 1/2"	3 1/2"	NONE	4 5/8" HEX	1047
<u>5 1/2" O. D. DRILL PIPE</u>											
52206976	25'0"	3 1/2 BECO	3 1/2 BECO	3 1/2 BECO	.415	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	625
50426493	25'0"	4 API FH	4 API FH	4 API FH	.415	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	625
57272726	25'0"	4 API FH	4 API FH	4 API FH	.750	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	750
57178865	30'0"	3 1/2 BECO	3 1/2 BECO	3 1/2 BECO	.415	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	1140
57290322	30'0"	3 1/2 BECO	3 1/2 BECO	3 1/2 BECO	.750	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	750
57178899	30'0"	4 API FH	4 API FH	4 API FH	.415	4 1/2"	4 1/2"	4 1/2"	NONE	5" HEX	750
57134439	35'0"	3 1/2 BECO	3 1/2 BECO	3 1/2 BECO	1.000	4 5/8"	4 5/8"	NONE	4 5/8"	NONE	
<u>6 1/4" O. D. DRILL PIPE</u>											
52235116	24'0"	4 BECO	4 BECO	4 BECO	.500	4 3/4"	T5	NONE	NONE	5 1/2" HEX	828
50461813	25'0"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	NONE	4 1/2"	5" HEX	830
52259009	25'0"	4 BECO	4 BECO	4 BECO	.500	4 1/2"	4 1/2"	NONE	4 1/2"	5" HEX	840
57178832	30'0"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	NONE	4 1/2"	5" HEX	930
57178873	30'0"	4 BECO	4 BECO	4 BECO	.500	4 1/4"	4 1/2"	NONE	4 1/2"	5" HEX	952
57376477	30'0"	4 BECO	4 BECO	4 BECO	.750	4 1/4"	4 1/2"	NONE	4 1/2"	5" HEX	1330
57406902	35'0"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	NONE	4 1/2"	5" HEX	930
57130015	35'0"	4 BECO	4 BECO	4 BECO	.500	5 5/8"	5 5/8"	NONE	5 5/8"	NONE	

DRILL PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>7" O. D. DRILL PIPE</u>											
52207024	24'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	5 1/2"	T5	NONE	NONE	6 1/2" HEX	
50424050	25'0"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	NONE	NONE	5" HEX	875
57042343	25'0"	4 API FH	4 API FH	4 API FH	1.000	4 1/4"	4 1/2"	NONE	NONE	5" HEX	
52182011	30'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.500	5"	5"	NONE	NONE	6" HEX	875
57198277	30'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.750	5"	5"	NONE	NONE	6" HEX	
57178857	30'0"	4 API FH	4 API FH	4 API FH	.500	5"	5"	NONE	NONE	5" HEX	1050
57178881	30'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.500	5"	5"	NONE	NONE	6" HEX	1080
57294894	30'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.750	5"	5"	NONE	NONE	6" HEX	
57134165	35'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.625	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57312050	35'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.750	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57121790	35'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	1.000	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57110454	35'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	6 1/8"	6 1/2"	NONE	6 1/2"	NONE	1505
57351306	40'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	1.000	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	2800
<u>7 5/8" O. D. DRILL PIPE</u>											
52208055	24'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.875	6 1/8"	T5	NONE	NONE	6 1/2" HEX	
57336877	25'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	5"	6"	NONE	6"	6 1/2" HEX	
57006868	25'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.875	5"	5"	NONE	NONE	6 1/2" HEX	
57225518	30'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	5"	6"	NONE	6"	6 1/2" HEX	
57078784	30'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	
57382657	30'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	1.000	5"	6"	NONE	6"	6 1/2" HEX	
58248956	35'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	1960
57204976	35'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	1.000	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	
57347478	40'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	1.000	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	3075
56978992	45'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	

DRILL PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>8 5/8" O. D. DRILL PIPE</u>											
52203551	24'0"	6 BECO	6 BECO	6 BECO	1.000	6 1/8"	T5	NONE	NONE	7 3/4" HEX	2156
57170961	30'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	1.000	6 1/8"	6 1/2"	NONE	NONE	6 1/2" HEX	
52279155	30'0"	6 BECO	6 BECO	6 BECO	.906	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	2080
57110462	35'0"	6 BECO	6 BECO	6 BECO	.719	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
57347163	40'0"	6 BECO	6 BECO	6 BECO	1.000	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	3280
52192325	45'0"	6 BECO	6 BECO	6 BECO	.906	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
57423204	50'0"	6 BECO	6 BECO	6 BECO	.906	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
<u>9 1/4" O. D. DRILL PIPE</u>											
57248817	35'0"	6 BECO	6 BECO	6 BECO	.500	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
57347460	40'0"	6 BECO	6 BECO	6 BECO	1.000	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	4000
57162414	45'0"	6 BECO	6 BECO	6 BECO	1.000	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	4200
<u>10" O. D. DRILL PIPE</u>											
57384315	40'0"	6 BECO	6 BECO	6 BECO	1.000	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	4450
<u>10 3/4" O. D. DRILL PIPE</u>											
56976863	25'0"	8 BECO	8 BECO	8 BECO	1.000	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	3270
56972490	30'0"	8 BECO	8 BECO	8 BECO	1.000	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	3120
52191756	40'0"	8 BECO	8 BECO	8 BECO	.750	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	
57315509	40'0"	8 BECO	8 BECO	8 BECO	1.000	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	4900
57315491	40'0"	8 BECO	8 BECO	8 BECO	1.500	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	6500
57406191	45'0"	8 BECO	8 BECO	8 BECO	.750	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	

STARTER PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>3" O. D. STARTER PIPE</u>											
56971633	21'0"	2 3/8 API IIF (MOD)	2 3/8 API IIF (MOD)		.337	NONE	2 1/2"	NONE	2 1/2"	NONE	
56970783	21'0"	2 3/8 API REG	2 3/8 API REG		.337	NONE	2 1/2"	NONE	2 1/2"	NONE	
57041592	21'0"	2 3/8 API REG	2 3/8 API REG		.750	2 7/8"	2 1/2"	2 7/8"	2 1/2"	NONE	514
57323925	26'6"	2 3/8 API REG	2 3/8 API REG		.500	NONE	3 1/2"	NONE	3 1/2"	NONE	
<u>3 1/2" O. D. STARTER PIPE</u>											
<u>4" O. D. STARTER PIPE</u>											
56995863	21'0"	2 7/8 API REG	2 7/8 API REG		.337	3"	3"	NONE	3"	NONE	258
56970809	21'0"	2 7/8 API REG	2 7/8 API REG		.337	NONE	3 1/2"	NONE	3 1/2"	NONE	295
56952567	21'0"	2 7/8 API REG	2 7/8 API REG		.750	NONE	3 1/2"	NONE	3 1/2"	NONE	402
50350164	21'6"	2 7/8 API REG	3 1/2 API REG		.500	3 1/4"	3 1/2"	NONE	3 1/2"	NONE	400
57155822	26'6"	2 7/8 API REG	2 7/8 API REG		.750	3 1/2"	3 1/2"	3 1/2"	NONE	NONE	730
<u>4 1/2" O. D. STARTER PIPE</u>											
52202470	21'0"	2 7/8 API IIF	3 1/2 API REG		.625	3 1/2"	3 1/2"	NONE	3 1/2"	NONE	583
56938731	21'0"	3 1/2 API REG	3 1/2 API REG		.750	NONE	3 1/2"	NONE	3 1/2"	NONE	448
50426238	21'6"	3 1/2 API REG	3 1/2 API REG		.625	3 1/2"	3 1/2"	NONE	3 1/2"	NONE	576
50334275	21'6"	3 1/2 API REG	3 1/2 API REG		.674	3 1/4"	3 1/2"	NONE	3 1/2"	NONE	540
50829894	21'6"	3 1/2 API REG	3 1/2 API REG		1.375	3 1/4"	3 1/2"	NONE	3 1/2"	NONE	975
57156663	26'6"	3 1/2 API REG	3 1/2 API REG		.750	3 1/2"	3 1/2"	NONE	3 1/2"	NONE	840
57136343	28'0"	3 1/2 API REG	3 1/2 API REG		.625	3 1/2"	3 1/2"	NONE	3 1/2"	NONE	540

STARTER PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>5" O. D. STARTER PIPE</u>											
50348333	21'6"	3 1/2 API REG	3 1/2 API REG		.375	3 1/4"	3 1/2"		3 1/2"	NONE	432
57155830	26'6"	3 1/2 API REG	3 1/2 API REG		.750	3 1/2"	3 1/2"	3 1/2"	NONE	NONE	925
<u>5 1/2" O. D. STARTER PIPE</u>											
52215829	20'8"	3 1/2 BECO	4 API FH		.415	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	540
57236184	20'8"	3 1/2 BECO	3 1/2 BECO		.415	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	536
50426246	20'8"	4 API FH	4 API FH		.415	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	536
57178766	25'8"	3 1/2 BECO	3 1/2 BECO		.415	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	642
57178790	25'8"	4 API FH	4 API FH		.415	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	642
<u>6 1/4" O. D. STARTER PIPE</u>											
57015950	18'8"	4 BECO	4 BECO		.500	4 1/2"	4 1/2"	NONE	4 1/2"	NONE	
50618677	20'8"	4 API FH	4 API FH		.500	4 1/4"	4 1/2"	NONE	4 1/2"	NONE	620
52259017	20'8"	4 BECO	4 API FH		.500	4 1/2"	4 1/2"	5 1/2"	4 1/2"	NONE	650
57139164	20'8"	4 BECO	4 BECO		.500	4 1/2"	4 1/2"	5 1/2"	4 1/2"	NONE	620
57178808	25'8"	4 API FH	4 API FH		.500	4 1/4"	4 1/2"	NONE	4 1/2"	NONE	795
57178774	25'8"	4 BECO	4 BECO		.500	4 1/2"	4 1/2"	5 1/2"	4 1/2"	NONE	795
57385908	25'8"	4 API FH	4 API FH		.750	4 1/4"	4 1/2"	NONE	NONE	5" HEX	1330
57414591	33'0"	4 API FH	4 API FH		.500	4 1/4"	4 1/2"	NONE	4 1/2"	NONE	795
57406910	33'0"	4 API FH	4 API REG		.500	4 1/4"	4 1/2"	NONE	4 1/2"	NONE	820

STARTER PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>7" O. D. STARTER PIPE</u>											
52236106	18'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	5 1/2"	T5	NONE	NONE	6 1/2" HEX	
52207024	24'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	5 1/2"	T5	NONE	NONE	6 1/2" HEX	
52172715	20'8"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	5 1/2"	4 1/2"	NONE	725
57042335	20'8"	4 API FH	4 API FH	4 API FH	1.000	4 1/4"	4 1/2"	5 1/2"	4 1/2"	NONE	
52190246	20'8"	4 1/2 BECO	4 API FH	4 API FH	.500	5"	5"	5 1/2"	4 1/2"	NONE	728
57178816	25'8"	4 API FH	4 API FH	4 API FH	.500	4 1/4"	4 1/2"	NONE	NONE	5" HEX	900
57178782	25'8"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.500	5"	5"	5 1/2"	4 1/2"	NONE	900
57312068	29'0"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.750	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57209058	30'3"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	1.000	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57111338	31'9"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	NONE	6 1/2"	NONE	6 1/2"	NONE	
57134173	32'9"	4 1/2 BECO	4 1/2 BECO	4 1/2 BECO	.625	5 3/4"	5 3/4"	NONE	5 3/4"	NONE	1505
57110777	32'9"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.625	6 1/8"	6 1/2"	NONE	6 1/2"	NONE	1505
<u>7 5/8" O. D. STARTER PIPE</u>											
52236098	18'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.875	6 1/8"	T5	NONE	NONE	6 1/2" HEX	
52208055	24'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.875	6 1/8"	T5	NONE	NONE	6 1/2" HEX	
58249624	32'9"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	6 3/4"	6 3/4"	NONE	6 3/4"	NONE	
<u>8 5/8" O. D. STARTER PIPE</u>											
52236080	18'0"	6 BECO	6 BECO	6 BECO	1.000	6 1/8"	T5	NONE	NONE	7 3/4" HEX	2156
52203551	24'0"	6 BECO	6 BECO	6 BECO	1.000	6 1/8"	T5	NONE	NONE	7 3/4" HEX	2156
57170953	29'0"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	1.000	6 1/8"	6 1/2"	NONE	NONE	6 1/2" HEX	
57110595	32'9"	6 BECO	6 BECO	6 BECO	.719	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
<u>9 1/4" O. D. STARTER PIPE</u>											
57244584	32'9"	6 BECO	6 BECO	6 BECO	.500	7 3/4"	7 3/4"	NONE	7 3/4"	NONE	
<u>10 3/4" O. D. STARTER PIPE</u>											
56978810	20'4"	8 BECO	8 BECO	8 BECO	1.000	9 1/4"	9 1/4"	NONE	9 1/4"	NONE	2390

EXTENSION PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	WALL	A DIA	UPPER FLATS	B DIA	LOWER FLATS	HEX FLATS	WEIGHT
<u>7 5/8" O. D. EXTENSION PIPE</u>											
57078768	82"	5 1/4 BECO	5 1/4 BECO	5 1/4 BECO	.750	6 3/4"	6 3/4"	NONE	6 3/4"		
<u>8 5/8" O. D. EXTENSION PIPE</u>											
57073561	82"	6 BECO	6 BECO	6 BECO	.906	7 3/4"	7 3/4"	NONE	7 3/4"		
<u>10 3/4" O. D. EXTENSION PIPE</u>											
57003162	82"	8 BECO	8 BECO	8 BECO	1.000	9 1/4"	9 1/4"	NONE	9 1/4"		

DRESSER PIPE

COMM#	LENGTH S/S	PIN	THREAD	BOX	UPPER FLATS	LOWER NECK DOWN DIA.	WEIGHT
<u>3" O. D. DRESSER PIPE</u>							
52203163	36"	2 3/8 API REG			NONE	NONE	53
<u>4" O. D. DRESSER PIPE</u>							
57372559	41 3/4"	2 7/8 API REG			3 1/2"	3 1/2"	68
57117319	41 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	68
<u>4 1/2" O. D. DRESSER PIPE</u>							
50245554	35 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	53
50333947	41 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	68
52202488	47 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	
57144149	60"	3 1/2 API REG			3 1/2"	3 1/2"	
52202538	11' 2 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	
<u>5" O. D. DRESSER PIPE</u>							
57363814	41 3/4"	3 1/2 API REG			3 1/2"	3 1/2"	68
<u>5 1/2" O. D. DRESSER PIPE</u>							
50333525	51 3/4"	4 API FH			4 1/2"	4 1/2"	122
57338485	51 3/4"	3 1/2 BECO			4 1/2"	4 1/2"	122
<u>6 1/4" O. D. DRESSER PIPE</u>							
57360794	51 3/4"	4 BECO			4 1/2"	4 1/2"	157
<u>7" O. D. DRESSER PIPE</u>							
57187841	51 3/4"	4 1/2 BECO			5"	NONE	1080

DRILL COLLARS

COMM#	LENGTH S/S	INSIDE DIA.	PIN	THREAD	BOX	A DIA	B DIA	FLATS	HEX FLATS	FLOAT	WEIGHT
<u>4 1/2" O. D. DRILL COLLARS</u>											
58211434	10'0"	2"	2 7/8 API IF	2 7/8 API IF							410
58187501	20'0"		2 7/8 API IF	2 7/8 API IF							
<u>4 3/4" O. D. DRILL COLLARS</u>											
57033805	20'0"	2 1/4"	3 1/2 API IF	3 1/2 API IF		NONE	NONE	3 3/4"	NONE		920
<u>5" O. D. DRILL COLLARS</u>											
58219254	20'0"	2 1/4"	3 1/2 API IF	3 1/2 API IF				4 1/4"	NONE		1035
<u>5 1/2" O. D. DRILL COLLARS</u>											
58219262	20'0"	2 1/4"	4 API FH	4 API FH		NONE	NONE	4 3/4"	NONE		1310
52266160	23'0"	2 1/4"	4 API FH	4 API FH		NONE	4 1/2"	4 1/2"	5" HEX		1515
52145273	23'0"		4 API FH	4 API FH							
52145380	25'0"	2 1/4"	4 API FH	4 API FH		4 1/4"	4 1/2"	4 1/2"	5" HEX		1650
56967516	30'0"	2 1/4"	4 API FH	4 API FH		4 1/2"	4 1/2"	4 1/2"	5" HEX		1985
50828581	30'0"	2 1/16"	3 1/2 API IF	3 1/2 API IF		4 1/2"	4 1/2"	4 1/2"	5" HEX	YES	2042
50630334	30'0"	2 1/16"	3 1/2 API IF	3 1/2 API IF		4 1/2"	4 1/2"	4 1/2"	5" HEX	NO	2042
<u>6" O. D. DRILL COLLARS</u>											
58211442	10'0"	2 1/4"	4 API IF	4 API IF							810
58219270	20'0"	2 5/16"	NC #44	NC #44		NONE	NONE	5 1/4"	5 1/4"		1660
52145406	23'0"	2 1/2"	4 1/2 API FH	4 1/2 API FH		5 1/2"	4 1/2"	4 1/2"	5 1/2" HEX		1790
52142106	23'6"	2 1/2"	4 1/2 API FH	4 1/2 API FH		5 1/2"	NONE	4 1/2"	5 1/2" HEX		1830

DRILL COLLARS

COMM#	LENGTH S/S	INSIDE DIA.	PIN	THREAD	BOX	A DIA	B DIA	FLATS	HEX FLATS	FLOAT	WEIGHT
<u>6 1/2" O. D. DRILL COLLARS</u>											
57293383	30'0"	2 1/4"	4 1/2 API REG	4 1/2 API REG	4 1/2 API REG	5 1/2"	5 1/2"	5 1/2"	6" HEX		2910
<u>8" O. D. DRILL COLLARS</u>											
52225331	20'0"	3"	6 5/8 API REG	6 5/8 API REG	6 5/8 API REG	5 1/2"	NONE	4 1/2"	NONE	NO	2880
50624550	20'0"	3"	6 5/8 API REG	6 5/8 API REG	6 5/8 API REG	5 1/2"	NONE	4 1/2"	NONE	YES	2880
57293391	29'11"	2 13/16"	6 5/8 API REG	6 5/8 API REG	6 5/8 API REG	7"	7"	7"	7 1/2" HEX		4140

KELLY BARS

SECTION

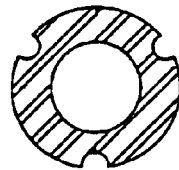
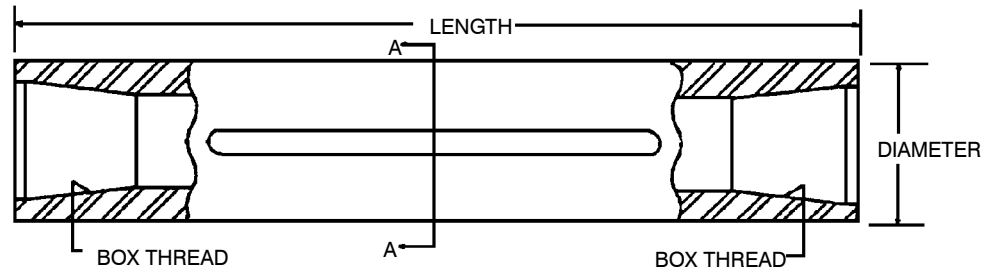
KELLY BARS

SECTION

KELLY BARS

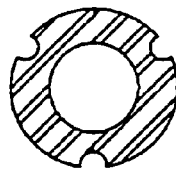
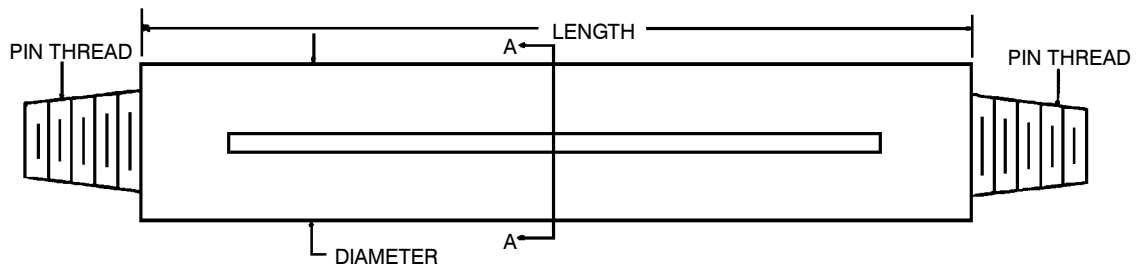
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KELLY BARS



SECTION A-A

KELLY BAR (BOX/BOX)



KELLY BAR (PIN/PIN)

KELLY BARS

COMM#	KELLY SIZE	KELLY LENGTH	HOLE DEPTH	THREAD BOX	BOX	WEIGHT
<u>BOX/BOX THREAD CONFIGURATION</u>						
56842784	2 3/8"	19' 2"	12'	DAMCO	DAMCO	
56840960	2 3/8"	21' 10"	15'	DAMCO	DAMCO	
56845100	2 3/8"	21' 8"		DAMCO	DAMCO	253
56785306	2 3/8"	24' 0"		DAMCO	DAMCO	280
56926785	2 3/8"	24' 6"		DAMCO	DAMCO	286
56844194	2 3/8"	25' 0"	20'	DAMCO	DAMCO	292
56836943	2 3/8"	25' 0"	20'	DAMCO	DAMCO	
56840317	2 3/8"	26' 3"	20'	DAMCO	DAMCO	
56844228	2 3/8"	26' 6"	20'	DAMCO	DAMCO	310
56799257	2 3/8"	28' 0"	20'	DAMCO	DAMCO	327
56844236	2 3/8"	29' 0"	25'	DAMCO	DAMCO	339
56840481	2 3/8"	30' 0"	25'		DAMCO	
56840283	2 3/8"	31' 3"	25'	DAMCO	DAMCO	
56908213	2 3/8"	32' 0"	24'	DAMCO	DAMCO	374
56799265	2 3/8"	33' 0"	25'		DAMCO	385
56844210	2 3/8"	34' 10"	30'	DAMCO	DAMCO	407
56840309	2 3/8"	34' 10"	30'	DAMCO	DAMCO	
56799299	2 3/8"	36' 6"	30'	DAMCO	DAMCO	426
56844202	2 3/8"	37' 3"	25'	DAMCO	DAMCO	435
56799273	2 3/8"	38' 0"	30'	DAMCO	DAMCO	444
56907959	2 3/8"	40' 0"	32'	DAMCO	DAMCO	467
56775687	2 3/8"	45' 0"		DAMCO	DAMCO	526
56845126	2 3/8"	46' 6"	40'	DAMCO	DAMCO	543
56799281	2 3/8"	48' 0"	40'	DAMCO	DAMCO	561
57036907	2 3/8"	53' 0"	40'	DAMCO	DAMCO	619
57036907	2 3/8"	53' 0"	40'	DAMCO	DAMCO	619

KELLY BARS

COMM#	KELLY SIZE	KELLY LENGTH	HOLE DEPTH	THREAD BOX	BOX	WEIGHT
56853369	2 7/8"	26' 6"	20'	DAMCO	DAMCO	
56853377	2 7/8"	28' 0"	20'	DAMCO	DAMCO	
56853385	2 7/8"	31' 6"	25'	DAMCO	DAMCO	
56853393	2 7/8"	33' 0"	25'	DAMCO	DAMCO	
56853401	2 7/8"	36' 6"	30'	DAMCO	DAMCO	
56853419	2 7/8"	38' 0"	30'	DAMCO	DAMCO	571
56853427	2 7/8"	41' 6"	35'	DAMCO	DAMCO	
56853735	2 7/8"	43' 0"	35'	DAMCO	DAMCO	
56935448	2 7/8"	44' 6"	40'	DAMCO	DAMCO	
56765241	2 7/8"	46' 6"	40'	DAMCO	DAMCO	
56853443	2 7/8"	48' 0"	40'	DAMCO	DAMCO	
56853450	2 7/8"	58' 0"	50'	DAMCO	DAMCO	
56763915	2 7/8"	68' 0"	60'	DAMCO	DAMCO	
56911118	3 3/4"	20' 0"	12'	DAMCO	DAMCO	
56930928	3 3/4"	25' 0"	17'	DAMCO	DAMCO	
56855810	3 3/4"	28' 0"	20'	DAMCO	DAMCO	
56855828	3 3/4"	33' 0"	25'	DAMCO	DAMCO	
56855836	3 3/4"	38' 0"	30'	DAMCO	DAMCO	793
56892615	3 3/4"	48' 0"	40'	2 7/8 API REG	2 7/8 API REG	
56765308	3 3/4"	48' 0"	40'	DAMCO	DAMCO	
56855844	3 3/4"	51' 0"	43'	DAMCO	DAMCO	
56855851	3 3/4"	58' 0"	50'	DAMCO	DAMCO	
56917644	3 3/4"	68' 0"	60'	DAMCO	DAMCO	1419
58061391	4 1/2"	26' 6"		2 7/8 API IF LH	2 7/8 API IF RH	
56800998	4 3/4"	48' 0"	40'	3 1/2 API REG	3 1/2 API REG	
56919558	4 3/4"	58' 0"	50'	3 1/2 API REG	3 1/2 API REG	
56907009	4 3/4"	68' 0"	60'	3 1/2 API REG	3 1/2 API REG	
56924175	4 3/4"	73' 0"	65'	3 1/2 API REG	3 1/2 API REG	

KELLY BARS

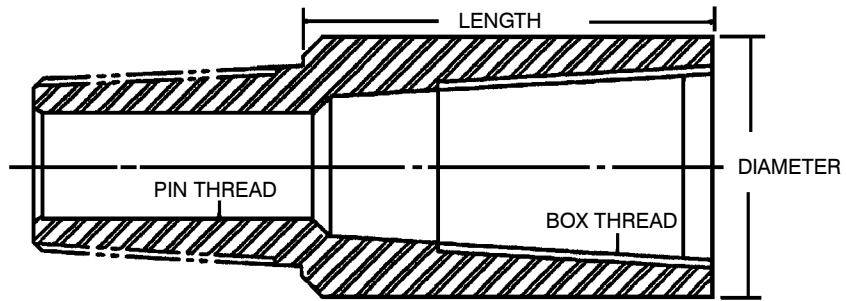
COMM#	KELLY SIZE	KELLY LENGTH	HOLE DEPTH	THREAD PIN	THREAD PIN	WEIGHT
<u>PIN/PIN THREAD CONFIGURATION</u>						
56924301	2 7/8"	28' 0"	20'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	419
56730258	2 7/8"	33' 0"	25'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	496
56924319	2 7/8"	38' 0"	30'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	570
56930274	2 7/8"	43' 0"	35'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	646
56976517	2 7/8"	43' 0"	30'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	
56907181	2 7/8"	48' 0"	40'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	720
56976525	2 7/8"	53' 0"	40'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	
56918378	2 7/8"	58' 0"	50'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	670
56976533	2 7/8"	63' 0"	50'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	
56919715	2 7/8"	68' 0"	60'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	1020
56902315	2 7/8"	73' 0"	65'	2 3/8 API IF (MOD)	2 3/8 API IF (MOD)	1095
56795909	3 3/4"	51' 0"	43'	2 7/8 API REG	2 7/8 API REG	
56795891	3 3/4"	48' 0"	40'	2 7/8 API REG	2 7/8 API REG	1001
56795917	3 3/4"	58' 0"	50'	2 7/8 API REG	2 7/8 API REG	1210
56931140	3 3/4"	73' 0"	65'	2 7/8 API REG	2 7/8 API REG	
56795925	3 3/4"	68' 0"	60'	2 7/8 API REG	2 7/8 API REG	
56795883	3 3/4"	38' 0"	30'	2 7/8 API REG	2 7/8 API REG	793
56795875	3 3/4"	33' 0"	25'	2 7/8 API REG	2 7/8 API REG	
56795834	3 3/4"	28' 0"	20'	2 7/8 API REG	2 7/8 API REG	
56855885	3 3/4"	38' 0"	30'	8-60 DEG V THDS	8-60 DEG V THDS	
56855869	3 3/4"	28' 0"	20'	8-60 DEG V THDS	8-60 DEG V THDS	
56855893	3 3/4"	48' 0"	40'	8-60 DEG V THDS	8-60 DEG V THDS	
56855877	3 3/4"	33' 0"	25'	8-60 DEG V THDS	8-60 DEG V THDS	

KELLY BARS

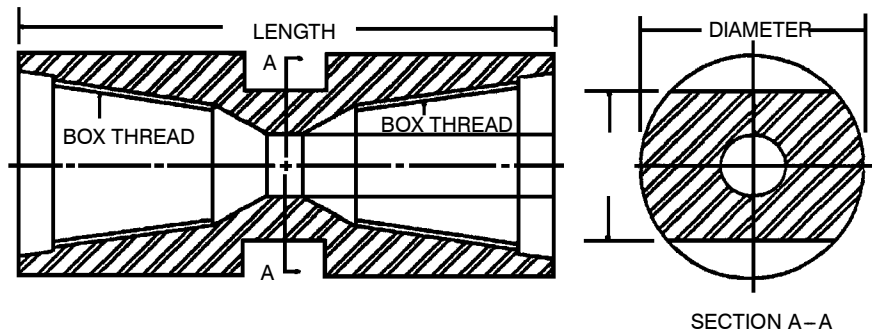
COMM#	KELLY SIZE	KELLY LENGTH	HOLE DEPTH	PIN	THREAD PIN	WEIGHT
56893506	4 3/4"	28' 0"	20'	DAMCO	DAMCO	
56793763	4 3/4"	38' 0"	30'	DAMCO	DAMCO	
56928807	4 3/4"	38' 0"	30'	3 1/2 API REG	3 1/2 API REG	1046
56976483	4 3/4"	43' 0"	30'	3 1/2 API REG	3 1/2 API REG	
56785736	4 3/4"	48' 0"	40'	DAMCO	DAMCO	
56928815	4 3/4"	48' 0"	40'	3 1/2 API REG	3 1/2 API REG	1321
56976491	4 3/4"	53' 0"	40'	3 1/2 API REG	3 1/2 API REG	
56928823	4 3/4"	58' 0"	50'	3 1/2 API REG	3 1/2 API REG	1597
56785405	4 3/4"	58' 0"	50'	DAMCO	DAMCO	
57276370	4 3/4"	61' 0"	50'	3 1/2 API REG	3 1/2 API REG	
56976509	4 3/4"	63' 0"	50'	3 1/2 API REG	3 1/2 API REG	
57421638	4 3/4"	66' 0"	60'	3 1/2 API REG	3 1/2 API REG	
56928831	4 3/4"	68' 0"	60'	3 1/2 API REG	3 1/2 API REG	1872
56893514	4 3/4"	68' 0"	60'	DAMCO	DAMCO	
56929243	4 3/4"	73' 0"	65'	3 1/2 API REG	3 1/2 API REG	2010
56893522	4 3/4"	73' 0"	65'	DAMCO	DAMCO	
56854151	6 1/4"	48' 0"	40'	DAMCO	DAMCO	
56924111	6 1/4"	48' 0"	40'	4 1/2 API REG	4 1/2 API REG	
56854169	6 1/4"	58' 0"	50'	DAMCO	DAMCO	
56924129	6 1/4"	58' 0"	50'	4 1/2 API REG	4 1/2 API REG	
57225500	6 1/4"	61' 0"	50'	4 1/2 API REG	4 1/2 API REG	2200
56854177	6 1/4"	68' 0"	60'	DAMCO	DAMCO	
56924137	6 1/4"	68' 0"	60'	4 1/2 API REG	4 1/2 API REG	
56924178	6 1/4"	70' 5"	60'	4 1/2 API REG	4 1/2 API REG	
57276388	7"	61' 0"	50'	5 1/2 API REG	5 1/2 API REG	
57377111	7"	65' 4"	60'	5 1/2 API REG	5 1/2 API REG	
56924160	7"	70' 5"	60'	5 1/2 API REG	5 1/2 API REG	
57290702	7"	71' 2"	60'	5 1/2 API REG	5 1/2 API REG	

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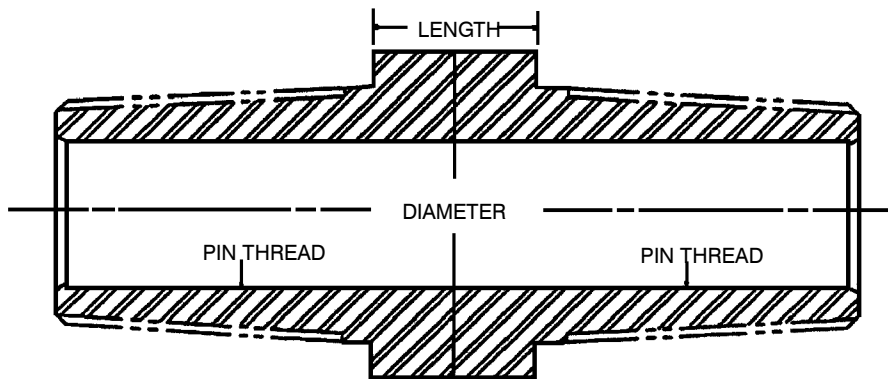
LOWER KELLY SUBS



LOWER KELLY SUB (PIN/BOX)



LOWER KELLY SUB (BOX/BOX)



LOWER KELLY SUB (PIN/PIN)

LOWER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD PIN	BOX	FLAT	WEIGHT
<u>PIN/BOX THREAD CONFIGURATION</u>						
<u>2 3/8" DIAMETER KELLY SUB</u>						
56842784	2 3/8"	4 1/4"	DAMCO	DAMCO	NONE	
56886591	2 3/8"	4 3/4"	DAMCO	DAMCO	NONE	
56942949	2 3/8"	4 3/4"	DAMCO	2 API IF	NONE	7
56901291	2 3/8"	6"	DAMCO	DAMCO	NONE	
56786866	2 3/8"	6 1/2"	DAMCO	HN BOX	NONE	
<u>2 7/8" DIAMETER KELLY SUB</u>						
56872179	2 7/8"	4 1/4"	4 V TPI/2" TAPER	DAMCO	NONE	
56773302	2 7/8"	5"	DAMCO	DAMCO	NONE	
56879471	2 7/8"	5"	DAMCO	3 THD ACME	NONE	
56880198	2 7/8"	5 1/2"	DAMCO	2 3/8 HD BOX	NONE	
56915473	2 7/8"	5 3/4"	DAMCO	DAMCO	NONE	
56794431	2 7/8"	5 3/4"	DAMCO	HN BOX	NONE	
56909963	2 7/8"	6 3/8"	2 3/8 API REG	2 3/8 IF (MOD)	3"	16
56796667	2 3/8"	6 1/2"	DAMCO	HN GAGE	NONE	
56954522	2 7/8"	47 3/8"	2 3/8 IF (MOD)	2 3/8 IF (MOD)	NONE	
56951742	2 7/8"	60"	DAMCO	2 3/8 IF (MOD)	NONE	
<u>3 1/8" DIAMETER KELLY SUB</u>						
56774045	2 7/8"	5 3/4"	DAMCO	2 3/8 API REG	NONE	
56872203	2 3/8"	5 3/4"	DAMCO	2 3/8 API	NONE	
56768195	2 7/8"	5 3/4"	DAMCO	2 3/8 API REG	NONE	
<u>3 1/4" DIAMETER KELLY SUB</u>						
56953029	2 7/8"	20"	DAMCO	2 3/8 API REG	NONE	57
<u>3 1/2" DIAMETER KELLY SUB</u>						
56772288	2 3/8"	4 1/4"	DAMCO	DAMCO	NONE	
56872138	2 7/8"	5 3/4"	DAMCO	DAMCO	NONE	

LOWER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD PIN	BOX	FLAT	WEIGHT
<u>3 3/4" DIAMETER KELLY SUB</u>						
56785066	3 3/4"	5"	DAMCO	DAMCO	NONE	
56767007	3 3/4"	5 3/4"	DAMCO	DAMCO	NONE	
56768823	3 3/4"	5 3/4"	DAMCO	2 3/8 API IF	NONE	
56872161	2 7/8"	5 3/4"	DAMCO	2 7/8 API	NONE	
56872153	3 3/4"	5 3/4"	DAMCO	2 7/8 API	NONE	
56872153	3 3/4"	5 3/4"	DAMCO	2 7/8 API	NONE	
56767015	3 3/4"	6"	DAMCO	2 3/8 API REG	NONE	
56921281	2 7/8"	6 1/2"	DAMCO	2 7/8 API	NONE	
5677	3 3/4"	15"	DAMCO	BLANK	NONE	
<u>4 1/4" DIAMETER KELLY SUB</u>						
56812936	3 3/4"	6 1/2"	DAMCO	3 1/2 API REG	NONE	
<u>4 1/4" DIAMETER KELLY SUB</u>						
56951122	3 3/4"	7"	2 3/8 API REG	2 7/8 API REG	3 1/2"	
<u>4 3/4" DIAMETER KELLY SUB</u>						
56896681	4 3/4"	5"	3 1/2 API REG	DAMCO	NONE	
56879950	4 3/4"	6"	2 3/8 API REG	DAMCO	NONE	
<u>5 1/8" DIAMETER KELLY SUB</u>						
56775679	4 3/4"	4 3/8"	DAMCO	DAMCO	NONE	
<u>6 1/4" DIAMETER KELLY SUB</u>						
56926413	6 1/4"	5 1/2"	5 TPI-STUB V	DAMCO	NONE	

LOWER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD BOX	BOX	FLAT	WEIGHT
<u>BOX/BOX THREAD CONFIGURATION</u>						
<u>2 7/8" DIAMETER KELLY SUB</u>						
56940745	2 7/8"	8"	2 3/8 IF (MOD)	DAMCO	2 1/2"	14
56931876	2 7/8"	9"	DAMCO	2 3/8 IF (MOD)	2 1/2"	
56934797	2 7/8"	10"	2 3/8 IF (MOD)	3 1/2 API REG	3 1/2"	30
56945116	2 7/8"	60"	2 3/8 IF (MOD)	2 3/8 API REG	NONE	75
<u>3 1/2" DIAMETER KELLY SUB</u>						
56940752	2 7/8"	10"	2 3/8 IF (MOD)	DAMCO	2 3/4"	21
<u>3 5/8" DIAMETER KELLY SUB</u>						
56902307	2 7/8"	9 3/8"	2 3/8 IF (MOD)	2 3/8 API REG	3"	
<u>3 3/4" DIAMETER KELLY SUB</u>						
56936552	3 3/4"	8 3/4"	2 7/8 API REG	4 THD "N" ROD	NONE	
56931546	3 3/4"	10"	2 3/8 API REG	2 7/8 API REG	3"	
56931637	3 3/4"	51"	2 7/8 API REG	2 7/8 API REG	NONE	
56944937	3 3/4"	60"	2 7/8 API REG	2 7/8 API REG	NONE	103
57082810	3 3/4"	60"	2 3/8 API REG	2 7/8 API REG	NONE	103
56974538	3 3/4"	60"	2 7/8 API REG	3 1/2 API REG	NONE	
<u>4 1/4" DIAMETER KELLY SUB</u>						
56930431	3 3/4"	10"	3 1/2 API REG	2 7/8 API REG	3"	
<u>4 3/8" DIAMETER KELLY SUB</u>						
56908833	3 3/4"	12"	2 7/8 API	3 1/2 API	3 3/4"	

LOWER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD BOX	BOX	FLAT	WEIGHT
<u>4 3/4" DIAMETER KELLY SUB</u>						
56872195	4 3/4"	8 1/2"	DAMCO	2 7/8 API	NONE	
56872229	4 3/4"	9"	DAMCO	DAMCO	NONE	
56872187	4 3/4"	9 1/2"	DAMCO	3 1/2 API	NONE	
56772924	4 3/4"	18"	DAMCO	3 1/2 API REG	NONE	
56770308	4 3/4"	24"	DAMCO	3 1/2 API REG	NONE	
56773849	4 3/4"	60"	DAMCO	3 1/2 API REG	NONE	
57100109	4 3/4"	60"	2 7/8 API REG	3 1/2 API REG	NONE	165
56944747	4 3/4"	60"	3 1/2 API REG	3 1/2 API REG	NONE	165
<u>5 3/8" DIAMETER KELLY SUB</u>						
56932684	2 7/8"	9"	2 3/8 IF (MOD)	3 1/2 API REG	4"	
56932676	4 3/4"	12"	3 1/2 API REG	4 TPI/2" TAPER	4"	
<u>6 1/4" DIAMETER KELLY SUB</u>						
56798200	6 1/4"	8"	DAMCO	2 7/8 API REG	NONE	
56781362	6 1/4"	9"	DAMCO	3 1/2 API REG	NONE	
56886708	6 1/4"	9"	DAMCO	4 1/2 API REG	NONE	
56762503	6 1/4"	18"	DAMCO	4 1/2 API REG	NONE	
57040370	6 1/4"	60"	4 1/2 API REG	4 1/2 API REG	NONE	
<u>7" DIAMETER KELLY SUB</u>						
56932668	6 1/4"	12"	5 1/2 API REG	4 1/2 API REG	5 1/2"	

LOWER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD		FLAT	WEIGHT
			PIN	PIN		

PIN/PIN THREAD CONFIGURATION

2 7/8" DIAMETER KELLY SUB

56812779	2 7/8"	3"	DAMCO	2 3/8 FAILING TOOL JT	NONE	
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3 1/8" DIAMETER KELLY SUB

56896699	2 7/8"	2 3/4"	2 3/8 API REG	2 3/8 API REG	NONE	
56785934	2 3/8"	3 1/2"	DAMCO	2 3/8 API REG	NONE	
56776271	2 7/8"	3 1/2"	DAMCO	2 3/8 API REG	NONE	

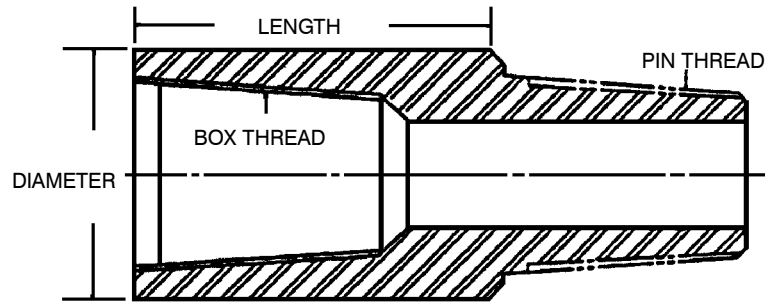
3 3/4" DIAMETER KELLY SUB

56762461	3 3/4"	3 1/2"	DAMCO	2 3/8 API REG	NONE	
56776263	3 3/4"	3 1/2"	DAMCO	2 3/8 API REG	NONE	

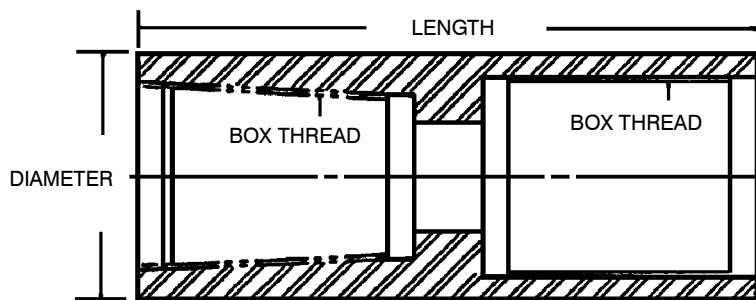
4 1/4" DIAMETER KELLY SUB

56774581	2 7/8"	2 1/4"	DAMCO	3 1/2 API REG	NONE	
56962905	3 3/4"	7 1/4"	DAMCO	3 1/2 API REG	3 1/2"	

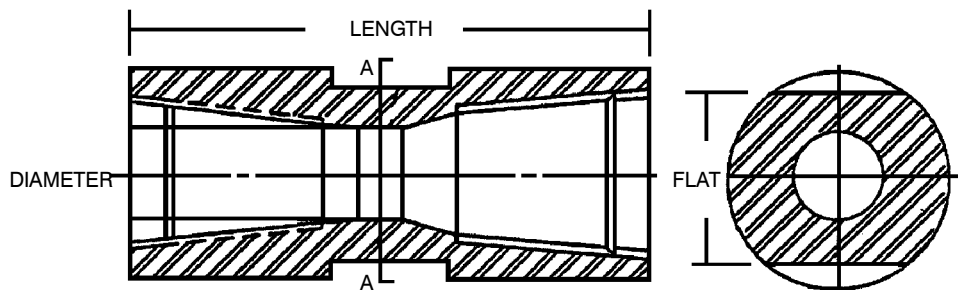
UPPER KELLY SUBS



UPPER KELLY SUB (PIN/BOX)



UPPER KELLY SUB (BOX/BOX)



UPPER KELLY SUB (BOX/BOX)

UPPER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD BOX	THREAD BOX	FLAT	SWIVEL DESC.	WEIGHT (LBS.)
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PIN/BOX THREAD CONFIGURATION

2" DIAMETER KELLY SUB

56901796	2"	4"	DAMCO	DAMCO	NONE	NONE	
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2 7/8" DIAMETER KELLY SUB

56812738	2 7/8"	2 1/4"	DAMCO	1 1/4 AM STD	NONE	56848104	
56812753	2 7/8"	3"	DAMCO	1 1/4 AM STD	NONE	56848104	

3 3/4" DIAMETER KELLY SUB

56877500	2 7/8"	5 3/4"	DAMCO	2 3/8 API IF	NONE	NONE	
56794928	2 7/8"	6"	DAMCO	2 3/8 API REG	NONE	56770563	
56778756	3 3/4"	6"	DAMCO	2 3/8 API REG	NONE	56770563	
56800220	2 3/8"	6"	DAMCO	2 3/8 API REG	NONE	56770563	
56785645	2 3/8"	6 1/2"	DAMCO	2 3/8 API IF	NONE	NONE	
56813140	2 3/4"		2 7/8 API	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	

4 1/2" DIAMETER KELLY SUB

56855901	2 3/8"	4"	DAMCO	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	
56855737	2 3/8"	4"	DAMCO	SWIVEL	NONE	NONE	
56765332	2 7/8"	4"	DAMCO	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	
56889553	3 3/4"	4 1/2"	2 7/8 API REG	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	
56765324	3 3/4"	4 1/2"	DAMCO	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	
56889355	3 3/4"	4 1/2"	DAMCO	3 1/4 – 8 TPI	NONE	56886294	

UPPER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD BOX		FLAT	SWIVEL DESC.	WEIGHT (LBS.)
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4 3/4" DIAMETER KELLY SUB

56894926	2 7/8"	3 1/2"	DAMCO	3 1/4 – 8 TPI	NONE	56886294
56906985	4 3/4"	5"	3 1/2 API REG	2 7/8 API REG	4 1/8"	56791072
56800915	4 3/4"	6 1/4"	3 1/2 API REG	2 3/8 API REG	4 1/8"	56770563

5 1/2" DIAMETER KELLY SUB

56772858	2 7/8"	4"	DAMCO	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409
56868169	3 3/4"	4 1/2"	DAMCO	4 1/4 – 8 TPI	NONE	56868417, 56868425 56868489
56922974	2 3/8"	4"	DAMCO	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409

UPPER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD		FLAT	SWIVEL DESC.	WEIGHT (LBS.)
			BOX	BOX			

BOX/BOX THREAD CONFIGURATION

3 5/8" DIAMETER KELLY SUB

56931074	2 7/8"	9"	2 3/8 API IF	2 3/8 API REG	3"	56770563	16
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3 3/4" DIAMETER KELLY SUB

56767395	4 3/4"	7"	DAMCO	3 1/4 – 8NF TPI	NONE	56855455, 56885387 56765258, 56855463	
56930340	3 3/4"	9"	2 3/8 API REG	2 7/8 API REG	3"	56770563	
56931082	3 3/4"	9"	2 3/8 API IF	2 7/8 API REG	3"	NONE	
56938178	2 7/8"	10"	2 3/8 API IF	2 3/8 API REG	3"	56770563	
56931090	2 7/8"	10"	2 3/8 API IF	2 3/8 API REG	3"	56791072	14

4 3/4" DIAMETER KELLY SUB

56886575	4 3/4"	7 3/16"	DAMCO	3 1/2 – 8 TPI	NONE	56886294	
56894876	4 3/4"	8 1/2"	DAMCO	2 7/8 API REG	NONE	56791072	
56777246	4 3/4"	9 1/2"	DAMCO	2 3/8 API REG	NONE	56770563	
56931116	3 3/4"	10"	2 7/8 API REG	2 7/8 API REG	3"	56791072	
56929615	4 3/4"	10"	2 3/8 API REG	3 1/2 API REG	4"	56770563	37
56929664	4 3/4"	10"	2 7/8 API REG	3 1/2 API REG	4"	56791072	
56908817	3 3/4"	12"	2 7/8 API REG	2 3/8 API REG	4 1/8"	56770563	
57276321	4 3/4"	12"	3 1/2 API REG	5 1/2 API REG	5 1/2"		
56772916	4 3/4"	27"	DAMCO	3 1/2 – 8 TPI	NONE	56886294	

UPPER KELLY SUBS

COMM#	KELLY SIZE	KELLY LENGTH	THREAD BOX	THREAD BOX	FLAT	SWIVEL DESC.	WEIGHT (LBS.)
<u>5 1/2" DIAMETER KELLY SUB</u>							
56868151	3 3/4"	5 1/8"	DAMCO spec	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409	
56868144	4 3/4"	5 1/8"	DAMCO spec	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409	
56855919	4 3/4"	5 1/8"	DAMCO spec	3 1/4 – 8 TPI	NONE	56855455, 56885387 56765258, 56855463	
56785280	4 3/4"	7 1/4"	DAMCO	4 1/4 – 8 TPI	NONE	56868417, 56868425	
56880206		8"	2 3/8 IF (MOD)	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409	
56796543		8"	2 7/8 API REG	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409	
<u>6 1/4" DIAMETER KELLY SUB</u>							
56931041	6 1/4"	12"	2 7/8 API REG	4 1/2 API REG	5 1/2"	56791072	
56762511	6 1/4"	27"	DAMCO	3 1/2 – 8 TPI	NONE	56886294	
<u>6 3/4" DIAMETER KELLY SUB</u>							
56931108	4 3/4"	13"	3 1/2 API REG	5 1/2 API REG	5"	56917347	
<u>7" DIAMETER KELLY SUB</u>							
56929045	6 1/4"	12"	4 1/2 API REG	5 1/2 API REG	5 1/2"	56917347	
<u>7 1/4" DIAMETER KELLY SUB</u>							
56878705	6 1/4"	6 1/8"	4 TPI	4 1/4 – 8 TPI	NONE	56868417, 56868425 56885452, 56868409	
<u>7 1/2" DIAMETER KELLY SUB</u>							
56886674	6 1/4"	7 3/16"	DAMCO	3 1/2 – 8 TPI	NONE	56886294	

KELLY SUBS BOTTOM/TOP

COMM#	KELLY SIZE	KELLY LENGTH	PIN	THREAD PIN	FLAT
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BOTTOM SUB PIN/PIN THREAD CONFIGURATION

3 1/2" DIAMETER KELLY SUB

58061524	3 3/8"	6"	2 3/8 API IF	2 3/8 API IF	2 3/4"
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4 1/4" DIAMETER KELLY SUB

58177478	4 1/4-4 1/2"	6"	2 7/8 API IF	2 3/8 API IF	2 3/4"
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4 1/2" DIAMETER KELLY SUB

58061516	4 1/4-4 1/2"	6"	2 7/8 API IF	2 7/8 API IF	3 1/2"
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58145178	3 3/8-3 3/4"	6"	2 3/8 API IF	3 1/2 API REG	3 1/2"
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58061557	3 3/8"				
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58144346	3 3/8"				
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58145186	3 3/8-3 3/4"				
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58061540	4 1/4"				
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58037771	4 1/4-4 1/2"				
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TOP SUB PIN/BOX THREAD CONFIGURATION

4 3/4" DIAMETER KELLY SUB

58061532	3 3/8"	9"	2 3/8 API IF	3 1/2 API IF	NONE
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58037763	4 1/4-4 1/2"	9"	2 7/8 API IF	3 1/2 API IF	NONE
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STABILIZERS

SECTION

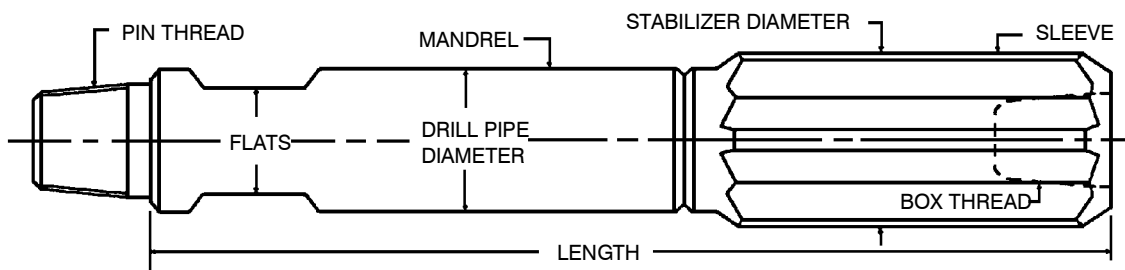
STABILIZERS

SECTION

STABILIZERS

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BIT BUDDY STABILIZER



BIT BUDDY STABILIZER

BIT BUDDY STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>8 5/8" STABILIZER</u>					
57346322	20"	7"	4 1/2" BECO	4 1/2" API REG	5 3/4"
57430159	MANDREL				
57430274	SLEEVE				
57375727	41"	7"	4 1/2" BECO	4 1/2" API REG	5 3/4"
57430191	MANDREL				
57430316	SLEEVE				
<u>8 7/8" STABILIZER</u>					
57349318	20"	7"	4 1/2" BECO	4 1/2" API REG	5 3/4"
57430167	MANDREL				
57430282	SLEEVE				
57277741	60"	7 5/8"	5 1/4" BECO	4 1/2" API REG	6 3/4"
57430126	MANDREL				
57430241	SLEEVE				
<u>9" STABILIZER</u>					
57001596	24"	7"	4 1/2" API REG	4 1/2" API REG	5"
57431165	MANDREL				
57431173	SLEEVE				

BIT BUDDY STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>9 3/4" STABILIZER</u>					
57312084	20"	7"	4 1/2" BECO	6 5/8" API REG	5 3/4"
57430142	MANDREL				
57430266	SLEEVE				
57165029	20"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
57175622	MANDREL				
57175630	SLEEVE				
57055519	25"	8 1/2"–9 3/4"	6 5/8" API REG	6 5/8" API REG	5 1/2"
57431181	MANDREL				
57431199	SLEEVE				
57375719	41"	7 5/8"	5 1/4" BECO	5 1/2" API REG	6 3/4"
57430183	MANDREL				
57430308	SLEEVE				
52273133	41"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
56970643	MANDREL				
52243433	SLEEVE				
52243466	60"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
52243409	MANDREL				
52243433	SLEEVE				
57209157	60"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
52243417	MANDREL				
57430217	SLEEVE				

BIT BUDDY STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
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9 7/8" STABILIZER

52273265	41"	7 3/4"	6" BECO	6 5/8" API REG	6 3/4"
56970551	MANDREL				
56970569	SLEEVE				

10 1/2" STABILIZER

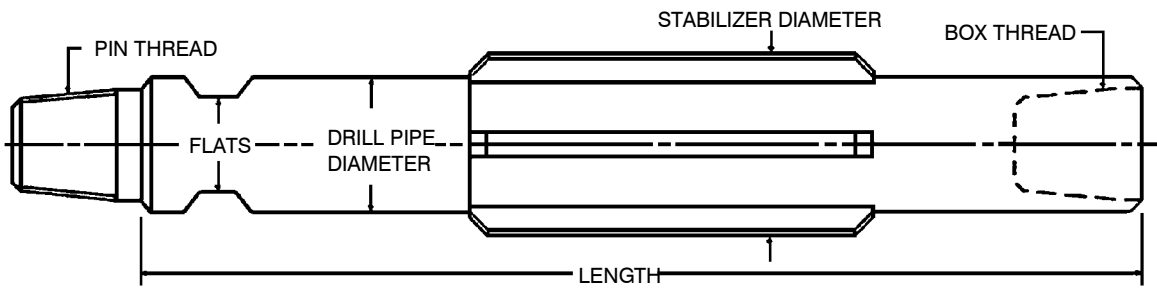
57176745	20"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
57430100	MANDREL				
52243441	SLEEVE				
57135121	24"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
57430092	MANDREL				
52243441	SLEEVE				
57375701	41"	8 5/8"	6" BECO	5 1/2" API REG	7 3/4"
57430175	MANDREL				
57430290	SLEEVE				
57277758	60"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
57430134	MANDREL				
57430258	SLEEVE				
52243474	60"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
52243417	MANDREL				
52243441	SLEEVE				
52273166	6' 0"	9 1/4"	6" BECO	5 1/2" API REG	7 3/4"
56970585	MANDREL				
56970593	SLEEVE				

BIT BUDDY STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>10 5/8" STABILIZER</u>					
52273141	41"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
56970650	MANDREL				
52243441	SLEEVE				
<u>10 7/8" STABILIZER</u>					
57375735	41"	9 1/4"	6" BECO	6 5/8" API REG	7 3/4"
57430209	MANDREL				
57430324	SLEEVE				
<u>12 1/8" STABILIZER</u>					
57244485	20"	9 1/4"	6" BECO	6 5/8" API REG	7 3/4"
57430118	MANDREL				
57430233	SLEEVE				
57209165	60"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
57430084	MANDREL				
57430225	SLEEVE				
52243482	60"	10 3/4"	8" BECO	6 5/8" API REG	
52243425	MANDREL				
52243458	SLEEVE				
<u>12 1/4" STABILIZER</u>					
52273158	41"	10 3/4"	8" BECO	6 5/8" API REG	9 1/4"
56970668	MANDREL				
52243458	SLEEVE				

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BLADE STABILIZER



BLADE STABILIZER

BLADE STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>5 7/8" STABILIZER</u>					
50257997	46"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50418508	46"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
<u>6 1/8" STABILIZER</u>					
50258029	46"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50517788	46"	5"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50363761	60"	5 1/2"	4" API FH	3 1/2" API REG	4 1/2"
<u>6 3/8" STABILIZER</u>					
50465862	46"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
58171570	20' 0"		2 7/8" API IF	3 1/2" API REG	
<u>6 1/2" STABILIZER</u>					
50422336	45"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
<u>6 5/8" STABILIZER</u>					
50258581	45"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50524990	46"	5"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50363779	60"	5 1/2"	4" API FH	3 1/2" API REG	4 1/2"
<u>7 1/4" STABILIZER</u>					
50427178	45"	5"	3 1/2" API REG	3 1/2" API REG	3 1/2"
50363787	60"	5 1/2"	4" API FH	3 1/2" API REG	4 1/2"
52187895	60"	6"	4 1/2" API REG	4 1/2" API REG	4 1/2"

BLADE STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
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7 1/2" STABILIZER

50701705	36"	5"-5 1/2"	3 1/2" API REG	4 1/2" API REG	3 1/2"
52232329	48"	5 1/2"	4" API FH	4" API FH	4 1/2"
52232311	60"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
50429620	60"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
50260280	12' 0"	4 1/2"-5 1/2"	3 1/2" API REG	4 1/2" API REG	3 1/2"
50699206	12' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
52230646	12' 0"	5 1/2"	4 1/2" API REG	4 1/2" API REG	4 1/2"
50425883	12' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
52202645	15' 0"	4 1/2"-5 1/2"	3 1/2" API REG	4 1/2" API REG	3 1/2"
52203528	15' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
52212768	20' 0"	4 1/2"-5 1/2"	3 1/2" API REG	4" API FH	3 1/2"
52140365	20' 0"	4 1/2"-5 1/2"	3 1/2" API REG	4 1/2" API REG	3 1/2"
52147493	20' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
52230372	20' 0"	5 1/2"	4 1/2" API REG	4 1/2" API REG	4 1/2"

7 3/4" STABILIZER

57360786	60"	5 1/2"	4" BECO	4 1/2" API REG	4 1/2"
52245818	60"	6 1/4"	4" BECO	4 1/2" API REG	T5

8 3/8" STABILIZER

50261148	12' 0"	4 1/2"-5 1/2"	3 1/2" API REG	4 1/2" API REG	3 1/2"
50699214	12' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
50418870	12' 0"	5 1/2"	4" API FH	4" API FH	4 1/2"

BLADE STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>8 1/2" STABILIZER</u>					
58196171	10' 0"				
<u>8 5/8" STABILIZER</u>					
52245800	60"	6 1/4"	4" BECO	4 1/2" API REG	4 3/4"
52245776	60"	7"	5 1/4" BECO	4 1/2" API REG	5 1/2"
57032849	10' 0"	4 9/16"–5 1/2"	2 7/8" API IF	4 1/2" API REG	3 1/2"
<u>8 3/4" STABILIZER</u>					
52157039	42"	7 5/8"	5 1/4" BECO	4 1/2" API REG	6 1/2"
<u>8 7/8" STABILIZER</u>					
52182599	48"	7"	4" API FH	4 1/2" API REG	4 1/2"
57253072	60"	7"	4 1/2" BECO	4 1/2" API REG	5"
52245792	60"	7"	5 1/4" BECO	4 1/2" API REG	T5
52241197	60"	7 5/8"	5 1/2" BECO	4 1/2" API REG	6 1/8"
52176781	60"	7 5/8"	5 1/2" API REG	4 1/2" API REG	T5
<u>9 1/2" STABILIZER</u>					
50622133	12' 0"	4 1/2"–8"	3 1/2" API REG	6 5/8" API REG	3 1/2"
50622141	12' 0"	5 1/2"–8"	4" API FH	6 5/8" API REG	4 1/2"
52230653	12' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
50624196	12' 0"		4" API FH	6 5/8" API REG	
52202652	15' 0"	4 1/2"–8"	3 1/2" API REG	6 5/8" API REG	3 1/2"
52147436	20' 0"	5 1/2"–7 1/2"	4" API FH	6 5/8" API REG	4 1/2"
52190261	20' 0"	6"–8"	4 1/2" API FH	6 5/8" API REG	4 1/2"
52172400	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"

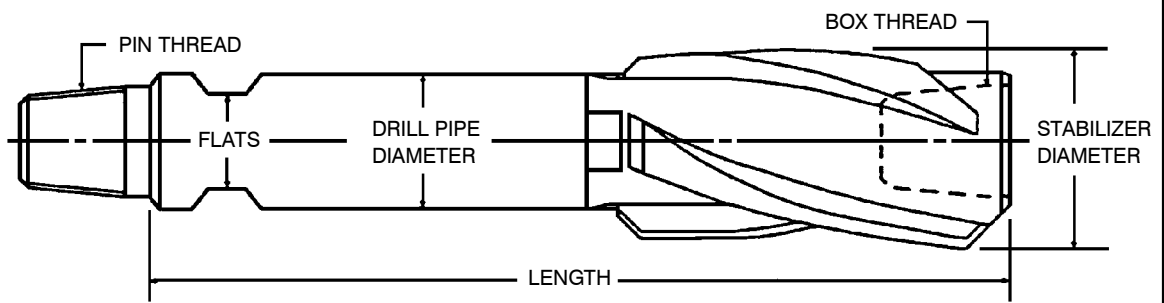
BLADE STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>9 3/4" STABILIZER</u>					
52245784	60' 0"	7 5/8"	5 1/4" BECO	6 5/8" API REG	T5
52176799	60' 0"	8 5/8"	6" BECO	6 5/8" API REG	6 1/8"
<u>10 1/2" STABILIZER</u>					
50614932	6' 0"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
<u>10 3/4" STABILIZER</u>					
52182979	8' 0"	8" – 10 3/4"	6 5/8" API REG	6 5/8" API REG	7"
<u>11 7/8" STABILIZER</u>					
52230661	12' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52179116	15' 0"	5 1/2" – 9 1/2"	4" API FH	6 5/8" API REG	4 1/2"
52147592	20' 0"	5 1/2" – 9 1/2"	4" API FH	6 5/8" API REG	4 1/2"
52166493	20' 0"	5 1/2" – 9 1/2"	3 1/2" API IF	6 5/8" API REG	4 1/2"
52190253	20' 0"	6" – 9 5/8"	4 1/2" API FH	6 5/8" API REG	4 1/2"
52232337	20' 0"	8" – 9 5/8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52232337	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52172418	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
<u>12 1/4" STABILIZER</u>					
57293367	66" O/A	10"	6 5/8" API REG	6 5/8" API REG	7"
57293292	66" O/A	8"	6 5/8" API REG	6 5/8" API REG	7"
57324063		10 3/4"	8" BECO		9 1/4"

BLADE STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>14 3/4" STABILIZER</u>					
52230679	12' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52232345	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52172426	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	4 1/2"
52190279	20' 0"	6" – 12"	4 1/2" API FH	6 5/8" API REG	4 1/2"
52166527	20' 0"	5 1/2" – 11 1/2"	3 1/2" API IF	6 5/8" API REG	4 1/2"
<u>17 1/4" STABILIZER</u>					
57128845	20' 0"	8"	6 5/8" API REG	6 5/8" API REG	7"
<u>17 1/2" STABILIZER</u>					
57293276	66" O/A	8"	6 5/8" API REG	6 5/8" API REG	7"
57293359	66" O/A	10"	6 5/8" API REG	7 5/8" API REG	7"
57293342	66" O/A	10"	6 5/8" API REG	6 5/8" API REG	7"

SPIRAL STABILIZER



SPIRAL STABILIZER

SPIRAL STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
<u>6 1/8" STABILIZER</u>					
50819606	48"	4 1/2"	3 1/2" API REG	3 1/2" API REG	3 1/2"
<u>7 1/2" STABILIZER</u>					
50690718	8' 0"	5 1/2"	4" API FH	4 1/2" API REG	4 1/2"
<u>8 1/2" STABILIZER</u>					
57110819	35 1/2"	7"	5 1/4" BECO	4 1/2" API REG	6 1/2"
57121782	13 7/8"	7"	4 1/2" BECO	4 1/2" API REG	5 3/4"
57134249	35 1/2"	7"	4 1/2" BECO	4 1/2" API REG	5 3/4"
<u>9 7/8" STABILIZER</u>					
57111916	35 1/2"	6 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
57111924	35 1/2"	6 5/8"	5 1/4" BECO	5 1/2" API REG	6 3/4"
57061145	41"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
57061301	60"	7 5/8"	5 1/4" BECO	6 5/8" API REG	6 3/4"
<u>10 3/8" STABILIZER</u>					
57110496	35 1/2"	8 5/8"	6" BECO	5 1/2" API REG	7 3/4"
57110488	35 1/2"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
<u>10 5/8" STABILIZER</u>					
57061152	41"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"
57062424	60"	8 5/8"	6" BECO	6 5/8" API REG	7 3/4"

SPIRAL STABILIZER

COMM#	LENGTH S/S	DIA.	PIN	BOX	FLAT
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12 1/4" STABILIZER

57293300	66" O/A	8"	6 5/8" API REG	6 5/8" API REG	7"
57293375	66" O/A	10"	6 5/8" API REG	6 5/8" API REG	7"
57078651	41"	10 3/4"	8" BECO	6 5/8" API REG	9 1/4"
57061095	60"	10 3/4"	8" BECO	6 5/8" API REG	9 1/4"

17 1/2" STABILIZER

57293284	66" O/A	8"	6 5/8" API REG	6 5/8" API REG	7"
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BIT SUBS

SECTION

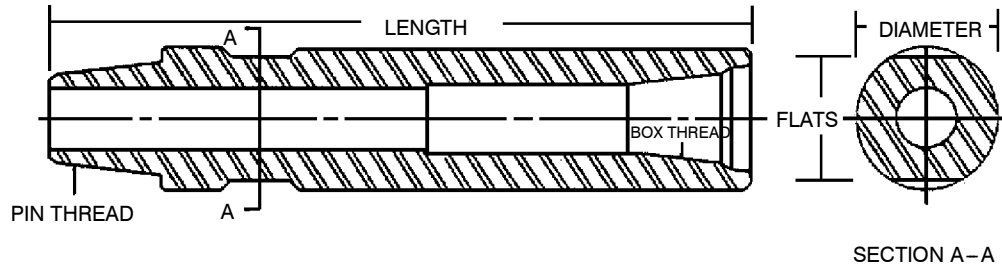
BIT SUBS

SECTION

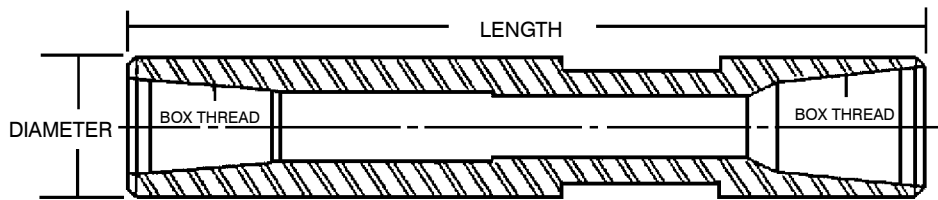
BIT SUBS

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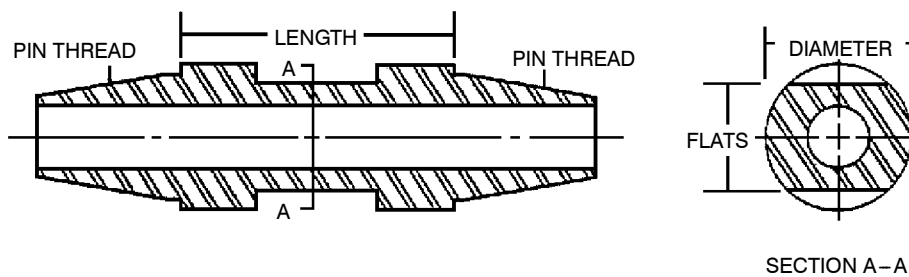
BIT SUBS



BIT SUB (PIN/BOX)



BIT SUB (BOX/BOX)



BIT SUB (PIN/PIN)

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	FLOAT	WEIGHT (LBS.)
			PIN	BOX			

BIT SUB ASSEMBLIES

PIN/BOX THREAD CONFIGURATION

58135732	3 1/2"	20"	2 3/8 API IF	2 3/8 API REG	2 3/4"	NO
58218736	3 1/2"	20"	2 3/8 API IF	2 3/8 API REG	2 3/4"	YES
58144353	FLOAT VALVE					
58135864	3 1/2-3 3/4"	20"	2 3/8 API IF	3 1/2 API REG	2 3/4"	NO
58218728	3 1/2-3 3/4"	20"	2 3/8 API IF	3 1/2 API REG	2 3/4"	YES
58144361	FLOAT VALVE					
57221905	3 1/2-4 1/4"	20"	2 3/8 API IF	3 1/2 API REG	2 3/4"	NO
58135880	3 1/2-4 1/4"	20"	2 3/8 API IF	3 1/2 API REG	2 3/4"	YES
58144601	FLOAT VALVE					
58135872	3 1/2-5 1/2"	32"	2 3/8 API IF	4 1/2 API REG	2 3/4"	NO
58218702	3 1/2-5 1/2"	32"	2 3/8 API IF	4 1/2 API REG	2 3/4"	YES
58144619	FLOAT VALVE					
58135799	3 1/2-7 3/4"	41 1/4"	2 3/8 API IF	6 5/8 API REG	2 3/4"	NO
58218686	3 1/2-7 3/4"	41 1/4"	2 3/8 API IF	6 5/8 API REG	2 3/4"	YES
58144627	FLOAT VALVE					
58135849	4 1/2"	20"	2 7/8 API IF	3 1/2 API REG	3 1/2"	NO
58218736	4 1/2"	20"	2 7/8 API IF	3 1/2 API REG	3 1/2"	YES
58144601	FLOAT VALVE					
52224300	4 1/2"	24"	2 7/8 API IF	3 1/2 API REG	3 1/2"	NO
52267820	4 1/2"	24"	2 7/8 API IF	3 1/2 API REG	3 1/2"	YES
58144601	FLOAT VALVE					
50618297	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO
57222440	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	YES
58144601	FLOAT VALVE					

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	FLOAT	WEIGHT (LBS.)
			PIN	BOX			
57222440	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	
50618297	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	YES	
58144601	FLOAT VALVE						
58135856	4 1/2-5 1/2"	24"	2 7/8 API IF	4 1/2 API REG	3 1/2"	NO	
58218660	4 1/2-5 1/2"	24"	2 7/8 API IF	4 1/2 API REG	3 1/2"	YES	
58144619	FLOAT VALVE						
50346881	4 1/2-5 1/2"	24"	3 1/2 API REG	4 1/2 API REG	3 1/2"	NO	87
50521632	4 1/2-5 1/2"	24"	3 1/2 API REG	4 1/2 API REG	3 1/2"	YES	87
58144619	FLOAT VALVE						
<u>BOX/BOX THREAD CONFIGURATION</u>							
52180601	4 1/2-5 1/2"	24"	2 7/8 API IF	4 API FH	3 1/2"	NO	110
52225299	4 1/2-5 1/2"	24"	2 7/8 API IF	4 API FH	3 1/2"	YES	110
50624162	FLOAT VALVE						
52266236	4 1/2-5 1/2"	24"	2 7/8 API IF	4 1/2 API REG	3 1/2"	NO	91
52187671	4 1/2-5 1/2"	24"	2 7/8 API IF	4 1/2 API REG	3 1/2"	YES	91
58144619	FLOAT VALVE						
58135765	4 1/2-7 3/4"	40"	2 7/8 API IF	6 5/8 API REG	3 1/2"	NO	
58135652	4 1/2-7 3/4"	40"	2 7/8 API IF	6 5/8 API REG	3 1/2"	YES	
58144627	FLOAT VALVE						
52225356	4 1/2-8"	33 1/2"	2 7/8 API IF	6 5/8 API REG	3 1/2"	NO	175
52187689	4 1/2-8"	33 1/2"	2 7/8 API IF	6 5/8 API REG	3 1/2"	YES	175
58144627	FLOAT VALVE						
57346991	4 1/2-9"	33 1/2"	2 7/8 API IF	7 5/8 API REG	3 1/2"	YES	324
58144627	FLOAT VALVE						

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD BOX	THREAD BOX	FLAT	FLOAT	WEIGHT (LBS.)
52165610	5 1/2"	10 1/2"	4 API FH	3 1/2 API REG	4 1/2"	NO	
50624154	5 1/2"	10 1/2"	4 API FH	3 1/2 API REG	4 1/2"	YES	
58144601	FLOAT VALVE						
58171281	5 1/2"	21"	3 1/2 API IF	3 1/2 API REG	4 1/2"	NO	
58218629	5 1/2"	21"	3 1/2 API IF	3 1/2 API REG	4 1/2"	YES	
58144601	FLOAT VALVE						
58171299	5 1/2"	24 1/2"	3 1/2 API IF	4 1/2 API REG	4 1/2"	NO	
58218611	5 1/2"	24 1/2"	3 1/2 API IF	4 1/2 API REG	4 1/2"	YES	
58144619	FLOAT VALVE						
52267804	5 1/2"	24"	3 1/2 API IF	4 1/2 API REG	4 1/2"	NO	
52267838	5 1/2"	24"	3 1/2 API IF	4 1/2 API REG	4 1/2"	YES	
58144619	FLOAT VALVE						
58218751	5 1/2"	28"	4 API FH	3 1/2 API REG	4 3/4"	NO	
52267838	5 1/2"	28"	4 API FH	3 1/2 API REG	4 3/4"	YES	
58144601	FLOAT VALVE						
50624097	5 1/2-7 3/4"	24"	4 API FH	6 5/8 API REG	4 1/2"	YES	200
58144627	FLOAT VALVE						
58171315	5 1/2-7 3/4"	35"	3 1/2 API IF	6 5/8 API REG	4 1/2"	NO	
58218603	5 1/2-7 3/4"	35"	3 1/2 API IF	6 5/8 API REG	4 1/2"	YES	
58144627	FLOAT VALVE						
58218777	6"	28"	4 API FH	4 1/2 API REG	4 3/4"	NO	
58218785	6"	28"	4 API FH	4 1/2 API REG	4 3/4"	YES	
58144619	FLOAT VALVE						

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD BOX	THREAD BOX	FLAT	FLOAT	WEIGHT (LBS.)
58218843	6"	28"	NC #44	4 1/2 API REG	5 1/4"	NO	
58218850	6"	28"	NC #44	4 1/2 API REG	5 1/4"	YES	
58144619	FLOAT VALVE						
58195769	6"	21"	4 1/2 API REG	4 1/2 API REG		NO	
58218587	6"	21"	4 1/2 API REG	4 1/2 API REG		YES	
58144619	FLOAT VALVE						
57102295	6-7"	32"	4 API FH	6 5/8 API REG	4 1/2"	NO	
57102303	6-7"	32"	4 API FH	6 5/8 API REG	4 1/2"	YES	
58144627	FLOAT VALVE						
58218793	6-7 3/4"	35"	4 API FH	6 5/8 API REG	4 3/4"	NO	
58218801	6-7 3/4"	35"	4 API FH	6 5/8 API REG	4 3/4"	YES	
58144627	FLOAT VALVE						
58219148	6-7 3/4"	35"	NC #44	6 5/8 API REG	5 1/4"	NO	
58219155	6-7 3/4"	35"	NC #44	6 5/8 API REG	5 1/4"	YES	
58144627	FLOAT VALVE						
58174822	7 7/8"	26"	6 5/8 API REG	6 5/8 API REG		NO	
58218595	7 7/8"	26"	6 5/8 API REG	6 5/8 API REG		YES	
58144627	FLOAT VALVE						
57293441	8"	23"	4 1/2 API REG	6 5/8 API REG	7"	YES	
58144627	FLOAT VALVE						

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD PIN	BOX	FLAT	FLOAT	WEIGHT (LBS.)
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BIT SUBS

PIN/BOX THREAD CONFIGURATION

56859416	3 3/4"	7 3/4"	2 7/8 API REG	2 7/8 API REG	2 1/4"	NO	
57155921	4"	9"	2 7/8 API REG	2 7/8 API REG	3 1/2"	NO	30
57155913	4"	9"	2 7/8 API REG	3 1/2 API REG	3 1/2"	NO	25
57155947	4 1/2"	9"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	30
50346899	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	87
52187663	4 1/2"	24"	2 7/8 API IF	3 1/2 API REG	3 1/2"	NO	82
52176823	4 1/2"	24"	2 7/8 API IF	3 1/2 API REG	3 1/2"	NO	
52187945	4 1/2-5 1/4"	24"	3 1/2 API REG	4 1/2 API FH	3 1/2"	NO	
50529825	4 1/2-6 1/2"	9 7/8"	3 1/2 API REG	4 API FH	3 1/2"	NO	
50458710	4 1/2-7 3/4"	12"	3 1/2 API REG	6 5/8 API REG	3 1/2"	NO	
50521624	4 1/2-8"	33 3/4"	3 1/2 API REG	6 5/8 API REG	3 1/2"	NO	
57236895	5"	9"	3 1/2 BECO	3 1/2 API REG		NO	
57187114	5"	9"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	30
52206620	5"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	110
57194078	5"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	
57194086	5"	36"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	
57236895	5 1/2"	9"	4 API FH	4 1/2 API REG	4 1/2"	NO	49
52206984	5 1/2"	9"	3 1/2 BECO	4 1/2 API REG	4 1/2"	NO	43
52209723	5 1/2"	9"	3 1/2 BECO	3 1/2 API REG	4 1/2"	NO	
57142069	5 1/2"	9"	3 1/2 API REG	4 1/2 API REG	4 1/2"	NO	35
57251159	5 1/2"	9"	3 1/2 API REG	3 1/2 API REG		NO	
57142077	5 1/2"	9"	3 BECO	4 1/2 API REG	4 1/2"	NO	35

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	FLOAT	WEIGHT (LBS.)
			PIN	BOX			
50343235	5 1/2"	9 1/2"	4 API FH	4 1/2 API REG	4 1/2"	NO	
50343243	5 1/2"	9 1/2"	4 API FH	4 1/2 API REG	4 1/2"	NO	
50412022	5 1/2"	10 1/2"	4 API FH	3 1/2 API REG	4 1/2"	NO	66
52210184	5 1/2"	12"	4 1/2 API REG	4 1/2 API FH	4 1/2"	NO	68
57134413	5 1/2"	15"	3 1/2 BECO	4 1/2 API REG	4 5/8"	NO	135
50458082	5 1/2"	18"	4 API FH	4 1/2 API REG	4 1/2"	NO	
50624105	5 1/2"	24"	4 API FH	4 1/2 API REG	4 1/2"	NO	126
52162591	5 1/2"	24"	3 1/2 API IF	3 1/2 API REG	4 1/2"	NO	
57338477	5 1/2"	24"	3 1/2 BECO	4 1/2 API REG	4 1/2"	NO	
52267812	5 1/2"	24"	2 7/8 API IF	3 1/2 API IF	4 1/2"	NO	
52162591	5 1/2"	24"	3 1/2 API IF	3 1/2 API REG	4 1/2"	NO	
52162583	5 1/2"	24"	3 1/2 API IF	4 1/2 API REG	4 1/2"	NO	
52249463	5 1/2"	32"	3 1/2 BECO	3 1/2 API REG	4 1/2"	NO	185
57174153	5 1/2"	32"	3 1/2 BECO	4 1/2 API REG	4 1/2"	NO	
50624725	5 1/2-7 3/4"	12 15/16"	4 1/2 API REG	6 5/8 API REG	4 1/2"	NO	
50461748	5 1/2-7 3/4"	18"	4 API FH	6 5/8 API REG	4 1/2"	NO	160
52162609	5 1/2-7 3/4"	24"	3 1/2 API IF	6 5/8 API REG	4 1/2"	NO	
52145323	5 1/2-9"	24"	4 1/2 API REG	7 5/8 API REG	4 1/2"	NO	
52189719	6"	20"	4 1/2 API FH	3 1/2 API REG	4 1/2"	NO	141
52181179	6"	20"	4 1/2 API FH	4 1/2 API REG	4 1/2"	NO	
50618479	6"	24"	4 API FH	4 1/2 API REG	4 1/2"	NO	
57101461	6-7"	24"	4 API FH	6 5/8 API REG	4 1/2"	NO	
52211570	6-7 3/4"	36"	4 1/2 API FH	6 5/8 API REG	4 1/2"	NO	
52211166	6-9"	36"	4 1/2 API FH	7 5/8 API REG	4 1/2"	NO	

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD PIN	BOX	FLAT	FLOAT	WEIGHT (LBS.)
52210127	6 1/4"	10 1/2"	4 API FH	3 1/2 API REG	4 1/2"	NO	
52241205	6 1/4"	12"	4 BECO	4 1/2 API REG	5 1/2"	NO	
57130122	6 1/4"	15"	4 BECO	4 1/2 API REG	5 3/8"	NO	
57360802	6 1/4"	24"	4 BECO	4 1/2 API REG	4 1/2"	NO	190
52267606	6 1/4"	32"	4 BECO	4 1/2 API REG	4 1/2"	NO	233
52182045	7"	9"	4 1/2 BECO	4 1/2 API REG	5"	NO	77
52208014	7"	12"	5 1/4 BECO	4 1/2 API REG	6 1/2"	NO	
57110512	7"	15"	5 1/4 BECO	4 1/2 API REG	6 1/2"	NO	
52162369	7"	12"	5 1/2 BECO	4 1/2 API REG	6 1/2"	NO	
57134231	7"	15"	4 1/2 BECO	4 1/2 API REG	5 3/4"	NO	150
57312894	7"	15"	4 1/2 BECO	6 5/8 API REG	5 3/4"	NO	135
57384802	7"	25"	4 1/2 BECO	4 1/2 API REG	5 3/4"	NO	250
52259074	7"	32"	4 API FH	4 1/2 API REG	5"	NO	
52222155	7"	32"	4 1/2 API FH	4 1/2 API REG	5"	NO	
56972771	7-7 3/4"	15"	4 1/2 BECO	6 5/8 API REG	5"	NO	
52210192	7 3/4"	12"	6 5/8 API REG	4 API FH	4 1/2"	NO	
57007742	7 5/8"	7"	5 1/4 BECO	6 5/8 API REG	6 1/2"	NO	
57339491	7 5/8"	12"	5 1/4 BECO	6 5/8 API REG	6"	NO	
52176682	7 5/8"	12"	5 1/4 BECO	4 1/2 API REG	6 1/2"	NO	
52200904	7 5/8"	12"	5 1/4 BECO	6 5/8 API REG	6 1/2"	NO	115
52208170	7 5/8"	12"	5 1/4 BECO	6 5/8 API REG	6 1/2"	NO	125
57108615	7 5/8"	15"	5 1/4 BECO	5 1/2 API REG	6 3/4"	NO	
57109563	7 5/8"	15"	5 1/4 BECO	6 5/8 API REG	6 3/4"	NO	
57384786	7 5/8"	25"	5 1/4 BECO	6 5/8 API REG	6 3/4"	NO	270
57384794	7 5/8"	25"	5 1/4 BECO	5 1/2 API REG	6 3/4"	NO	275
57051310	7 5/8"	27"	5 1/4 BECO	6 5/8 API REG	6 3/4"	NO	286
57065633	7 5/8"	27 1/8"	5 1/4 BECO	4 1/2 API REG	6 3/4"	NO	

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD PIN	BOX	FLAT	FLOAT	WEIGHT (LBS.)
52249281	8-8 7/8"	24"	6 5/8 API REG	7 5/8 API REG	4 1/2"	NO	303
50825306	8 5/8"	12"	6 BECO	4 1/2 API REG	7 3/4"	NO	
50825314	8 5/8"	12"	6 BECO	6 5/8 API REG	7 3/4"	NO	
57110520	8 5/8"	15"	6 BECO	6 5/8 API REG	7 3/4"	NO	205
57110538	8 5/8"	15"	6 BECO	5 1/2 API REG	7 3/4"	NO	215
57384760	8 5/8"	25"	6 BECO	6 5/8 API REG	7 3/4"	NO	360
57384778	8 5/8"	25"	6 BECO	5 1/2 API REG	7 3/4"	NO	365
57248965	9 1/4"	15"	6 BECO	6 5/8 API REG	7 3/4"	NO	205
57384752	9 1/4"	25"	6 BECO	6 5/8 API REG	7 3/4"	NO	426
57384414	10"	25"	6 BECO	6 5/8 API REG	7 3/4"	NO	507
57201188	10 3/4"	15"	8 BECO	6 5/8 API REG	9 1/4"	NO	507
57384745	10 3/4"	25"	8 BECO	6 5/8 API REG	9 1/4"	NO	590

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	FLOAT	WEIGHT (LBS.)
			BOX	BOX			
<u>BOX/BOX THREAD CONFIGURATION</u>							
58135922	3-3 1/8"	20"	2 3/8 API FE	2 3/8 API REG	2 1/4"	NO	
58135914	3-3 3/4"	20"	2 3/8 API FE	2 3/8 API REG	2 1/4"	NO	
58135898	3-5 1/2"	30 3/4"	2 3/8 API FE	4 1/2 API REG	2 1/4"	NO	
58135872	3 1/2-5 1/2"	32"	2 3/8 API IF	4 1/2 API REG	2 3/4"	NO	
58146812	3 1/2-7 3/4"	40 1/4"	2 3/8 API IF	6 5/8 API REG	2 3/4"	NO	
58135781	4"	20"	2 7/8 MHFH	2 7/8 API REG	2 3/4"	NO	
58135757	4-4 1/4"	20"	2 7/8 MHFH	3 1/2 API REG	2 3/4"	NO	
58135823	4 1/2"	20"	3 1/2 API REG	3 1/2 API REG	3 1/2"	NO	
58135740	4 1/2"	20"	2 7/8 API IF	2 7/8 API REG	3 1/2"	NO	
58135815	4 1/2"	20"	2 7/8 API REG	3 1/2 API REG	3 1/2"	NO	
58135807	4 1/2"	54"	2 7/8 API IF	3 1/2 API REG	3 1/2"	NO	
58135831	4 1/2-5 1/2"	24"	3 1/2 API REG	4 1/2 API REG	3 1/2"	NO	78
58135773	4 1/2-7 3/4"	40"	3 1/2 API REG	6 5/8 API REG	3 1/2"	NO	254
58146458	4 3/4-5 1/2"	16"	3 1/2 API IF	4 1/2 API REG	3 1/2"	NO	
57010423	5 1/2"	12"	3 1/2 API REG	4 1/2 API REG	5"	NO	
57010415	5 1/2"	12"	4 1/2 API REG	4 1/2 API REG	5"	NO	
58171299	5 1/2"	24 1/2"	3 1/2 API IF	4 1/2 API REG	4 1/2"	NO	
58171315	5 1/2-7 3/4"	35"	3 1/2 API IF	6 5/8 API REG	4 1/2"	NO	
58218777	6"	28"	4 API FH	4 1/2 API REG	4 3/4"	NO	
58218843	6"	28"	NC #44	4 1/2 API REG	5 1/4"	NO	
58218793	6-7 3/4"	35"	4 API FH	6 5/8 API REG	4 3/4"	NO	
58219148	6-7 3/4"	35"	NC #44	6 5/8 API REG	5 1/4"	NO	
52177367	8"	24"	6 5/8 API REG	6 5/8 API REG	4 1/2"	NO	

BIT SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	FLOAT	WEIGHT (LBS.)
			PIN	PIN			

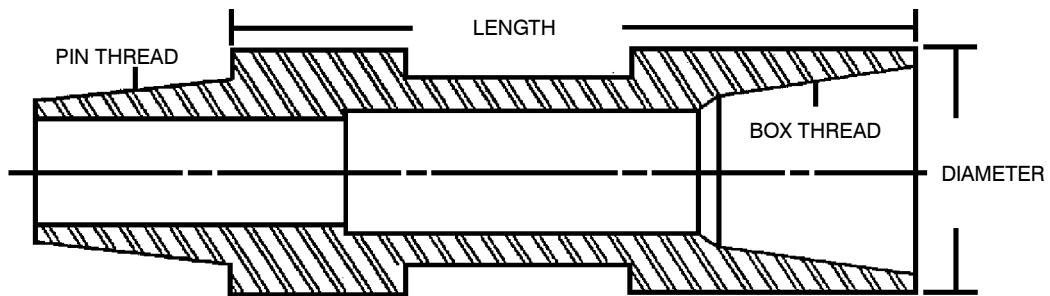
PIN/PIN THREAD CONFIGURATION

50624121	5 1/2"	7"	4 API FH	4 API FH	4 1/2"	NO	
57293482	6 1/2"	12"	4 1/2 API REG	4 1/2 API REG	4 1/2"	NO	122
57293508	8"	12"	6 5/8 API REG	4 API FH	7"	NO	178

BIT SUBS

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INLINE SUBS



INLINE SUB (PIN/BOX)

INLINE SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD PIN	THREAD BOX	FLAT	FLOAT	WEIGHT (LBS.)
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INLINE SUB ASSEMBLIES

PIN/BOX THREAD CONFIGURATION

58174855	3 1/2"	12"	2 3/8 API IF	2 3/8 API IF	2 3/4"	NO	
58218744	3 1/2"	12"	2 3/8 API IF	2 3/8 API IF	2 3/4"	YES	
58144361	FLOAT VALVE						
58171265	4 1/2"	12"	2 7/8 API IF	2 7/8 API IF	3 1/2"	NO	
58218645	4 1/2"	12"	2 7/8 API IF	2 7/8 API IF	3 1/2"	YES	
58144601	FLOAT VALVE						
57179459	4 1/2"	24"	2 7/8 API IF	2 7/8 API IF	3 1/2"	NO	
52162617	4 1/2"	24"	2 7/8 API IF	2 7/8 API IF	3 1/2"	YES	
58144601	FLOAT VALVE						
57204109	5 1/2"	15"	4 API FH	4 API FH	4 1/2"	NO	69
52249802	5 1/2"	15"	4 API FH	4 API FH	4 1/2"	YES	69
58144619	FLOAT VALVE						
58171273	5 1/2"	15"	3 1/2 API IF	3 1/2 API IF	4 1/2"	NO	
58218637	5 1/2"	15"	3 1/2 API IF	3 1/2 API IF	4 1/2"	YES	
50624162	FLOAT VALVE						
57293474	4 1/2"	24"	3 1/2 API REG	3 1/2 API REG	3 1/2"	YES	
52166600	4 1/2"	27 1/2"	2 7/8 API IF	2 7/8 API IF	3 1/2"	YES	

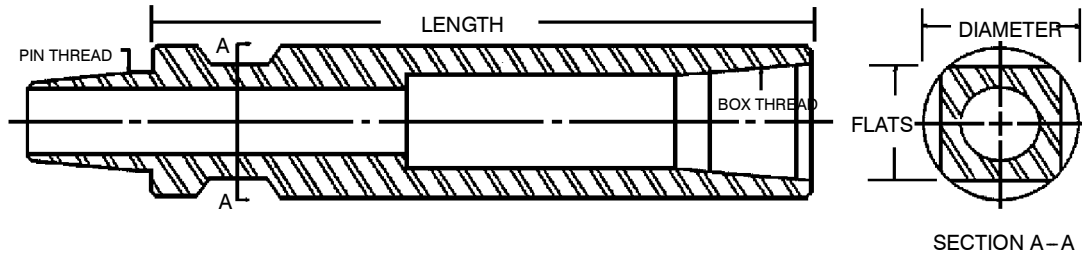
FLOAT VALVES

COMM#	DESCRIPTION	THREAD	
58144353	FLOAT VALVE	2 3/8 API REG	
USED IN:			
58218736	BIT SUB	2 3/8 API IF BOX	2 3/8 API REG BOX
58144361	FLOAT VALVE	2 7/8 API REG, 2 3/8 API IF	
USED IN:			
58218728	BIT SUB	2 3/8 API IF BOX	3 1/2 API REG BOX
58218744	INLINE SUB	2 3/8 API IF PIN	2 3/8 API REG BOX
58144601	FLOAT VALVE	3 1/2 API REG, 2 7/8 API IF, 2 7/8 MHFH	
USED IN:			
50624154	BIT SUB	4 API FH PIN	3 1/2 API REG BOX
58135880	BIT SUB	2 3/8 API IF BOX	3 1/2 API REG BOX
58218678	BIT SUB	2 7/8 API IF BOX	3 1/2 API REG BOX
52267820	BIT SUB	2 7/8 API IF BOX	3 1/2 API REG BOX
58218629	BIT SUB	3 1/2 API IF BOX	3 1/2 API REG BOX
50618297	BIT SUB	3 1/2 API REG PIN	3 1/2 API REG BOX
58218769	BIT SUB	4 API FH BOX	3 1/2 API REG BOX
52162617	INLINE SUB	2 7/8 API IF PIN	2 7/8 API IF BOX
58218645	INLINE SUB	2 7/8 API IF PIN	2 7/8 API IF BOX
58144619	FLOAT VALVE	4 1/2 API REG	
USED IN:			
58218702	BIT SUB	2 3/8 API IF BOX	4 1/2 API REG BOX
58218660	BIT SUB	2 7/8 API IF BOX	4 1/2 API REG BOX
52187671	BIT SUB	2 7/8 API IF BOX	4 1/2 API REG BOX
58218611	BIT SUB	3 1/2 API IF BOX	4 1/2 API REG BOX
52267838	BIT SUB	3 1/2 API IF PIN	4 1/2 API REG BOX
50521632	BIT SUB	3 1/2 API REG PIN	4 1/2 API REG BOX
58218785	BIT SUB	4 API FH BOX	4 1/2 API REG BOX
58218850	BIT SUB	NC44 BOX	4 1/2 API REG BOX
52249802	INLINE SUB	4 API FH PIN	4 API FH BOX

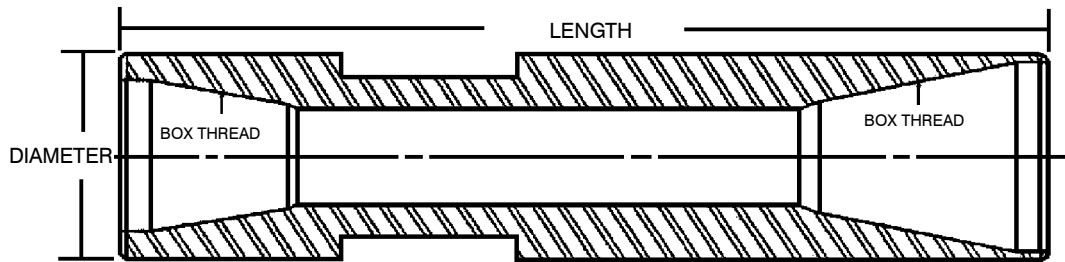
FLOAT VALVES

COMM#	DESCRIPTION	THREAD	
58144627	FLOAT VALVE	6 5/8 API REG, 8 5/8 API REG	
USED IN:			
58218686	BIT SUB	2 3/8 API IF BOX	6 5/8 API REG BOX
58218652	BIT SUB	2 7/8 API IF BOX	6 5/8 API REG BOX
57346991	BIT SUB	2 7/8 API IF PIN	7 5/8 API REG BOX
52187689	BIT SUB	2 7/8 API IF PIN	6 5/8 API REG BOX
58218603	BIT SUB	3 1/2 API IF BOX	6 5/8 API REG BOX
57293441	BIT SUB	4 1/2 API REG PIN	6 5/8 API REG BOX
57102303	BIT SUB	4 API FH PIN	6 5/8 API REG BOX
50624097	BIT SUB	4 API FH PIN	6 5/8 API REG BOX
58218801	BIT SUB	4 API FH BOX	6 5/8 API REG BOX
58219155	BIT SUB	NC44 BOX	6 5/8 API REG BOX
50624162	FLOAT VALVE	4 API FH, 3 1/2 API IF	
USED IN:			
52225299	BIT SUB	2 7/8 API IF PIN	4 API FH BOX
58218637	INLINE SUB	3 1/2 API REG PIN	3 1/2 API REG BOX

CROSSOVER SUBS



CROSSOVER SUB (PIN/BOX)



CROSSOVER SUB (BOX/BOX)

CROSSOVER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		
<u>PIN/BOX THREAD CONFIGURATION</u>						
57190118	3 1/2"	13"	2 3/8 API REG	2 3/8 API IF	2 3/4"	
58171422	3 1/2-5 1/2"	21"	3 1/2 API IF	2 3/8 API IF	2 3/4"	
57146110	4 1/2-4 3/4"	13"	2 7/8 API IF	3 1/2 API IF	3 1/2"	
58171448	4 1/2-5"	21"	3 1/2 API IF	2 7/8 API IF	3 1/2"	
52145265	4 1/2-5 1/2"	24"	3 1/2 API REG	4 API FH	3 1/2"	115
52215456	4 1/2-5 1/2"	24"	2 7/8 API IF	4 API FH	3 1/2"	115
56967524	4 1/2-5 1/2"	25"	2 7/8 API IF	4 API FH	T5	82
50690833	4 1/2-5 1/2"	25"	3 1/2 API REG	3 1/2 API IF	T5	82
52162427	4 1/2-5 1/2"	25"	2 7/8 API IF	3 1/2 API IF	T5	82
56966039	4 1/2-5 1/2"	27"	2 7/8 API IF	3 1/2 API IF	4 1/2"	120
57316275	4 1/2-5 1/2"	84"	2 7/8 API IF	4 API FH	3 1/2"	138
58216136	4 1/2-6"	21"	4 API IF	3 1/2 API REG	3 1/2"	
52190311	4 1/2-6"	24"	3 1/2 API REG	4 1/2 API FH	3 1/2"	115
52215449	4 1/2-6"	24"	2 7/8 API IF	4 1/2 API FH	3 1/2"	115
58218835	5 4/9"	20 1/2"	4 API FH	3 1/2 API IF	4 3/4"	
58219163	5 4/9"	20 1/2"	NC# 44	2 7/8 API IF	3 1/2"	
50624113	5 1/2"	24"	4 API FH	4 API FH	4 1/2"	
52145414	5 1/2"	24"	4 API FH	4 1/2 API FH	4 1/2"	125
57056947	5 1/2"	27"	4 API FH	4 API FH	4 1/2"	
57138042	5 1/2-8 5/8"	19"	6 5/8 API REG	3 1/2 BECO	4 5/8"	198
57015935	6 1/4"	8 1/2"	4 BECO	4 1/2 API REG	4 1/2"	
57130114	6 1/4-8 5/8"	19"	6 5/8 API REG	4 BECO	5 3/8"	
57110504	7-8 5/8"	19"	6 5/8 API REG	5 1/4 BECO	6 1/2"	198
57134223	7-8 5/8"	19"	6 5/8 API REG	4 1/2 BECO	5 3/4"	198
52179025	7 5/8"	18"	5 1/2 API REG	6 5/8 API REG	5 1/2"	

CROSSOVER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		
52243375	8 5/8"	19"	6 5/8 API REG	5 1/4 BECO	6 3/4"	
52240371	8 5/8"	19"	6 5/8 API REG	6 BECO	7 3/4"	267
57078776	8 5/8"	38"	6 5/8 API REG	5 1/4 BECO	6 3/4"	
57013054	8 5/8"	38"	6 5/8 API REG	6 BECO	7 3/4"	700
56998099	8 5/8–10 3/4"	10"	8 BECO	6 BECO	9 1/4"	
57384497	9 1/4"	19"	6 5/8 API REG	6 BECO	7 3/4"	312
57384406	10"	19"	6 5/8 API REG	6 BECO	7 3/4"	358
56978828	10 3/4"	12"	8 BECO	6 5/8 API REG	9 1/4"	
57385031	10 3/4"	14"	8 BECO	5 1/4 BECO	9 1/4"	341
52250743	10 3/4"	19"	6 5/8 API REG	8 BECO	9 1/4"	450
57003154	10 3/4"	38"	6 5/8 API REG	8 BECO	9 1/4"	

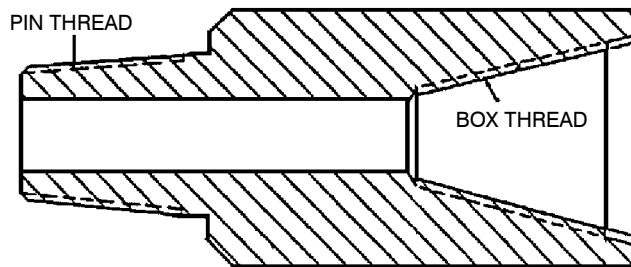
CROSSOVER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			BOX	BOX		

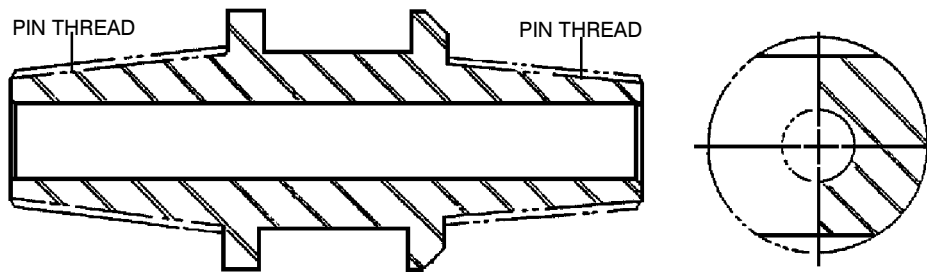
BOX/BOX THREAD CONFIGURATION

58212176	3 1/2-4 1/2"	21"	2 3/8 API IF	3 1/2 API REG	2 3/4"
58171356	3 1/2-5 1/2"	21"	2 3/8 API IF	4 API FH	2 3/4"
58171364	3 1/2-7 3/4"	25"	2 3/8 API IF	6 5/8 API REG	2 3/4"
58212168	4 1/2"	21"	2 7/8 API IF	3 1/2 API REG	3 1/2"
58171380	4 1/2-5 1/2"	21"	2 7/8 API IF	4 API FH	3 1/2"
58185406	4 1/2-5 1/2"	21"	2 7/8 API IF	3 1/2 API REG	3 1/2"
58218819	4 1/2-5 4/9"	35"	2 7/8 API IF	4 API FH	3 1/2"
58219171	4 1/2-5 4/9"	35"	3 1/2 API IF	NC #44	3 1/2"
58212143	4 1/2-7"	21"	3 1/2 API REG	4 1/2 API REG	3 1/2"
58212150	4 1/2-7"	21"	2 7/8 API IF	4 1/2 API REG	3 1/2"
58171398	4 1/2-7 3/4"	25"	2 7/8 API IF	6 5/8 API REG	3 1/2"
58171521	5-5 1/2"	21"	3 1/2 API IF	4 API FH	3 1/2"
58220039	5-5 1/2"	21"	3 1/2 API IF	4 1/2 API REG	4 1/2"
58171539	5-7 3/4"	25"	3 1/2 API IF	6 5/8 API REG	3 1/2"
58220047	5 1/2"	21"	4 API FH	4 API FH	4 1/2"
58220054	5 1/2"	21"	4 API FH	4 1/2 API REG	4 1/2"
58171406	5 1/2"	21"	3 1/2 API IF	4 API FH	4 1/2"
58220070	5 1/2-5 7/8"	21"	NC #44	4 API FH	4 1/2"
58220088	5 1/2-5 7/8"	21"	NC #44	4 1/2 API REG	4 1/2"
58218827	5 1/2-7 1/2"	35"	4 API FH	4 API FH	4 3/4"
58220062	5 1/2-7 3/4"	21"	4 API FH	6 5/8 API REG	4 1/2"
58171414	5 1/2-7 3/4"	25"	3 1/2 API IF	6 5/8 API REG	4 1/2"
58219189	6-7 1/2"	35"	NC #44	4 API FH	5 1/4"
58220096	6-7 7/8"	21"	NC #44	6 5/8 API REG	4 1/2"

LOWER SUBS



LOWER SUB (PIN/BOX)



LOWER SUB (PIN/PIN)

LOWER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		
<u>PIN/BOX THREAD CONFIGURATION</u>						
56909963	2 7/8"	6 3/8"	2 3/8 API REG	2 3/8 API IF (MOD)	3"	16
56799596	2 7/8"	6 3/4"	2 API IF	HN GAGE	NONE	
56938699	3"	48"	2 3/8 IF(MOD)	2 3/8 IF (MOD)	2 1/2"	112
56954837	3-3 3/4"	30"	2 3/8 IF(MOD)	2 7/8 API REG	2 1/2"	80
56872211	3 1/2"	5 3/4"	2 3/8 API REG	DAMCO	NONE	
56938673	3 1/2"	48"	2 3/8 API REG	2 3/8 API REG	2 1/2"	126
56979164	3 1/2"	60"	2 3/8 API REG	2 3/8 API REG	2 1/2"	
58094947	3 1/2-4 1/2"	28"	2 3/8 API FE	2 7/8 API FE	NONE	
56763691	3 3/4"	4 1/2"	2 7/8 API REG	2 3/8 API REG	NONE	
56900723	3 3/4"	4 7/8"	2 7/8 API REG	2 7/8 API REG	NONE	
56955040	3 3/4"	6 1/4"	2 3/8 IF(MOD)	2 7/8 API REG	NONE	20
56859416	3 3/4"	7 3/4"	2 7/8 API REG	2 7/8 API REG	2 1/4"	
56996663	4"	11 7/8"	2 7/8 API REG	3 1/2 API REG	3"	32
56996671	4"	48"	2 7/8 API REG	3 1/2 API REG	3"	130
56938764	4"	48"	2 7/8 API REG	2 7/8 API REG	3 1/2"	130
56982127	4"	60"	2 7/8 API REG	2 7/8 API REG	3 1/2"	
57007148	4 1/2"	6"	2 7/8 API REG	3 1/2 API REG	NONE	
56979008	4 1/2"	7"	2 3/8 API REG	3 1/2 API REG	2 1/2"	
56959372	4 1/2"	9 7/8"	2 7/8 API REG	3 1/2 API REG	3 1/2"	36
56792385	4 1/2"	14"	3 1/2 API IF	3 1/2 API REG	3 1/2"	
56939812	4 1/2"	48"	3 1/2 API REG	3 1/2 API REG	3 1/2"	
56971450	4 1/2"	48"	3 BECO	3 1/2 API REG	3 1/2"	
56979172	4 1/2"	60"	3 1/2 API REG	3 1/2 API REG	3 1/2"	
58187436	4 1/2-5 1/2"	43 7/16"	2 7/8 API FE	4 1/2 API REG	NONE	
56932700	5 1/4"	8 1/4"	3 1/2 API REG	4 API FH	4"	
56892649	5 3/8"	6 3/8"	3 1/2 API REG	3 1/2 API REG	3 1/2"	

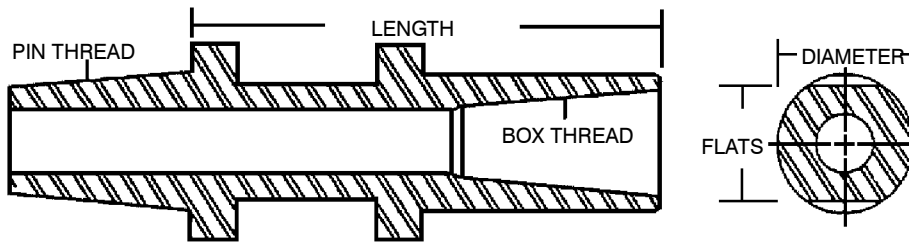
LOWER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			BOX	BOX		
<u>BOX/BOX THREAD CONFIGURATION</u>						
56846033	2 3/8"	8"	DAMCO	HN BOX	NONE	
56931876	2 7/8"	9"	2 3/8 IF (MOD)	3 1/2 BT BLD	2 1/2"	10
56784093	3 1/8"	9"	2 3/8 API REG	"JN" GAGE	NONE	
56942378	3 5/8"	12"	2 3/8 IF (MOD)	4 1/4 BIT BLADE	3"	
56897937	3 3/4"	8 3/4"	4 API (MOD)	2 7/8 API REG	NONE	
56795859	3 3/4"	10"	2 7/8 API REG	2 7/8 API REG	3"	19
56761877	3 3/4"	36"	2 7/8 API REG	1 1/4 NPT	NONE	
56931645	3 3/4"	51"	2 7/8 API REG	2 7/8 API REG	NONE	91
56934789	3 3/4-4 1/2"	10"	2 7/8 API REG	3 1/2 API REG	4"	35
56958184	4 3/4"	10"	2 3/8 API REG	2 7/8 API REG	3"	
56930563	4 3/4"	12"	3 1/2 API REG	3 1/2 API REG	4"	36
57240582	4 3/4"	28"	3 1/2 API REG	3 1/2 API REG	4"	
56932684	5 3/8"	9"	2 3/8 IF (MOD)	3 1/2 API REG	4"	43
56929060	6 1/4"	12"	4 1/2 API REG	4 1/2 API REG	5 1/2"	67
56932668	7"	12"	4 1/2 API REG	5 1/2 API REG	5 1/2"	
56929037	7"	12"	5 1/2 API REG	6 5/8 API REG	5 1/2"	

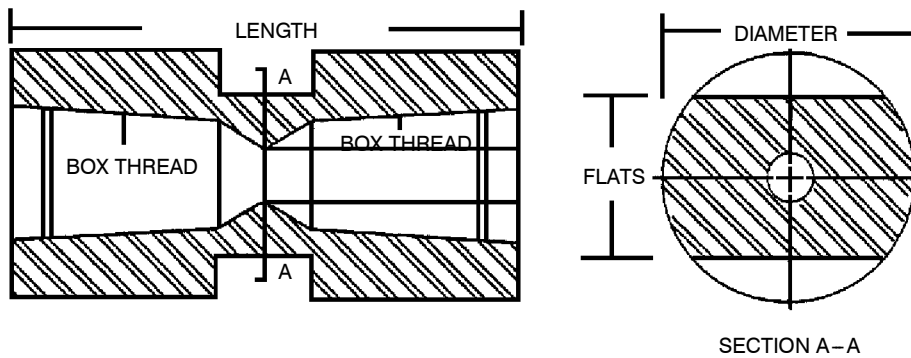
LOWER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	PIN		
<u>PIN/PIN THREAD CONFIGURATION</u>						
58042805	3-4 3/4"	19 7/16"	2 3/8 FE	3 1/2 API IF	NONE	
56929037	3-4 3/4"	43 7/16"	2 3/8 FE	3 1/2 API IF	NONE	
58049859	3 1/2-4 3/4"	43 7/16"	2 3/8 API IF	3 1/2 API IF	NONE	
57374183	3 1/2-5 3/4"	43 15/16"	2 3/8 API IF	4 API IF	NONE	
56938749	3 5/8"	3"	2 3/8 IF (MOD)	2 3/8 API REG	2 1/2"	17
58042797	4-4 3/4"	19 7/16"	2 7/8 MH FH	3 1/2 API IF	NONE	
57031098	4-4 3/4"	19 7/16"	2 7/8 API IF	3 1/2 API IF	NONE	
58049867	4-4 3/4"	43 7/16"	2 7/8 MH FH	3 1/2 API IF	NONE	
57033839	4 1/8-4 3/4"	43 7/16"	2 7/8 API IF	3 1/2 API IF	NONE	
58049875	4 1/2-4 3/4"	43 7/16"	2 7/8 API IF	3 1/2 API IF	NONE	
58049883	4 1/2-4 3/4"	43 7/16"	3 1/2 API REG	3 1/2 API IF	NONE	
58046889	4 5/8-4 3/4"	19 7/16"	3 1/2 API IF	3 1/2 API IF	NONE	

UPPER SUBS



UPPER SUB (PIN/BOX)



UPPER SUB (BOX/BOX)

UPPER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		
<u>PIN/BOX THREAD CONFIGURATION</u>						
56938608	3"	14"	3 1/2 API IF	2 3/8 API IF (MOD)	2 1/2"	
56938665	3 1/2"	14"	3 1/2 API IF	2 3/8 API REG	2 1/2"	68
56958309	3 3/4"	9 1/4"	2 3/8 API REG	2 7/8 API REG	3"	
56960891	4"	10 1/8"	2 7/8 API REG	3 1/2 API REG	3 1/2"	
56938723	4"	14"	3 1/2 API IF	2 7/8 API REG	3 1/2"	49
56996317	4"	14"	3 1/2 API IF	2 7/8 API REG	3"	90
56987969	4"	18"	3 1/2 API IF	2 7/8 API REG	3 1/2"	90
58042185	4 1/8-4 3/4"	18 7/8"	3 1/2 API IF	2 7/8 API REG	NONE	48
58068040	4 1/8-4 3/4"	18 7/8"	3 1/2 API IF	2 7/8 API REG	NONE	
56921315	4 1/2"	9 7/8"	3 1/2 API REG	3 BECO	3 1/2"	
58094954	4 1/2"	10"	2 7/8 API IF	2 7/8 API IF	NONE	
56971161	4 1/2"	14"	3 1/2 API IF	3 BECO	3 1/2"	
56792385	4 1/2"	14"	3 1/2 API IF	3 1/2 API REG	3 1/2"	58
57141699	4 1/2"	14"	3 1/2 API IF	2 7/8 API IF	3 1/2"	
57192866	4 3/4"	10 3/8"	3 1/2 API IF	3 1/2 API IF	NONE	
58046897	4 3/4"	15 4/9"	3 1/2 API IF	3 1/2 API IF	NONE	
58042201	4 3/4"	17 3/16"	3 1/2 API IF	3 1/2 API IF	NONE	62

UPPER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			BOX	BOX		
<u>BOX/BOX THREAD CONFIGURATION</u>						
56784085	3 1/8"	9"	JN GAGE	2 3/8 API REG	NONE	
56931074	3 5/8"	9"	2 3/8 API REG	2 3/8 IF (MOD)	3"	
56930340	3 3/4"	9"	2 3/8 API REG	2 7/8 API REG	3"	
56957350	3 3/4"	9"	2 3/8 API REG	2 7/8 API REG	3"	
56929615	4 3/4"	10"	2 3/8 API REG	3 1/2 API REG	4"	
57010241	5 1/2-6 3/4"	12"	4 1/2 API REG	5 1/2 API REG	NONE	
57225930	6 1/4-7"	12"	4 1/2 API REG	5 1/2 API REG	5 1/2"	
56929029	7"	12"	5 1/2 API REG	5 1/2 API REG	5 1/2"	

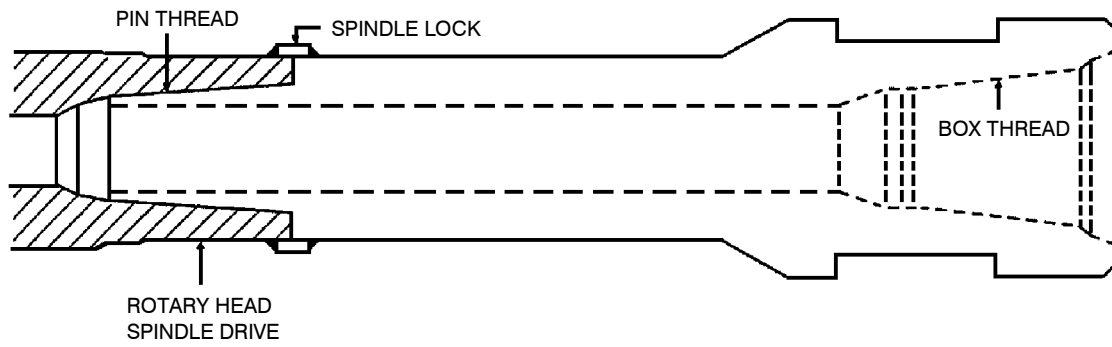
SAVER SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		

PIN/BOX THREAD CONFIGURATION

52162419	5-5 3/4"	6"	3 1/2 API IF	2 7/8 API IF	5" HEX	34
57292070	5 3/4"	6"	3 1/2 API IF	3 1/2 API REG	5" HEX	
50697655	5 3/4"	6"	3 1/2 API IF	3 1/2 API IF	5" HEX	30
57293763	5 3/4-6 1/2"	6"	3 1/2 API IF	4 1/2 API REG	5 1/2"	
57293771	5 3/4-8"	7"	3 1/2 API IF	6 5/8 API REG	7 "	

SPINDLE SUBS



SPINDLE SUB (PIN/BOX)

SPINDLE SUBS

COMM#	DIAMETER	LENGTH S/S	THREAD		FLAT	WEIGHT (LBS.)
			PIN	BOX		
<u>PIN/BOX THREAD CONFIGURATION</u>						
52162187	4 1/2–5"	19"	4 1/2 API FH	2 7/8 API IF	3 1/2"	56
57080756	4 1/2–5"	35"	4 1/2 API FH	3 1/2 API REG	3 1/2"	
56938269	4 3/4"	11 1/2"	3 1/2 API IF	2 3/8 API REG	3 1/2"	58
57134199	5 1/2"	47"	6 5/8 API REG	3 1/2 BECO	4 5/8"	300
57175390	5 3/4–8 5/8"	24 1/2"	4 API IF	5 1/4 BECO	6 1/2"	
57424038	6 1/4"	47"	6 5/8 API REG	4 BECO	5"	385
57130130	6 1/4"	47"	6 5/8 API REG	4 BECO	5 3/8"	390
57134181	7"	47"	6 5/8 API REG	4 1/2 BECO	5 3/4"	390
57090037	7"	47"	6 5/8 API REG	5 1/4 BECO	6 1/2"	455
57066037	7 5/8"	47"	6 5/8 API REG	4 1/2 BECO	6 3/4"	527
57090003	8 5/8"	47"	6 5/8 API REG	6 BECO	7 3/4"	700
57201147	9 1/4"	47"	6 5/8 API REG	6 BECO	7 3/4"	900
57201154	10 3/4"	47"	6 5/8 API REG	8 BECO	9 1/4"	1050

FLOATING SPINDLE SUB ASSY

COMM#	DESCRIPTION	DIA.	LENGTH S/S	THREAD		WEIGHT (LBS.)
				PIN	BOX	
<u>PIN/BOX THREAD CONFIGURATION</u>						
57372534	ASSEMBLY	4"	19"	4 API IF	2 7/8 API REG	165
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57307365	PISTON					
57095051	SEAL KIT					
57216293	ASSEMBLY	4"	19"	4 API IF	2 7/8 API IF	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					
57363806	ASSEMBLY	5"	19"	4 API IF	3 1/2 API REG	165
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57307373	PISTON					
57095051	SEAL KIT					
57192650	ASSEMBLY	5 1/2"		3 1/2 BECO	3 1/2 BECO	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					
57094955	ASSEMBLY	5 1/2"		4 API FH	4 API FH	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					
57279358	ASSEMBLY	6 1/4"		4 API IF	4 BECO	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					

FLOATING SPINDLE SUB ASSY

COMM#	DESCRIPTION	DIA.	LENGTH		THREAD		WEIGHT (LBS.)
			S/S	PIN	BOX		

PIN/BOX THREAD CONFIGURATION

57216509	ASSEMBLY	7"	19"	4 API IF	4 API FH	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					
57133811	ASSEMBLY	5 1/2"		4 API FH	4 API FH	
57094955	SPINDLE SUB					
57133746	DRILL PIPE ADAPTER					
50252444	BLOCKS					
57372534	ASSEMBLY	4"		4 API IF	2 7/8 API REG	
57095044	LOWER CUSHION					
57095036	UPPER CUSHION					
57095051	SEAL KIT					

SHOCK SUB ASSY

COMM#	DESCRIPTION	DIA.	LENGTH		THREAD		WEIGHT (LBS.)
			S/S	HEAD	PIPE		
57189896	ASSEMBLY	17 7/8"	28"	6 5/8 API REG	6 5/8 API REG		
57190613	REBUILD KIT						
57051807	LOCK TAB						
57214538	ASSEMBLY	18"	29"	6 5/8 API REG	6 5/8 API REG		
57228140	SHOCK SUB						
57303935	BUSHING						
57061160	ASSEMBLY	31 1/4"	28"	6 5/8 API REG	6 5/8 API REG	1617	
57114035	SAFETY STRAP						
57061178	ELEMENT #28						
57189896	ASSEMBLY	18"	39"	6 5/8 API REG	6 5/8 API REG		
57232282	LOWER SUB						
56981624	ELEMENT						
57232274	UPPER SUB						
57232290	O-RING KIT						

SHOCK SUB ASSY

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BUSHINGS

SECTION

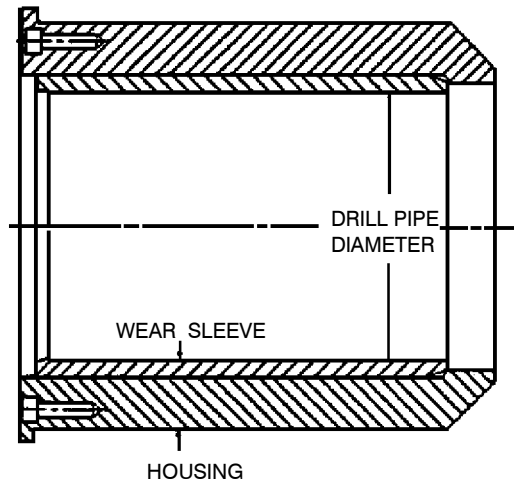
BUSHINGS

SECTION

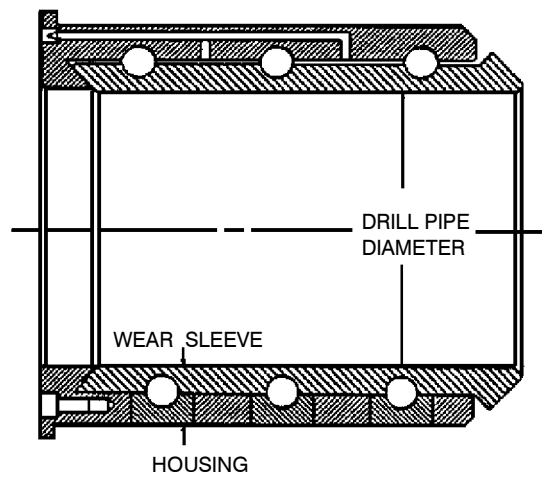
BUSHINGS

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BUSHINGS

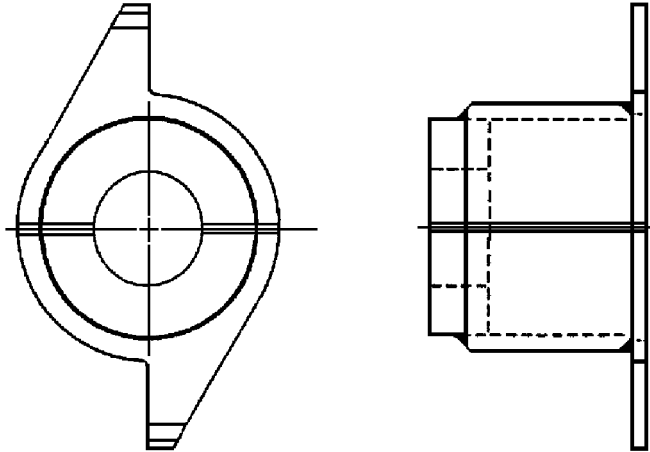


CENTRALIZER BUSHING

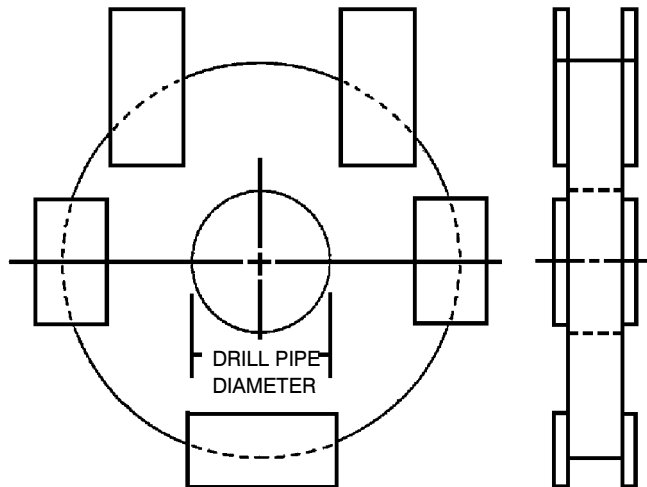


ROLLER-DECK BUSHING

BUSHINGS



SPLIT BUSHING



GUIDE BUSHING

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
<u>CENTRALIZER BUSHING ASSEMBLY</u>			
57085409	CENTRALIZER ASSY	FOR 4" DRILLPIPE	
57085409		WEAR SLEEVE	
57036493	CENTRALIZER ASSY	FOR 4 1/2" DRILLPIPE	
57028912		WEAR SLEEVE	
52190899	CENTRALIZER ASSY	FOR 4 1/2" DRILLPIPE	
95034047		ROLL PIN	
50245141		WEAR SLEEVE	
50245133	CENTRALIZER ASSY	FOR 4 1/2" DRILLPIPE	60
95034047		ROLL PIN	
50245141		WEAR SLEEVE	
57036501	CENTRALIZER ASSY	FOR 5" DRILLPIPE	
57028938		WEAR SLEEVE	
50344373	CENTRALIZER ASSY	FOR 5" DRILLPIPE	55
95034047		ROLL PIN	
50344381		WEAR SLEEVE	
57169906	CENTRALIZER ASSY	FOR 5 1/4" DRILLPIPE	
57169898		WEAR SLEEVE	
58224445	CENTRALIZER ASSY	FOR 5 1/4" DRILLPIPE	
95034047		ROLL PIN	
58224429		WEAR SLEEVE	
57036519	CENTRALIZER ASSY	FOR 5 1/2" DRILLPIPE	
52211711		WEAR SLEEVE	
57134520	CENTRALIZER ASSY	FOR 5 1/2" DRILLPIPE	143
57134512		WEAR SLEEVE	90

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
50333814	CENTRALIZER ASSY	FOR 5 1/2" DRILLPIPE	55
95034047		ROLL PIN	
50333673		WEAR SLEEVE	
57156481	CENTRALIZER ASSY	FOR 6" DRILLPIPE	173
57156473		WEAR SLEEVE	77
50349851	CENTRALIZER ASSY	FOR 6" DRILLPIPE	173
57290272		WEAR SLEEVE	77
50623701	CENTRALIZER ASSY	FOR 6 1/4" DRILLPIPE	
57290280		WEAR SLEEVE	
52236031	CENTRALIZER ASSY	FOR 6 1/4" DRILLPIPE	80
52235793		WEAR SLEEVE	
57036527	CENTRALIZER ASSY	FOR 6 1/4" DRILLPIPE	
57029027		WEAR SLEEVE	
57110991	CENTRALIZER ASSY	FOR 6 1/4" DRILLPIPE	167
57110967		WEAR SLEEVE	71
52246618	CENTRALIZER ASSY	FOR 7" DRILLPIPE	77
52246592		WEAR SLEEVE	
57358376	CENTRALIZER ASSY	FOR 7" DRILLPIPE	560
57358434		WEAR SLEEVE	285
52217197	CENTRALIZER ASSY	FOR 7" DRILLPIPE	77
50701713		WEAR SLEEVE	
57110892	CENTRALIZER ASSY	FOR 7" DRILLPIPE	154
57110900		WEAR SLEEVE	58
57036535	CENTRALIZER ASSY	FOR 7" DRILLPIPE	
57029209		WEAR SLEEVE	

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
57230393	CENTRALIZER ASSY	FOR 7 5/8" DRILLPIPE	
57230500		WEAR SLEEVE	
57264822	CENTRALIZER ASSY	FOR 7 5/8" DRILLPIPE	143
57268641		WEAR SLEEVE	47
52245636	CENTRALIZER ASSY	FOR 7 5/8" DRILLPIPE	72
52206562		WEAR SLEEVE	47
57358368	CENTRALIZER ASSY	FOR 7 5/8" DRILLPIPE	532
57358426		WEAR SLEEVE	257
52236023	CENTRALIZER ASSY	FOR 8 5/8" DRILLPIPE	79
52235785		WEAR SLEEVE	
57111007	CENTRALIZER ASSY	FOR 8 5/8" DRILLPIPE	123
57110975		WEAR SLEEVE	26
57358350	CENTRALIZER ASSY	FOR 8 5/8" DRILLPIPE	482
57358418		WEAR SLEEVE	207
57358343	CENTRALIZER ASSY	FOR 9 1/4" DRILLPIPE	447
57358400		WEAR SLEEVE	172
52275112	CENTRALIZER ASSY	FOR 10 3/4" DRILLPIPE	103
52274867		WEAR SLEEVE	
57358335	CENTRALIZER ASSY	FOR 10 3/4" DRILLPIPE	354
57358392		WEAR SLEEVE	79

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
<u>CENTRALIZER BUSHINGS</u>			
57156234	CENTRALIZER	FOR 4" DRILL PIPE	51
50027432	CENTRALIZER	FOR 4" DRILL PIPE	46
57136632	CENTRALIZER	FOR 4 1/2" DRILL PIPE	47
57360513	CENTRALIZER	FOR 4 1/2" DRILL PIPE	
57142085	CENTRALIZER	FOR 5" DRILL PIPE	44
57328114	CENTRALIZER	FOR 5" DRILL PIPE, SLIDING B/O BASE	
57338451	CENTRALIZER	FOR 5 1/2" DRILL PIPE, SLIDING B/O BASE	
56963465	CENTRALIZER	FOR 5 1/2" DRILL PIPE	275
57200446	CENTRALIZER	FOR 7" DRILL PIPE, SLIDING B/O BASE	
57225526	CENTRALIZER	FOR 7 5/8" DRILL PIPE	79
57293755	CENTRALIZER	FOR 6 1/2" DRILL COLLAR	135
57036659	CENTRALIZER	FOR STAB, 2 3/8" KELLY, MACHINE HAMMER	46
57036667	CENTRALIZER	FOR STAB, 2 7/8" KELLY, MACHINE HAMMER	46
57036675	CENTRALIZER	FOR STAB, 3 3/4" KELLY, MACHINE HAMMER	46
57036683	CENTRALIZER	FOR STAB, 4 3/4" KELLY, MACHINE HAMMER	44
57036733	CENTRALIZER	FOR STAB, 2 3/8" KELLY, MACHINE ROTARY	46
57036741	CENTRALIZER	FOR STAB, 2 7/8" KELLY, MACHINE ROTARY	46
57036758	CENTRALIZER	FOR STAB, 3 3/4" KELLY, MACHINE ROTARY	55
57036766	CENTRALIZER	FOR STAB, 4 3/4" KELLY, MACHINE ROTARY	44
56945371	CENTRALIZER	FOR STAB, 2 7/8" KELLY, MACHINE	51
57276453	CENTRALIZER	FOR STAB, 4 3/4" KELLY	213
57042293	CENTRALIZER	FOR 2 7/8" STABILIZER	40
56943038	CENTRALIZER	FOR 4 3/4" STABILIZER	16
57002701	CENTRALIZER	FOR 7 1/2" STABILIZER	75
57002719	CENTRALIZER	FOR 9 1/2" STABILIZER	
57001893	CENTRALIZER	FOR 10 3/4" STABILIZER, DHD 112	103
57002784	CENTRALIZER	FOR 10 3/4" STABILIZER	711
57001794	CENTRALIZER	FOR 11 7/8" STABILIZER	77

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
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CENTRALIZER BUSHINGS—continued

52147162	CENTRALIZER	FOR 11 7/8" STABILIZER	
57293730	CENTRALIZER	FOR 12 1/4" STABILIZER	77
57002388	CENTRALIZER	FOR 14 3/4" STABILIZER	72
57032146	CENTRALIZER	FOR DHD 112 HAMMER, 8 1/8" ID	
58211038	CENTRALIZER	FOR DHD 350 HAMMER	17
57032427	CENTRALIZER	FOR DHD 360 HAMMER, 5 1/2" ID	
57032435	CENTRALIZER	FOR DHD 380 HAMMER, 7 7/32" ID	90
57032435	CENTRALIZER	FOR DHD 380 HAMMER, 7 7/32" ID	90

SPLIT BUSHINGS

58036658	SPLIT	FOR 3 1/2" DRILL PIPE	14
58035320	SPLIT	FOR 4 1/2" DRILL PIPE	8
56963473	SPLIT	FOR 4 1/2" DRILL PIPE	35
52145315	SPLIT	FOR 5 1/2" DRILL COLLAR	45
50828714	SPLIT	FOR 6" DRILL COLLAR	
50828722	SPLIT	FOR 8" DRILL COLLAR	
50342922	SPLIT	FOR 6 3/4" STABILIZER	59
50422344	SPLIT	FOR 6 5/8" STABILIZER	
50412063	SPLIT	FOR 7 3/8" STABILIZER, DHD 500	
52147634	SPLIT	FOR 7 1/2" STABILIZER	
50260298	SPLIT	FOR 7 7/8" STABILIZER	
50261155	SPLIT	FOR 8 3/4" STABILIZER	26
52150703	SPLIT	FOR 9 1/2" STABILIZER	
52172434	SPLIT	FOR 14 3/4" STABILIZER	
50414895	SPLIT	DHD 17 HAMMER, 6 5/8" ID	
57291999	SPLIT	FOR DHD 5 1/2 QM, 4 7/8" ID	
57423899	SPLIT	FOR QL 6 1/2 QM, 5 13/16" ID	
52172178	SPLIT	FOR DHD 112 HAMMER, 10 7/8" ID	68

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
<u>SPLIT BUSHINGS– continued</u>			
56951726	SPLIT	FOR DHD 340 HAMMER, 7 1/8" ID	39
57223588	SPLIT	FOR DHD 340 HAMMER	
56999287	SPLIT	FOR DHD 350 HAMMER, 4 5/8" ID	55
56952310	SPLIT	FOR DHD 350 HAMMER, 7 1/8" ID	34
57155897	SPLIT	FOR DHD 350 HAMMER, 8" ID	44
56952328	SPLIT	FOR DHD 360 HAMMER, 7 1/8" ID	40
57136640	SPLIT	FOR DHD 360 HAMMER, 8" ID	41
50621747	SPLIT	FOR DHD 360 / SF6 HAMMER, 5 7/16" ID	51
57328106	SPLIT	FOR DHD 360, SF6 HAMMER, 5 1/2" ID	
57338469	SPLIT	FOR DHD 380, 7 1/8"	81
52254539	SPLIT	FOR DHD 380 HAMMER, 7 7/32" ID	62
57360521	SPLIT	FOR SF6 HAMMER, 9" ID	51
50155266	SPLIT	FOR DHD 1070, DHD 400 HAMMERS, 6 1/4" ID	45
<u>STABILIZER GUIDE BUSHINGS</u>			
58055310	STABILIZER–GUIDE	FOR 5" STABILIZER–GUIDE	
58053539	STABILIZER–GUIDE	FOR 5" STABILIZER–GUIDE	
57054363	STABILIZER–GUIDE	FOR 5" STABILIZER–GUIDE	50
58053547	STABILIZER–GUIDE	FOR 5 1/2" STABILIZER–GUIDE	
58055211	STABILIZER–GUIDE	FOR 5 1/2" STABILIZER–GUIDE	36
58055229	STABILIZER–GUIDE	FOR 6" STABILIZER–GUIDE	
58147190	STABILIZER–GUIDE	FOR 6" STABILIZER–GUIDE	
58055278	STABILIZER–GUIDE	FOR 7 1/4" STABILIZER–GUIDE	29
58147398	STABILIZER–GUIDE	FOR 7 1/4" STABILIZER–GUIDE	
58055286	STABILIZER–GUIDE	FOR 7 1/2" STABILIZER–GUIDE	
58147406	STABILIZER–GUIDE	FOR 7 1/2" STABILIZER–GUIDE	
58055328	STABILIZER–GUIDE	FOR 7 3/4" STABILIZER–GUIDE	264
58055336	STABILIZER–GUIDE	FOR 8" STABILIZER–GUIDE	26
58155698	STABILIZER–GUIDE	FOR 8 3/4" STABILIZER–GUIDE	20
58176389	STABILIZER–GUIDE	FOR 9 1/2" STABILIZER–GUIDE	
58177429	STABILIZER–GUIDE	FOR 11 7/8" STABILIZER–GUIDE	
56945041	STABILIZER–GUIDE	FOR STABILIZER, 4 1/2 DRILL PIPE	34

BUSHINGS

COMM#	BUSHING TYPE	APPLICATION SAMPLES	WEIGHT (LBS.)
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HAMMER GUIDE BUSHINGS

58053547	HAMMER-GUIDE	FOR DHD SF6, 4 5/8"	
58211038	HAMMER-GUIDE	FOR DHD 350 HAMMER, 4 5/8"	
58211145	HAMMER-GUIDE	FOR DHD 350 HAMMER, 4 5/8"	

ROLLER DECK BUSHING ASSEMBLYS

57347999	ROLLER DECK ASSY	FOR 7" DRILL PIPE	557
57316887		WEAR SLEEVE	128
57347981	ROLLER DECK ASSY	FOR 7 5/8" DRILL PIPE	528
57316879		WEAR SLEEVE	178
57347973	ROLLER DECK ASSY	FOR 8 5/8" DRILL PIPE	478
57316861		WEAR SLEEVE	207
57347965	ROLLER DECK ASSY	FOR 9 1/4" DRILL PIPE	443
57316853		WEAR SLEEVE	93
57384422	ROLLER DECK ASSY	FOR 10" DRILL PIPE	398
57384430		WEAR SLEEVE	48

ROLLER DECK BUSHINGS

52153269	ROLLER DECK	FOR 5 1/2" DRILL PIPE, FLOP DOWN	
57199226	ROLLER DECK	FOR 5 1/2" DRILL PIPE, SLIDING B/O	
57138927	ROLLER DECK	FOR 6 1/4" DRILL PIPE, FLOP DOWN	
57199218	ROLLER DECK	FOR 6 1/4" DRILL PIPE, SLIDING B/O	
57111080	ROLLER DECK	FOR 7" DRILL PIPE	174
57138133	ROLLER DECK	FOR 7" DRILL PIPE, FLOP DOWN	
57199200	ROLLER DECK	FOR 7" DRILL PIPE, SLIDING B/O	
57111098	ROLLER DECK	FOR 7 5/8" DRILL PIPE	163
57073264	ROLLER DECK	FOR 7 5/8" DRILL PIPE, AUTO B/O	
57110850	ROLLER DECK	FOR 8 5/8" DRILL PIPE	136
56969066	ROLLER DECK	FOR 8 5/8" DRILL PIPE, AUTO B/O	
57161945	ROLLER DECK	FOR 9 1/4" DRILL PIPE, AUTO B/O	
57316358	ROLLER DECK	FOR 10 3/4" DRILL PIPE	
56983075	ROLLER DECK	FOR 10 3/4" DRILL PIPE, AUTO B/O	156

BUSHINGS

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BITS & CHUCKS

SECTION

BITS & CHUCKS

SECTION

BITS & CHUCKS

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BITS

COMM#	BIT SIZE	PIN SIZE API REG	APPLICATION	WEIGHT (LBS.)
<u>TRICONE BITS (BUTTON)</u>				
57239196	5 7/8"	3 1/2"	MEDIUM / HARD	27
52148673	6"	3 1/2"	HARD	36
52148731	6"	3 1/2"	VERY HARD	36
52148541	6 1/4"	3 1/2"	SOFT	40
52148681	6 1/4"	3 1/2"	HARD	40
52148749	6 1/4"	3 1/2"	VERY HARD	40
52148558	6 3/4"	3 1/2"	SOFT	46
52148632	6 3/4"	3 1/2"	MEDIUM	46
52148764	6 3/4"	3 1/2"	VERY HARD	46
52147345	7 7/8"	4 1/2"	SOFT	62
52147352	7 7/8"	4 1/2"	MEDIUM	62
52147360	7 7/8"	4 1/2"	HARD	62
52148566	7 7/8"	4 1/2"	SOFT	62
52187176	7 7/8"	4 1/2"	MEDIUM	62
52148699	7 7/8"	4 1/2"	HARD	62
52148772	7 7/8"	4 1/2"	VERY HARD	62
52147378	8 1/2"	4 1/2"	SOFT	75
52147386	8 1/2"	4 1/2"	MEDIUM	75
52147394	8 1/2"	4 1/2"	HARD	75
52187200	8 1/2"	4 1/2"	HARD	75
52147402	8 3/4"	4 1/2"	SOFT	75
52147410	8 3/4"	4 1/2"	MEDIUM	75
52147428	8 3/4"	4 1/2"	HARD	75
52187168	8 3/4"	4 1/2"	MEDIUM	75
52148574	9"	4 1/2"	SOFT	80
52148640	9"	4 1/2"	MEDIUM	80
52148780	9"	4 1/2"	VERY HARD	80
52147444	9 1/2"	6 5/8"	MEDIUM	
52147451	9 1/2"	6 5/8"	HARD	

BITS

COMM#	BIT SIZE	PIN SIZE API REG	APPLICATION	WEIGHT (LBS.)
<u>TRICONE BITS (BUTTON) – continued</u>				
52148582	9 5/8"	6 5/8"	SOFT	116
52148657	9 5/8"	6 5/8"	MEDIUM	116
52148798	9 5/8"	6 5/8"	VERY HARD	116
52145430	9 7/8"	6 5/8"	SOFT	116
52147469	9 7/8"	6 5/8"	MEDIUM	116
52147170	9 7/8"	6 5/8"	HARD	116
52148590	9 7/8"	6 5/8"	SOFT	116
52148665	9 7/8"	6 5/8"	MEDIUM	116
52148707	9 7/8"	6 5/8"	HARD	116
52148848	9 7/8"	6 5/8"	VERY HARD	116
52147477	10 5/8"	6 5/8"	SOFT	131
52147485	10 5/8"	6 5/8"	MEDIUM	131
52148608	10 5/8"	6 5/8"	SOFT	131
52148715	10 5/8"	6 5/8"	HARD	131
52148806	10 5/8"	6 5/8"	VERY HARD	131
52147501	12 1/4"	6 5/8"	SOFT	177
52147519	12 1/4"	6 5/8"	MEDIUM	177
52147527	12 1/4"	6 5/8"	HARD	177
52148616	12 1/4"	6 5/8"	SOFT	177
52148723	12 1/4"	6 5/8"	HARD	177
52148814	12 1/4"	6 5/8"	VERY HARD	177
52148624	13 3/4"	6 5/8"	SOFT	292
50617984	13 3/4"	6 5/8"	MEDIUM	292
52148822	13 3/4"	6 5/8"	VERY HARD	292
57100919	17 1/2"	6 5/8"	SOFT	521
52167822	5 5/8"	6 5/8"	MEDIUM	
50617976	5 7/8"	3 1/2"	SOFT	27
50617968	5 7/8"	3 1/2"	MEDIUM	27
50617950	5 7/8"	3 1/2"	HARD	27

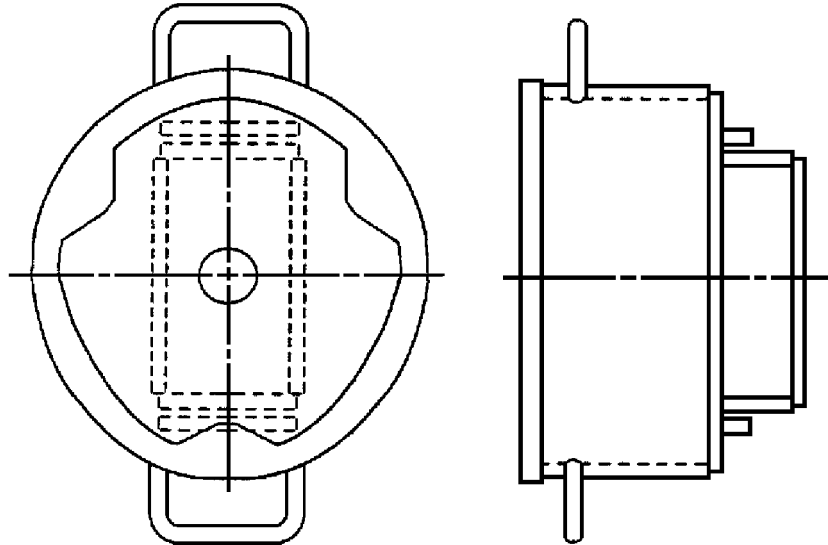
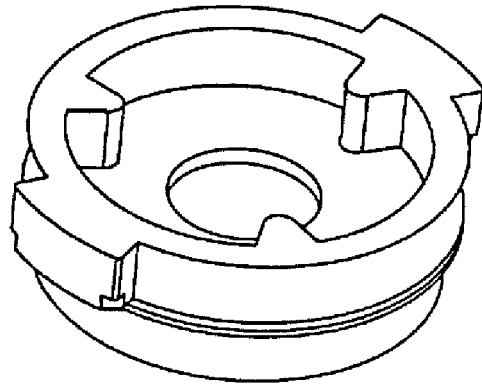
BITS

COMM#	BIT SIZE	PIN SIZE API REG	APPLICATION	WEIGHT (LBS.)
<u>TRICONE BITS (STEEL TOOTH)</u>				
52147295	6"	3 1/2"	SOFT	36
52158037	6"	3 1/2"	MEDIUM	36
52158045	6"	3 1/2"	HARD	36
52148095	6"	3 1/2"	SOFT	36
52148137	6"	3 1/2"	MEDIUM	36
52148194	6"	3 1/2"	HARD	36
52147303	6 1/4"	3 1/2"	SOFT	40
52158052	6 1/4"	3 1/2"	MEDIUM	40
52147329	6 1/4"	3 1/2"	HARD	40
52148103	6 1/4"	3 1/2"	SOFT	40
52148145	6 1/4"	3 1/2"	MEDIUM	40
52148202	6 1/4"	3 1/2"	HARD	40
50704352	6 1/2"	3 1/2"	MEDIUM	
52147311	6 3/4"	3 1/2"	SOFT	46
52147337	6 3/4"	3 1/2"	MEDIUM	46
52147329	6 3/4"	3 1/2"	HARD	46
50696616	6 3/4"	3 1/2"	SOFT	46
52148152	6 3/4"	3 1/2"	MEDIUM	46
52148210	6 3/4"	3 1/2"	HARD	46
50621903	7 3/8"	3 1/2"	HARD	58
50524560	7 7/8"	4 1/2"	SOFT	62
50617943	7 7/8"	4 1/2"	MEDIUM	62
50462084	7 7/8"	4 1/2"	HARD	62
52182953	8 1/2"	6 5/8"	MEDIUM	75
50617935	8 3/4"	4 1/2"	SOFT	75
50617927	8 3/4"	4 1/2"	MEDIUM	75
50617919	8 3/4"	4 1/2"	HARD	75

BITS

COMM#	BIT SIZE	PIN SIZE API REG	APPLICATION	WEIGHT (LBS.)
<u>TRICONE BITS (STEEL TOOTH) – continued</u>				
50524552	9"	4 1/2"	SOFT	80
50617901	9"	4 1/2"	MEDIUM	80
50462068	9"	4 1/2"	HARD	80
52148111	9 5/8"	6 5/8"	SOFT	116
52148160	9 5/8"	6 5/8"	MEDIUM	116
52148228	9 5/8"	6 5/8"	HARD	116
52148129	9 7/8"	6 5/8"	SOFT	116
52148178	9 7/8"	6 5/8"	MEDIUM	116
52148236	9 7/8"	6 5/8"	HARD	116
52148244	9 7/8"	6 5/8"	VERY HARD	116
52148186	10 5/8"	6 5/8"	MEDIUM	131
50617893	12 1/4"	6 5/8"	SOFT	177
50617885	12 1/4"	6 5/8"	MEDIUM	177
50462076	12 1/4"	6 5/8"	HARD	177
52148251	12 1/4"	6 5/8"	VERY HARD	177
50617877	13 3/4"	6 5/8"	SOFT	292
50617869	13 3/4"	6 5/8"	MEDIUM	292
50617851	13 3/4"	6 5/8"	HARD	292
52148269	13 3/4"	6 5/8"	VERY HARD	292
52165024	14 3/4"	6 5/8"	SOFT	392
52165032	14 3/4"	6 5/8"	MEDIUM	392
52165040	14 3/4"	6 5/8"	HARD	392
52190378	15"	6 5/8"	SOFT	392
52190360	15"	6 5/8"	MEDIUM	392
52208816	15"	6 5/8"	HARD	392
52209335	17 1/2"	6 5/8"	SOFT	521
52182961	17 1/2"	6 5/8"	MEDIUM	521
52187184	17 1/2"	6 5/8"	HARD	521

DETACH CHUCK



DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (STEEL TOOTH)</u>		
57042350	FOR 3 1/2" TRICONE BIT	
56969546	FOR 3 3/4" TRICONE BIT	
57078917	FOR 3 7/8" TRICONE BIT	
58055021	FOR 3 7/8" TRICONE BIT	
58159625	FOR 4 1/4" TRICONE BIT	
57040552	FOR 4 1/2" TRICONE BIT	
58159617	FOR 4 1/2" TRICONE BIT	
58054933	FOR 4 1/2" TRICONE BIT	
56972854	FOR 4 3/4" TRICONE BIT	
52190527	FOR 4 7/8-5" TRICONE BIT	
58054941	FOR 5" TRICONE BIT	
58177973	FOR 5" TRICONE BIT	
57040560	FOR 5 1/8" TRICONE BIT	
57162869	FOR 5 1/8" TRICONE BIT	
57133019	FOR 5 1/8" TRICONE BIT	
56969520	FOR 5 1/8" TRICONE BIT	
57082026	FOR 5 1/4" TRICONE BIT	
58054958	FOR 5 1/2" TRICONE BIT	
50350487	FOR 5 5/8" TRICONE BIT	60
57040578	FOR 5 5/8" TRICONE BIT	
56969538	FOR 5 5/8" TRICONE BIT	
58097668	FOR 5 5/8" TRICONE BIT	
57155848	FOR 5 5/8-5 7/8" TRICONE BIT	35
50520279	FOR 5 7/8" TRICONE BIT	
50258078	FOR 5 7/8" TRICONE BIT	
52235884	FOR 5 7/8" TRICONE BIT	
56974868	FOR 5 7/8" TRICONE BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (STEEL TOOTH) – continued</u>		
58054966	FOR 6" TRICONE BIT	
58176660	FOR 6" TRICONE BIT	
58159609	FOR 6" TRICONE BIT	
52235892	FOR 6" TRICONE BIT	
58097650	FOR 6" TRICONE BIT	
56969561	FOR 6" TRICONE BIT	
50257971	FOR 6–6 1/4" TRICONE BIT	60
57040586	FOR 6–6 1/4" TRICONE BIT	
57155855	FOR 6–6 1/4" TRICONE BIT	35
50414119	FOR 6–8" TRICONE BIT	
52235900	FOR 6 1/4" TRICONE BIT	
58159591	FOR 6 1/4" TRICONE BIT	
58178112	FOR 6 1/4" TRICONE BIT	
56969512	FOR 6 1/4" TRICONE BIT	
56939663	FOR 6 1/4" TRICONE BIT	
58097643	FOR 6 1/4" TRICONE BIT	
58054974	FOR 6 1/2" TRICONE BIT	
58177924	FOR 6 1/2" TRICONE BIT	
57143851	FOR 6 1/2" TRICONE BIT	
50258599	FOR 6 1/2–6 3/4" TRICONE BIT	59
57040594	FOR 6 1/2–6 3/4" TRICONE BIT	
57155863	FOR 6 1/2–6 3/4" TRICONE BIT	35
56929276	FOR 6 1/2–6 3/4" TRICONE BIT	
58159583	FOR 6 3/4" TRICONE BIT	
58178054	FOR 6 3/4" TRICONE BIT	
57387268	FOR 6 3/4" TRICONE BIT	81
58055039	FOR 6 3/4" TRICONE BIT	
52235918	FOR 6 3/4" TRICONE BIT	
556969553	FOR 6 3/4" TRICONE BIT	
58097635	FOR 6 3/4" TRICONE BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (STEEL TOOTH) – continued</u>		
58054982	FOR 7" TRICONE BIT	
50344274	FOR 7 3/8" TRICONE BIT	57
56974199	FOR 7 3/8" TRICONE BIT	
58159575	FOR 7 3/8" TRICONE BIT	
58097627	FOR 7 3/8" TRICONE BIT	
52176757	FOR 7 3/8–7 7/8" TRICONE BIT	
50690700	FOR 7 3/8–7 7/8" TRICONE BIT	
58054990	FOR 7 1/2" TRICONE BIT	
50260306	FOR 7 7/8" TRICONE BIT	60
57010407	FOR 7 7/8" TRICONE BIT	
57294001	FOR 7 7/8" TRICONE BIT	
57365843	FOR 7 7/8" TRICONE BIT	
58159567	FOR 7 7/8" TRICONE BIT	
52235926	FOR 7 7/8" TRICONE BIT	
57274219	FOR 7 7/8" TRICONE BIT	
57134504	FOR 7 7/8" TRICONE BIT	
57329062	FOR 7 7/8" TRICONE BIT	
57130098	FOR 7 7/8" TRICONE BIT	
57142051	FOR 7 7/8" TRICONE BIT	
58055005	FOR 7 7/8–8" TRICONE BIT	
58176652	FOR 7 7/8–8" TRICONE BIT	
50258078	FOR 8 1/2–8 3/4" TRICONE BIT	61
57110918	FOR 8 3/4" TRICONE BIT	
58055013	FOR 8 3/4" TRICONE BIT	
58178096	FOR 8 3/4" TRICONE BIT	
52235934	FOR 8 3/4" TRICONE BIT	
58055013	FOR 8 3/4" TRICONE BIT	
52187358	FOR 8 3/4" TRICONE BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (STEEL TOOTH) –continued</u>		
52176765	FOR 8 3/8–9” TRICONE BIT	
50425396	FOR 9” TRICONE BIT	43.12
50612902	FOR 9” TRICONE BIT	49.5
57124380	FOR 9” TRICONE BIT	
57232704	FOR 9” TRICONE BIT	74
56929268	FOR 9 5/8–9 7/8” TRICONE BIT	
50705672	FOR 9 5/8–9 7/8” TRICONE BIT	40
50620806	FOR 9 7/8” TRICONE BIT	50
57111932	FOR 9 7/8” TRICONE BIT	75
58155664	FOR 9 7/8” TRICONE BIT	
58176603	FOR 9 7/8” TRICONE BIT	
52235942	FOR 9 7/8” TRICONE BIT	
58167453	FOR 9 7/8” TRICONE BIT	
57007270	FOR 9 7/8” TRICONE BIT	
57007882	FOR 9 7/8” TRICONE BIT	
52243771	FOR 9 7/8” TRICONE BIT	
57246670	FOR 9 7/8” TRICONE BIT	
57248130	FOR 9 7/8” TRICONE BIT	
57252983	FOR 9 7/8” TRICONE BIT	
57218075	FOR 9 7/8” TRICONE BIT	
57110868	FOR 10 5/8” TRICONE BIT	
50511245	FOR 10 5/8” TRICONE BIT	
57310179	FOR 10 5/8” TRICONE BIT	
50468909	FOR 10 5/8” TRICONE BIT	
57235921	FOR 10 5/8” TRICONE BIT	
52193968	FOR 10 5/8” TRICONE BIT	53
57162331	FOR 11” TRICONE BIT	77
52153186	FOR 12–12 1/4” TRICONE BIT	75
50523141	FOR 12–12 1/4” TRICONE BIT	
52225372	FOR 12–12 1/4” TRICONE BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (STEEL TOOTH) – continued</u>		
56982515	FOR 12 1/4" TRICONE BIT	71
58178906	FOR 12 1/4" TRICONE BIT	
57376006	FOR 12 1/4" TRICONE BIT	77
58178161	FOR 12 1/4" TRICONE BIT	
52235959	FOR 12 1/4" TRICONE BIT	
57248940	FOR 12 1/4" TRICONE BIT	
57246688	FOR 12 1/4" TRICONE BIT	
57220774	FOR 12 1/4" TRICONE BIT	77
57145641	FOR 12 1/2" TRICONE BIT	
58178757	FOR 13 3/4" TRICONE BIT	
52235967	FOR 13 3/4" TRICONE BIT	
58178740	FOR 13 3/4" TRICONE BIT	
52202272	FOR 13 1/4–13 3/4" TRICONE BIT	
52235975	FOR 14 3/4" TRICONE BIT	
52225380	FOR 14 3/4–15" TRICONE BIT	
52208824	FOR 15" TRICONE BIT	120
58180951	FOR 15" TRICONE BIT	
58178732	FOR 15" TRICONE BIT	
52235983	FOR 15" TRICONE BIT	
58178724	FOR 15" TRICONE BIT	
57246696	FOR 15" TRICONE BIT	
50523158	FOR 17 1/2" TRICONE BIT	226
58178823	FOR 17 1/2" TRICONE BIT	
52235991	FOR 17 1/2" TRICONE BIT	
58178815	FOR 17 1/2" TRICONE BIT	
56999824	FOR 24" TRICONE BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (BUTTON)</u>		
57040602	FOR 4 1/8" BUTTON BIT	
56934714	FOR 4 1/8" BUTTON BIT	24
57085417	FOR 4 1/8" BUTTON BIT	
56887995	FOR 4 1/8" BUTTON BIT	
57040610	FOR 4 1/2" BUTTON BIT	
57223570	FOR 4 1/2" BUTTON BIT	31
56934722	FOR 4 1/2" BUTTON BIT	
56910656	FOR 4 1/2" BUTTON BIT	
52249562	FOR 5 1/8" BUTTON BIT	
57040958	FOR 5 1/8" BUTTON BIT	
57155871	FOR 5 1/8" BUTTON BIT	31
56934730	FOR 5 1/8" BUTTON BIT	
57040628	FOR 5 1/8" BUTTON BIT	
58210295	FOR 5 1/8" BUTTON BIT	
51791770	FOR 5 1/8" BUTTON BIT	
52254711	FOR 5 1/2" BUTTON BIT	
57040941	FOR 5 1/2" BUTTON BIT	
57115669	FOR 5 1/2" BUTTON BIT	
57155889	FOR 5 1/2" BUTTON BIT	31
57353187	FOR 5 1/2" BUTTON BIT	31
56934748	FOR 5 1/2" BUTTON BIT	
57013344	FOR 5 1/2" BUTTON BIT	
58210626	FOR 5 1/2" BUTTON BIT	
57040636	FOR 5 1/2" BUTTON BIT	
52167947	FOR 6-6 1/8" BUTTON BIT	13.12
57040644	FOR 6-6 1/8" BUTTON BIT	
57140923	FOR 6-6 1/8" BUTTON BIT	38
57032260	FOR 6-6 1/8" BUTTON BIT	
56934755	FOR 6-6 1/8" BUTTON BIT	
52253986	FOR 6-6 1/8" BUTTON BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (BUTTON) – continued</u>		
56923246	FOR 6–6 1/8" BUTTON BIT	
58166547	FOR 6–6 1/8" BUTTON BIT	
58055146	FOR 6–6 1/8" BUTTON BIT	
57220758	FOR 6 1/4" BUTTON BIT	31
52167954	FOR 6 1/4–6 1/2" BUTTON BIT	12.08
57040651	FOR 6 1/4–6 1/2" BUTTON BIT	
56934763	FOR 6 1/4–6 1/2" BUTTON BIT	
52180536	FOR 6 1/4–6 1/2" BUTTON BIT	
56911431	FOR 6 1/4–6 1/2" BUTTON BIT	
57032278	FOR 6 1/4–6 1/2" BUTTON BIT	
57220576	FOR 6 1/2" BUTTON BIT	31
57276503	FOR 6 1/2" BUTTON BIT	
52254703	FOR 6 1/2" BUTTON BIT	
58053406	FOR 6 1/2" BUTTON BIT	
58235854	FOR 6 1/2" BUTTON BIT	
52254653	FOR 6 1/2" BUTTON BIT	
58067968	FOR 6 1/2" BUTTON BIT	
57386724	FOR 6 3/4" BUTTON BIT	
57143851	FOR 6 3/4" BUTTON BIT	
50414119	FOR 7–8" BUTTON BIT	
52217817	FOR 8" BUTTON BIT	7.9
52254588	FOR 8" BUTTON BIT	7.7
57032294	FOR 8" BUTTON BIT	
58093303	FOR 8" BUTTON BIT	
52258019	FOR 8" BUTTON BIT	
57294852	FOR 8" BUTTON BIT	

DETACH CHUCK

COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (BUTTON) –continued</u>		
52167962	FOR 8 1/2" BUTTON BIT	
52254604	FOR 8 1/2" BUTTON BIT	6.8
57032286	FOR 8 1/2" BUTTON BIT	
57032302	FOR 8 1/2" BUTTON BIT	
57208662	FOR 8 1/2" BUTTON BIT	102
58067976	FOR 8 1/2" BUTTON BIT	
52180502	FOR 8 1/2" BUTTON BIT	
52258027	FOR 8 1/2" BUTTON BIT	
57208639	FOR 8 1/2" BUTTON BIT	
57114019	FOR 8 5/8" BUTTON BIT	
57055469	FOR 8 3/4" BUTTON BIT	
57202574	FOR 8 3/4" BUTTON BIT	
57055477	FOR 8 7/8" BUTTON BIT	85
52254612	FOR 10" BUTTON BIT	80
57032310	FOR 10" BUTTON BIT	
57164139	FOR 10" BUTTON BIT	
52258035	FOR 10" BUTTON BIT	
58093329	FOR 10" BUTTON BIT	
57279838	FOR 10 5/8" BUTTON BIT	
57029621	FOR 10 5/8" BUTTON BIT	
57029365	FOR 10 5/8" BUTTON BIT	
57274201	FOR 12" BUTTON BIT	
57204042	FOR 12" BUTTON BIT	
52183092	FOR 12" BUTTON BIT	
57002206	FOR 12 1/4" BUTTON BIT	126
52183084	FOR 12 1/4" BUTTON BIT	
52208105	FOR 12 1/4" BUTTON BIT	
57026536	FOR 12 1/4" BUTTON BIT	

DETACH CHUCK

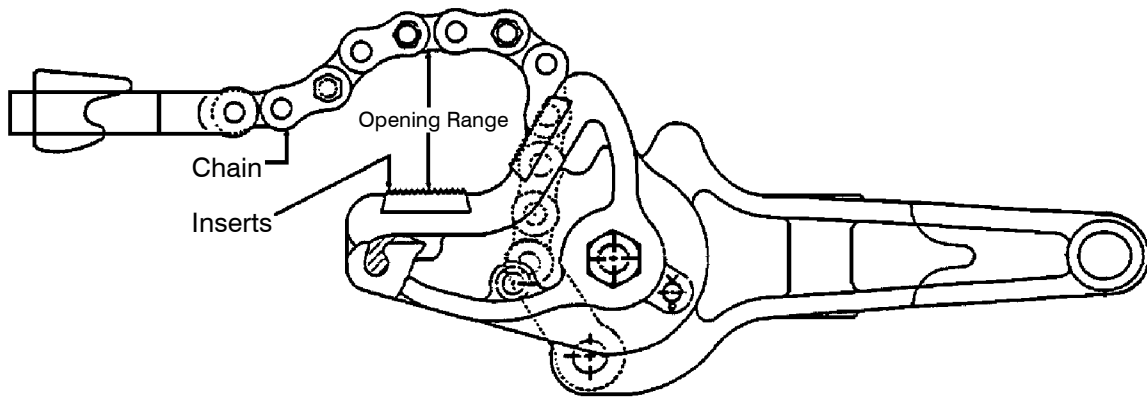
COMM#	DESCRIPTION	WEIGHT
<u>BIT DETACHING CHUCK (BUTTON) – continued</u>		
57001802	FOR 15" BUTTON BIT	126
52208113	FOR 15" BUTTON BIT	
52183076	FOR 15" BUTTON BIT	
57026528	FOR 15" BUTTON BIT	
57132060	FOR 17 1/2" BUTTON BIT	95

WRENCHES AND BREAKOUT FORKS

SECTION WRENCHES AND BREAKOUT FORKS

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CHAIN WRENCHES

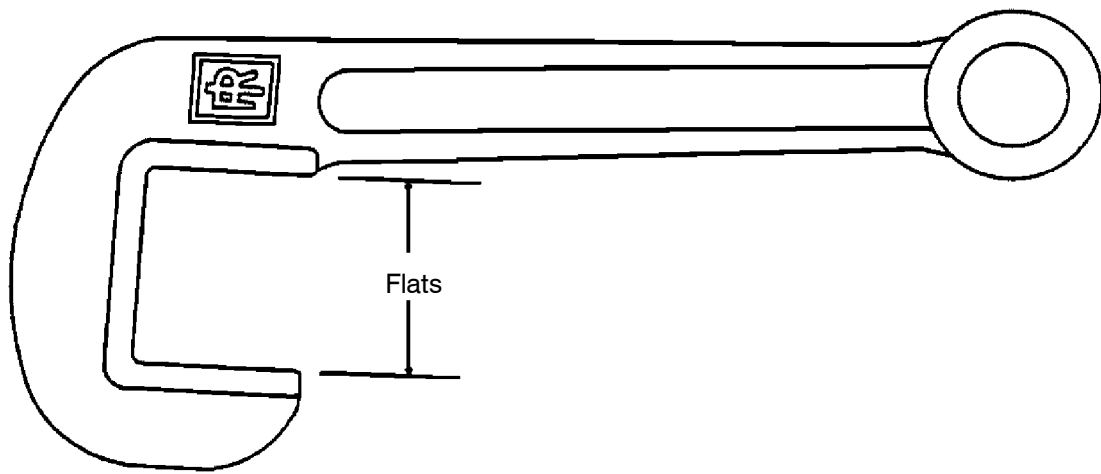


CHAIN WRENCH

CHAIN WRENCHES

COMM#	OPENING RANGES	DESCRIPTION	WEIGHT (LBS.)
50195908	3 1/4" – 4 1/4"	FOR DHD 15 – DHD 1050	48
50021138		CHAIN	
50021120		INSERT	
50195916	4 1/2" – 5 3/8"	FOR DHD 1060	52
50021138		CHAIN	
50021120		INSERT	
50260314	5 1/4" – 6 1/8"	FOR DHD 1070 – QM 5	53
50021138		CHAIN	
50021120		INSERT	
50412055	6 1/4" – 7 1/2"	FOR DHD 17 – DHD 1090	80
50021138		CHAIN	
50021120		INSERT	

J WRENCHES

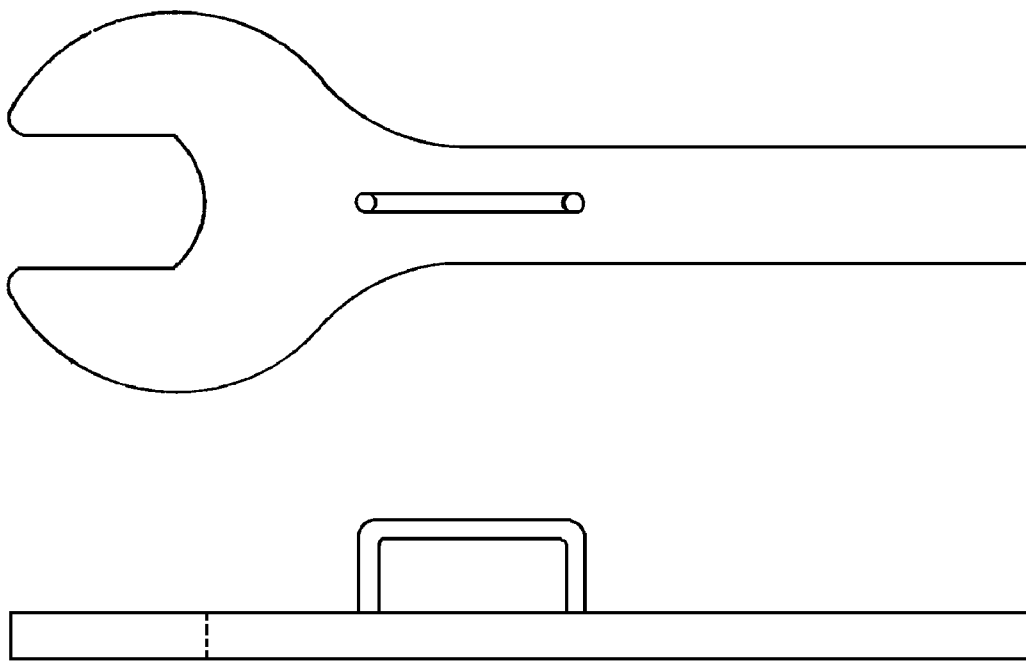


J WRENCH

J WRENCHES

COMM#	FLATS	DESCRIPTION	WEIGHT (LBS.)
58214123	3 1/2"	J WRENCH-DHD 350	
50067909	4"	J WRENCH-DHD 360	25
52156981	4"	J WRENCH-DHD 360 (T5/RD20)	
50059880	4 1/2"	J WRENCH-DHD 17	50
52258050	5 7/8"	J WRENCH-DHD 380	61
58214107	6"	J WRENCH-DHD 380	102
52183035	7"	J WRENCH-DHD 112	58

HAND BREAKOUT WRENCHES



HAND BREAKOUT WRENCHES

HAND BREAKOUT WRENCHES

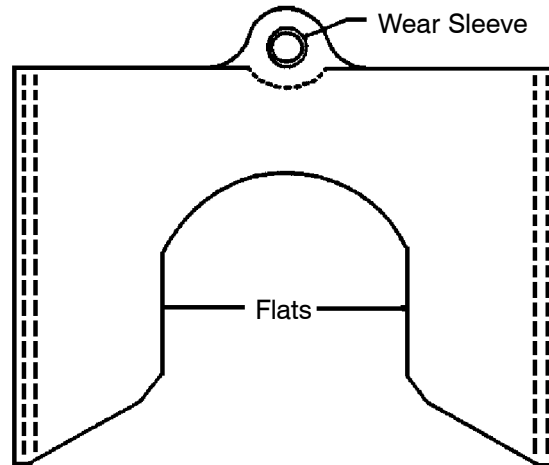
COMM#	DESCRIPTION	FLATS
58143694	ASSEMBLY	
58187147	HAND B/O WRENCH	1 1/8"
58061367	HANDLE--SLIP	
58143702	ASSEMBLY	
581871547	HAND B/O WRENCH	1 5/8"
58061367	HANDLE--SLIP	
58143710	ASSEMBLY	
58187162	HAND B/O WRENCH	2 1/4"
58061367	HANDLE--SLIP	
58143728	ASSEMBLY	
58187170	HAND B/O WRENCH	2 3/4"
58061367	HANDLE--SLIP	
58143736	ASSEMBLY	
58187188	HAND B/O WRENCH	2 3/4"
58061367	HANDLE--SLIP	
57403644	ASSEMBLY	
57403701	HAND B/O WRENCH	3"
58061367	HANDLE--SLIP	
58143744	ASSEMBLY	
58187196	HAND B/O WRENCH	3 1/2"
58061367	HANDLE--SLIP	
58042680	HAND B/O WRENCH	3 5/8"
58040791	PIN	
57155053	ASSEMBLY	
57155046	HAND B/O WRENCH	3 3/4"
58061367	HANDLE--SLIP	

HAND BREAKOUT WRENCHES

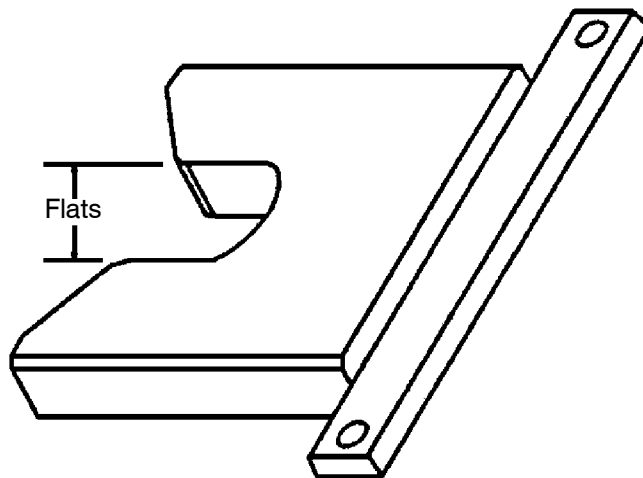
COMM#	DESCRIPTION	FLATS
58143751	ASSEMBLY	
58187204	HAND B/O WRENCH	4"
58061367	HANDLE--SLIP	
58221268	ASSEMBLY	
58220468	HAND B/O WRENCH	4 1/4"
58061367	HANDLE--SLIP	
58171471	ASSEMBLY	
58187212	HAND B/O WRENCH	4 1/2"
58061367	HANDLE--SLIP	
58219205	HAND B/O WRENCH	4 7/8"
58030818	PLATE	
58061367	HANDLE--SLIP	
58219197	HAND B/O WRENCH	5 3/8"
57034530	PLATE	
58061367	HANDLE--SLIP	

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AUTO B/O FORK



AUTO B/O FORK (TYPE 1)

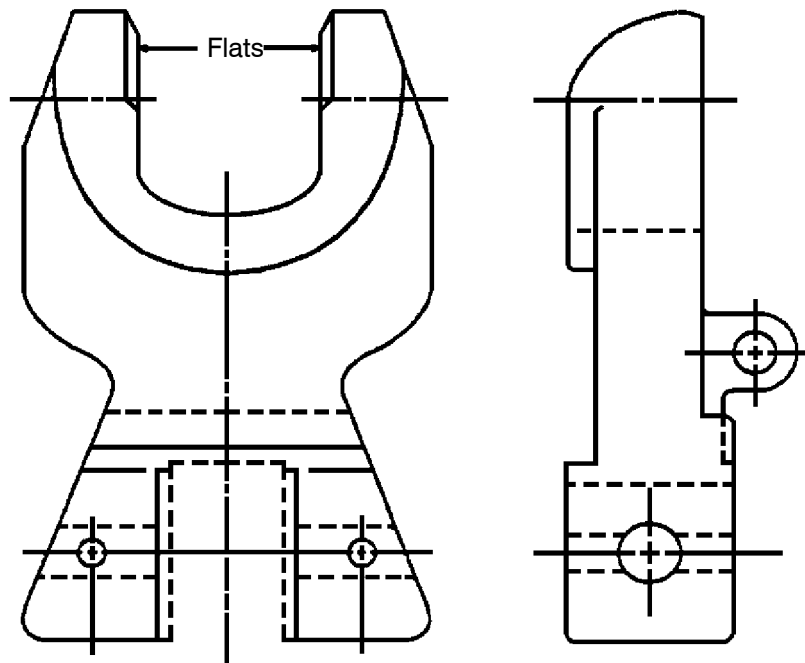


AUTO B/O FORK (TYPE 2)

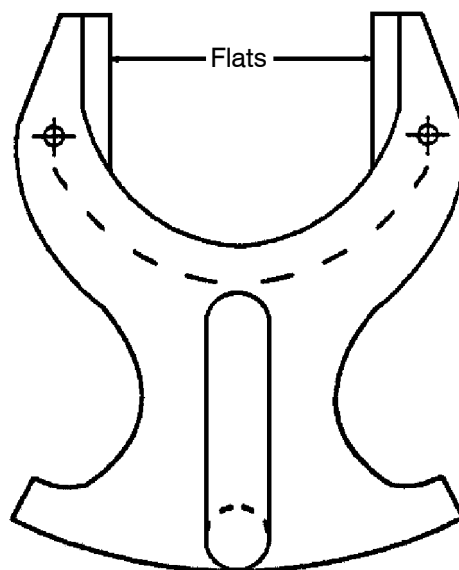
AUTO B/O FORK

COMM#	FLAT SIZE	TYPE	WEIGHT (LBS.)
57134264	5 7/8"	TYPE 1	
57265522	Insert Bushing		
57265449	6 7/8"	TYPE 1	111
57265522	Insert Bushing		
57110546	7 7/8"	TYPE 1	
57265522	Insert Bushing		
57313330	3 1/2"	TYPE 2	
57313348	4 1/2"	TYPE 2	
57313363	5"	TYPE 2	
57385957	5 1/2"	TYPE 2	
57384554	5 3/4"	TYPE 2	
57329690	6"	TYPE 2	
57113599	6 3/4"	TYPE 2	
57113607	7 3/4"	TYPE 2	
57161937	7 3/4"	TYPE 2	
57384489	7 3/4"	TYPE 2	
57113615	9 1/4"	TYPE 2	

FORK CHUCKS



FORK CHUCK (FLOP TYPE)



FORK CHUCK (HAND-HELD)

FORK CHUCKS

COMM#	DESCRIPTION	FLATS	TYPE	WEIGHT (LBS.)
50702760	FOR 4" DRILL PIPE	3 1/2"	HAND-HELD	45
56963457	FOR 4 1/2" DRILL PIPE	3 1/2"	HAND-HELD	31
50702786	FOR 4 1/2" DRILL PIPE	4"	HAND-HELD	42
50348309	FOR 4 1/2" & 5" DRILL PIPE	3 1/2"	FLOP DOWN	40
56966047	FOR 5 1/2" DRILL COLLAR	4 1/2"	HAND-HELD	50
50348317	FOR 5 1/2" DRILL PIPE	4 1/2"	FLOP DOWN	43
50702752	FOR 5 1/2" DRILL PIPE	4 1/2"	HAND-HELD	37
50341619	FOR 5 1/2" DRILL PIPE	5"	HAND-HELD	37
57293748	FOR 6 1/2" DRILL PIPE	5 1/2"	HAND-HELD	
52182052	FOR 7" DRILL PIPE	5"	FLOP DOWN	44
52210655	FOR 7" DRILL PIPE	6"	HAND-HELD	43
57002727	FOR 10 3/4" STABILIZER, DHD 112	7"	HAND-HELD	45

MISCELLANEOUS

SECTION

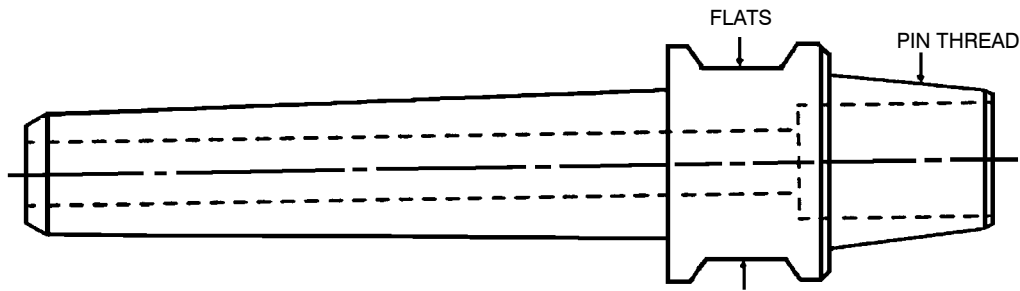
MISCELLANEOUS

SECTION

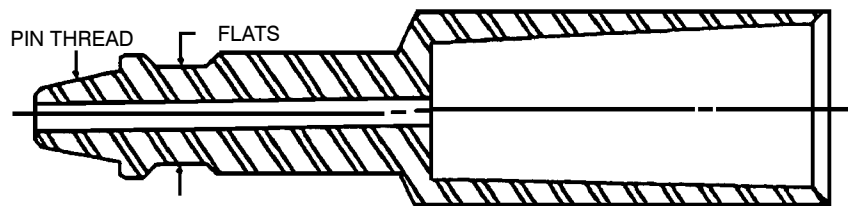
MISCELLANEOUS

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FISHING TOOLS



PIPE SPEAR



DIE OVERSHOT

FISHING TOOLS

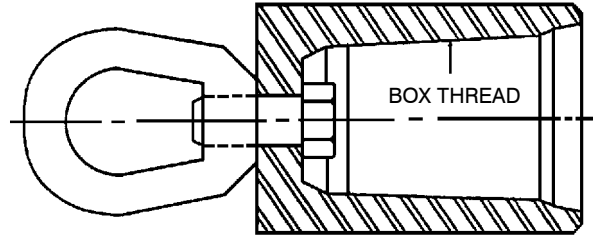
COMM#	DESCRIPTION	THREAD PIN	RETRIEVAL SPEC.	FLAT
<u>PIPE SPEARS</u>				
58144320	PIPE SPEAR	2 3/8" API IF	3 1/2" O.D.	2 3/4"
57097636	PIPE SPEAR	2 3/8" API IF	3 1/2" O.D.	2 3/4"
58171653	PIPE SPEAR	2 7/8" API IF	4 1/2" O.D.	3 1/2"
58171646	PIPE SPEAR	3 1/2" API IF	4 1/2" O.D.	3 1/2"
52224052	PIPE SPEAR	2 7/8" API IF	4 1/2" O.D.	3 1/2"
52224045	PIPE SPEAR	2 7/8" API IF	4 1/2" O.D.	3 1/2"
50618362	PIPE SPEAR	3 1/2" API REG	4 1/2" O.D.	3 1/2"
50618347	PIPE SPEAR	3 1/2" API REG	4 1/2" O.D.	3 1/2"
58171661	PIPE SPEAR	3 1/2" API IF	5" & 5 1/2" O.D.	4"
58195850	PIPE SPEAR	3 1/2" API IF	5 1/2" O.D.	4"
52225240	PIPE SPEAR	3 1/2" API IF	5 1/2" O.D.	4 1/2"
58220740	PIPE SPEAR	4 1/2" API FH	5 1/2" O.D.	4 1/2"
52232360	PIPE SPEAR	3 1/2" API IF	5 1/2" O.D.	4 1/2"
50624626	PIPE SPEAR	4" API FH	5 1/2" O.D.	4 1/2"
50624600	PIPE SPEAR	4" API FH	5 1/2" O.D.	4 1/2"
57294696	PIPE SPEAR	3 1/2" API REG	5 1/2" & 6 1/2" O.D.	3 1/2"
57021065	PIPE SPEAR	NC #44	6" O.D.	3 1/2"
58171711	PIPE SPEAR	4" API IF	6" O.D.	4 1/2"
57292989	PIPE SPEAR	3 1/2" API REG	8" O.D.	3 1/2"

FISHING TOOLS

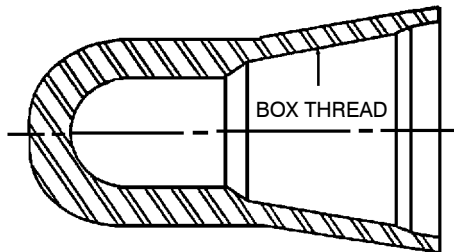
COMM#	DESCRIPTION	THREAD PIN	RETRIEVAL SPEC.	FLAT
<u>DIE OVERSHOTS</u>				
58171679	OVERSHOT	2 3/8" API IF	3 1/2" O.D.	2 3/4"
57097628	OVERSHOT	2 3/8" API IF	3 1/2" O.D.	2 3/4"
52224037	OVERSHOT	2 7/8" API IF	4 1/2" O.D.	3 1/2"
58144304	OVERSHOT	2 7/8" API IF	4 1/2" O.D.	3 1/2"
50618354	OVERSHOT	3 1/2" API REG	4 1/2" O.D.	3 1/2"
58171695	OVERSHOT	3 1/2" API IF	5" O.D.	4"
58232455	OVERSHOT	3 1/2" API REG	5 1/2" O.D.	3 1/2"
50624634	OVERSHOT	4 1/2" API FH	5 1/2" O.D.	4 1/2"
58195868	OVERSHOT	3 1/2" API IF	5 1/2" O.D.	4"
58195843	OVERSHOT	2 7/8" API IF	5 1/2" O.D.	3 1/2"
58171703	OVERSHOT	4" API IF	6" O.D.	4 1/2"
57021164	OVERSHOT		6" O.D.	
58232463	OVERSHOT	3 1/2" API REG	6 1/2" O.D.	3 1/2"
57293169	OVERSHOT	3 1/2" API REG	6 1/2" O.D.	3 1/2"
57293177	OVERSHOT	3 1/2" API REG	8" O.D.	3 1/2"
52230687	OVERSHOT	2 7/8" API IF	8" O.D.	4 1/2"
58195876	OVERSHOT	2 7/8" API IF	8" O.D.	3 1/2"
52224029	OVERSHOT	2 7/8" API IF	DHD 16 A HAMMER	4 1/2"
52224003	OVERSHOT	2 7/8" API IF	DHD 17 HAMMER	4 1/2"
50624642	OVERSHOT	4" API IF	DHD 17 HAMMER	4 1/2"
57042533	OVERSHOT	3 1/2" API REG	DHD 380 HAMMER	3 1/2"
52266251	OVERSHOT	2 7/8" API IF	DHD 380 HAMMER	4 1/2"

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LIFTING BAILS



LIFTING BAIL (SWIVEL)

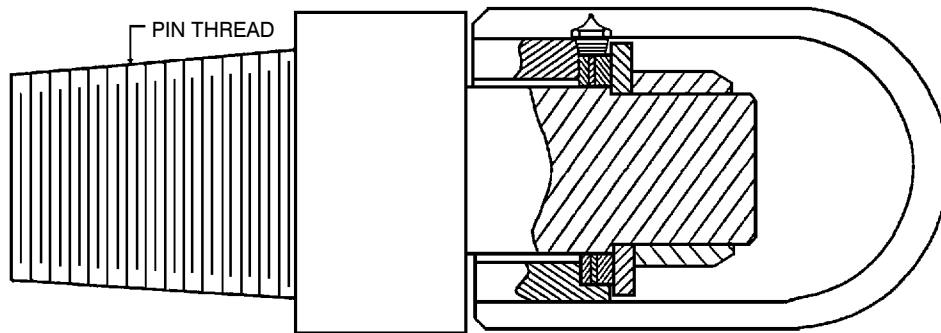


LIFTING BAIL (NON-SWIVEL)

LIFTING BAILS

COMM#	BOX THREAD	DESCRIPTION (TYPE)
58155896	2 3/8" API IF	NON-SWIVEL
52162450	2 7/8" API IF	SWIVEL
57307860	2 7/8" API IF	NON-SWIVEL
58155904	2 7/8" API IF	NON-SWIVEL
50412956	3 1/2" API REG	SWIVEL
50524628	3 1/2" API REG	NON-SWIVEL
58155912	3 1/2" API REG	NON-SWIVEL
52166626	3 1/2" API IF	SWIVEL
58155920	3 1/2" API IF	NON-SWIVEL
52207008	3 1/2" BECO	SWIVEL
50412972	4" API FH	SWIVEL
50624188	4" API FH	NON-SWIVEL
58220229	4" API FH	NON-SWIVEL
52237096	4" BECO	NON-SWIVEL
50524644	4 1/2" API REG	NON-SWIVEL
58155938	4 1/2" API REG	NON-SWIVEL
52189693	4 1/2" API FH	SWIVEL
50702943	4 1/2" BECO	NON-SWIVEL
50702950	5 1/4" BECO	NON-SWIVEL
57192320	5 1/2" API REG	NON-SWIVEL
50617265	6" BECO	NON-SWIVEL
50524669	6 5/8" API REG	NON-SWIVEL
58155946	6 5/8" API REG	NON-SWIVEL
52153459	7 5/8" API REG	NON-SWIVEL
52153780	8" BECO	NON-SWIVEL

LIFTING PLUG

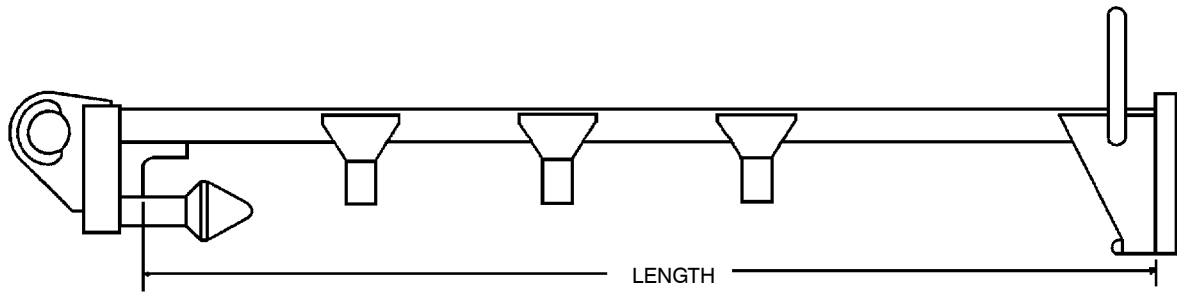


LIFTING PLUG

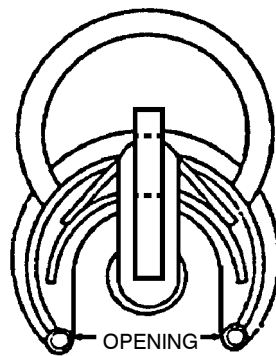
LIFTING PLUG

COMM#	PIN THREAD	DESCRIPTION (TYPE)
58055948	2 3/8" FE	SWIVEL
58055955	2 3/8" API IF	SWIVEL
58055963	2 7/8" MH FH	SWIVEL
58055930	2 7/8" API IF	SWIVEL
58055971	3 1/2" API REG	SWIVEL
50524610	3 1/2" API REG	NON-SWIVEL
58055989	3 1/2" API IF	SWIVEL
58185372	4" API IF	SWIVEL
58219239	4" API FH	SWIVEL
50524636	4 1/2" API REG	NON-SWIVEL
50524651	6 5/8" API REG	NON-SWIVEL
58219247	NC #44	SWIVEL

ROD HANDLING TOOL



ROD HANDLING TOOL



ROD HANDLING TOOL

COMM#	OPENING	DIAMETER	LENGTH
52211133	2 1/8"	4 1/2"	25'
50218858	3 19/32"	4 1/2"	25'
52162476		4 1/2"	30'
50333939	4 9/16"	5 1/2"	25'
57097073	4 9/16"	5 1/2"	25'
52164084	4 9/16"	5 1/2"	25'
50690908	4 9/16"	5 1/2"	30'
57097784	4 9/16"	6"	25'
57293938	5 5/8"	6 1/2"	30'
57293946	7 1/8"	8"	30'

HOLE OPENERS

COMM#	HOLE SIZE	PIN SIZE	APPLICATION
52157195	12 1/4"	6 5/8" API REG	SOFT
52157203	12 1/4"	6 5/8" API REG	MEDIUM
52157229	12 1/4"	6 5/8" API REG	HARD
52157237	15"	6 5/8" API REG	SOFT
50822295	15"	6 5/8" API REG	MEDIUM
52157245	15"	6 5/8" API REG	HARD
52157252	17 1/2"	6 5/8" API REG	SOFT
50822287	17 1/2"	6 5/8" API REG	MEDIUM
52157260	17 1/2"	6 5/8" API REG	HARD
52157278	20"	6 5/8" API REG	SOFT
50822279	20"	6 5/8" API REG	MEDIUM
52157286	20"	6 5/8" API REG	HARD
52157294	22"	6 5/8" API REG	SOFT
50822261	22"	6 5/8" API REG	MEDIUM
52157302	22"	6 5/8" API REG	HARD
52157310	24"	6 5/8" API REG	SOFT
50822253	24"	6 5/8" API REG	MEDIUM
52157351	24"	6 5/8" API REG	HARD
58192477	26"	6 5/8" API REG	SOFT

CUTTER SETS

COMM#	HOLE SIZE	PIN SIZE	APPLICATION
52157369	12 1/4"	6 5/8" API REG	SOFT
50822360	12 1/4"	6 5/8" API REG	MEDIUM
52157328	12 1/4"	6 5/8" API REG	HARD
52157377	15"	6 5/8" API REG	SOFT
50822352	15"	6 5/8" API REG	MEDIUM
52157336	15"	6 5/8" API REG	HARD
52157385	17 1/2"	6 5/8" API REG	SOFT
50822345	17 1/2"	6 5/8" API REG	MEDIUM
52157344	17 1/2"	6 5/8" API REG	HARD
52157393	20"	6 5/8" API REG	SOFT
50822337	20"	6 5/8" API REG	MEDIUM
52157401	20"	6 5/8" API REG	HARD
52157419	22"	6 5/8" API REG	SOFT
50822329	22"	6 5/8" API REG	MEDIUM
52157559	22"	6 5/8" API REG	HARD
52157567	24"	6 5/8" API REG	SOFT
50822311	24"	6 5/8" API REG	MEDIUM
52157575	24"	6 5/8" API REG	HARD
58192501	26"	6 5/8" API REG	SOFT

CASING HANDLING PACKAGES

COMM#	DESCRIPTION	DETAILS
52229168	CASING PACKAGE	4 1/2"
52229176	CASING CLEVIS	4" FH THREADS
52200441	WISHBONE	4 1/2" – 9 5/8"
52200409	CASING ELEVATOR	4 1/2"
52258274	CASING PACKAGE	5 1/2"
52229176	CASING CLEVIS	4" FH THREADS
52200441	WISHBONE	4 1/2" – 9 5/8"
52200417	CASING ELEVATOR	5 1/2"
52258282	CASING PACKAGE	7"
52229176	CASING CLEVIS	4" FH THREADS
52200441	WISHBONE	4 1/2" – 9 5/8"
52200433	CASING ELEVATOR	7"
52258290	CASING PACKAGE	8 5/8"
52229176	CASING CLEVIS	4" FH THREADS
52200441	WISHBONE	4 1/2" – 9 5/8"
52200425	CASING ELEVATOR	8 5/8"
58220716	CASING PACKAGE	9 5/8"
52229176	CASING CLEVIS	4" FH THREADS
52200441	WISHBONE	4 1/2" – 9 5/8"
52271160	CASING ELEVATOR	9 5/8"
58231929	CASING PACKAGE	10 3/4"
52229176	CASING CLEVIS	4" FH THREADS
58221052	WISHBONE	10 3/4" – 13 3/8"
58231911	CASING ELEVATOR	10 3/4"
58221060	CASING PACKAGE	13 3/8"
52229176	CASING CLEVIS	4" FH THREADS
58221052	WISHBONE	10 3/4" – 13 3/8"
58221037	CASING ELEVATOR	13 3/8"
52223989	CASING PACKAGE	2 7/8" IF THREADS
52223997	CASING TOOL	
50418177	CASING TOOL	
50219955	LOCKING PIN	
50418136	CASING PACKAGE	4" FH THREADS
50418169	CASING TOOL	
50418177	CASING TOOL	
50219955	LOCKING PIN	

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DRILL STRINGS

SECTION

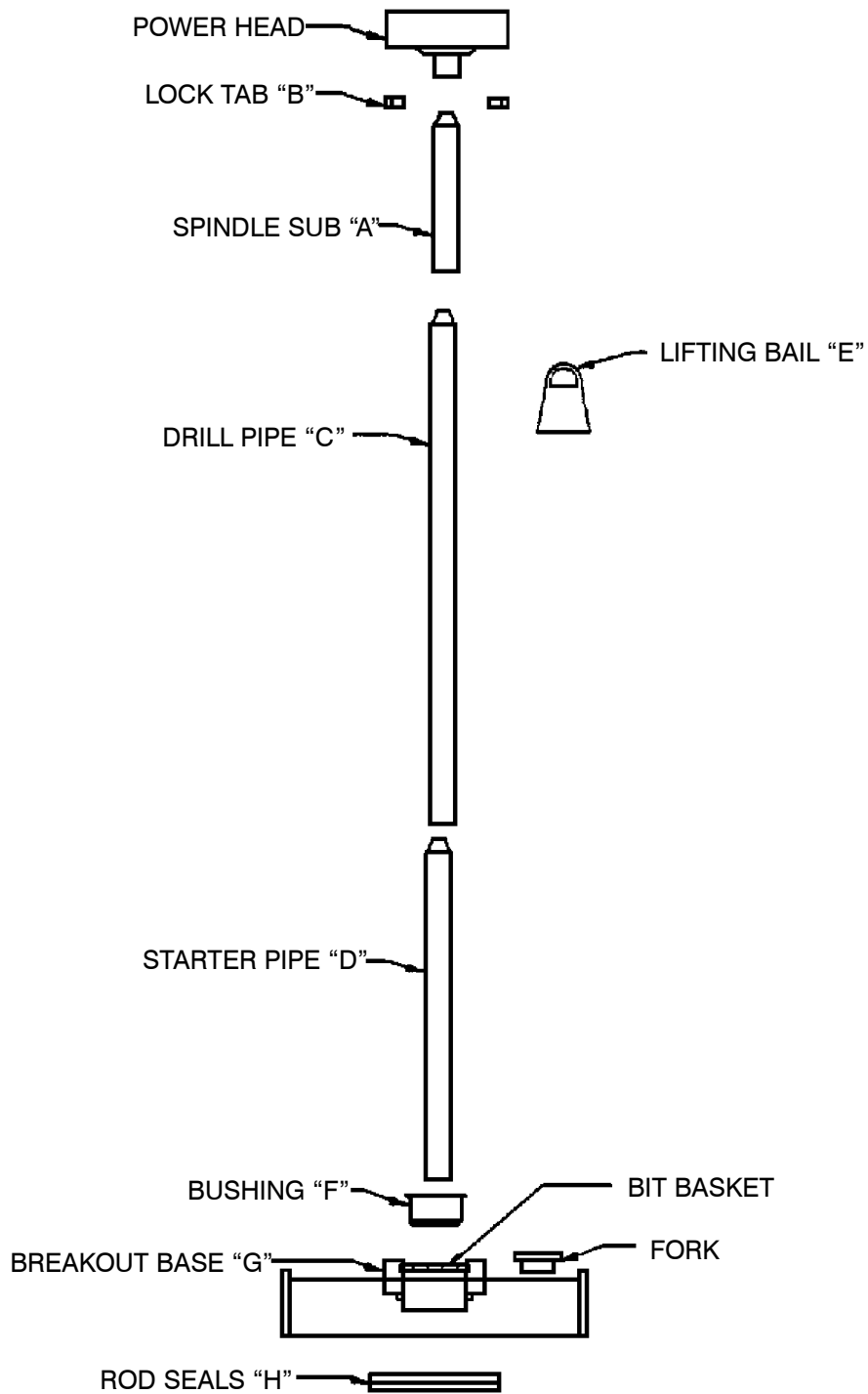
DRILL STRINGS

SECTION

DRILL STRINGS

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DM45/50 DRILL STRINGS



DM45/50 DRILL STRINGS

		25' DRILL PIPE				
		DRILL PIPE SIZE				
			4 1/2"	5"	5 1/2"	6 1/4"
SPINDLE SUB	A	57032880	57032880	52222353	57033052	57030975
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
LOCK TABS	B	50628007	50628007	50628007	50628007	50628007
DRILL PIPE	C	50425859	50348358	52206976	52259009	52182011
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
STARTER PIPE	D	50426238	50348333	57236184	57139164	52190246
LIFTING BAIL	E	50524628	50524628	52207008	52237096	50702943
THREAD		3 1/2 REG	3 1/2 REG	3 1/2 BECO	4 BECO	4 1/2 BECO
SPINDLE SUB	A	57032880	-----	52223815	52223815	57030975
FLATS		3 1/2"	-----	4 1/2"	4 1/2"	5"
LOCK TABS	B	50628007	-----	50628007	50628007	50628007
DRILL PIPE	C	50262187	-----	50426493	50461813	50424050
FLATS		3 1/2"	-----	4 1/2"	4 1/2"	4 1/2"
STARTER PIPE	D	50426238	-----	50426246	50618677	52172715
LIFTING BAIL	E	50524628	-----	50624188	50624188	50624188
THREAD		3 1/2 REG	-----	4 FH	4 FH	4 FH
BUSHING	F	50245133	50344373	50333814	50623701	50701739
CENTRALIZER		-----	-----	52153269	57138927	57138133
ROLLER						
BREAKOUT	G	57058323	57054298	57054298	57054298	57054280
FLATS		3 1/2"	4 1/2"	4 1/2"	4 1/2"	5"
FLATS		-----	-----	-----	-----	57054298
		-----	-----	-----	-----	4 1/2"
ROD SEAL	H	50622604	50623859	50622596	50623867	50820893

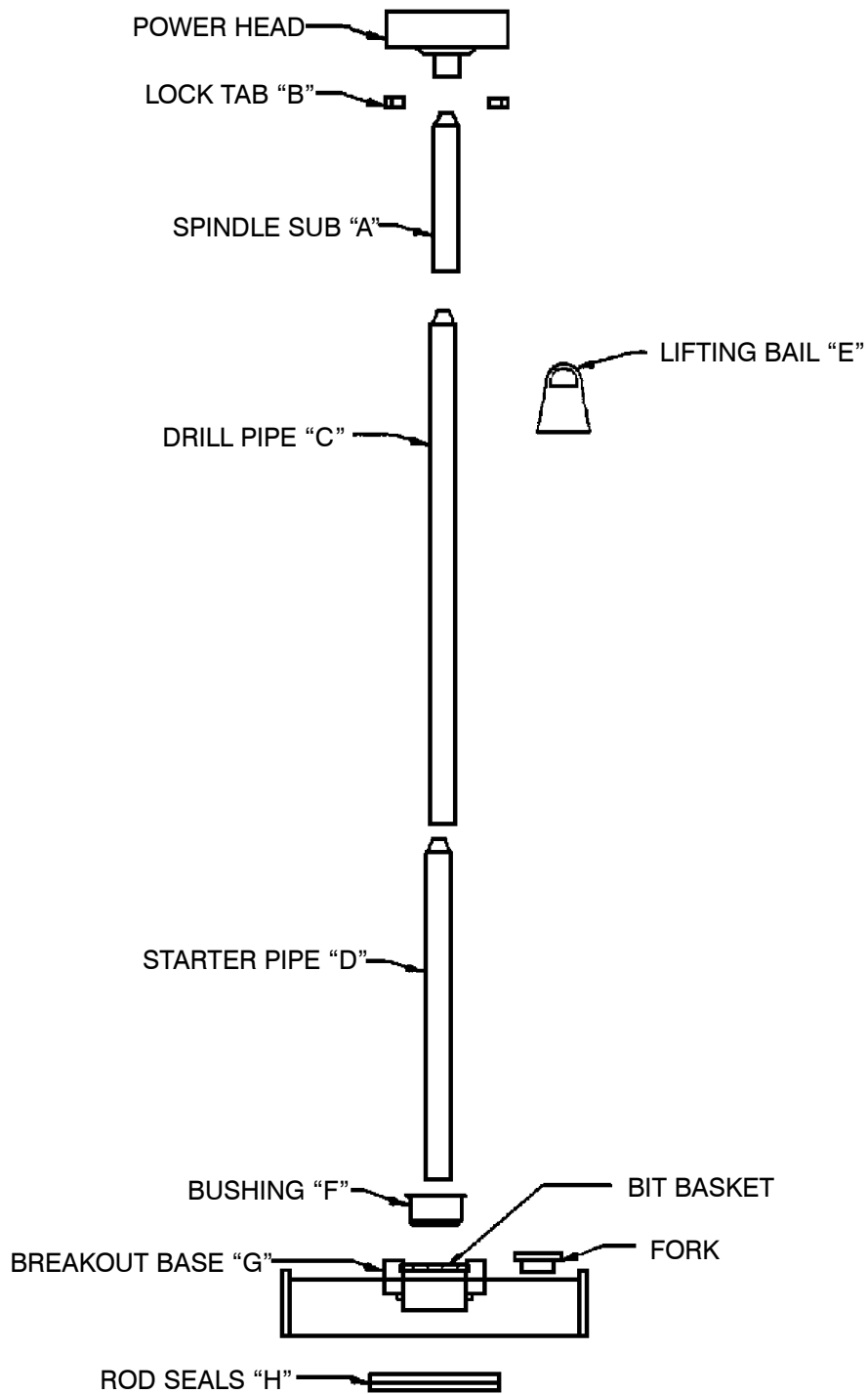
DM45/50 DRILL STRINGS

		30' DRILL PIPE				
		DRILL PIPE SIZE				
			4 1/2"	5"	5 1/2"	6 1/4"
SPINDLE SUB	A	57032880	57032880	52222353	57033052	57030975
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
LOCK TABS	B	50628007	50628007	50628007	50628007	50628007
DRILL PIPE	C	57136228	57155814	57178865	57178873	57178881
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
STARTER PIPE	D	57156663	57155830	57178766	57178774	57178782
LIFTING BAIL	E	50524628	50524628	52207008	52237096	50702943
THREAD		3 1/2 REG	3 1/2 REG	3 1/2 BECO	4 BECO	4 1/2 BECO
SPINDLE SUB	A	-----	-----	52223815	52223815	52223815
FLATS		-----	-----	4 1/2"	4 1/2"	4 1/2"
LOCK TABS	B	-----	-----	50628007	50628007	50628007
DRILL PIPE	C	57155780	57155798	57178899	57178832	57178857
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
STARTER PIPE	D	57156663	57155830	57178790	57178808	57178816
LIFTING BAIL	E	50524628	-----	50624188	50624188	50624188
THREAD		3 1/2 REG	-----	4 FH	4 FH	4 FH
BUSHING	F	50245133	50344373	50333814	50623701	50701739
CENTRALIZER		-----	-----	52153269	57138927	57138133
ROLLER						
BREAKOUT FORK	G	57058323	57058323	57054298	57054298	57054280
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"
ROD SEAL	H	50622604	50623859	50622596	50623867	50820893

DM45/50 DRILL STRINGS

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DML DRILL STRINGS



DML DRILL STRINGS

		25' DRILL PIPE					
		DRILL PIPE SIZE					
			4 1/2"	5"	5 1/2"	6 1/4"	7"
SPINDLE SUB	A	57032880	57032880	52222353	57033052	57030975	57339475
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"	-----
LOCK TABS	B	50628007	50628007	50628007	50628007	50628007	50628007
DRILL PIPE	C	50425859	50348358	52206976	50461813	50424050	-----
FLATS		-----	-----	-----	-----	-----	-----
STARTER PIPE	D	50426238	50348333	57236184	50618677	52172715	-----
LIFTING BAIL	E	50524628	50524628	-----	52237096	50702943	50702950
THREAD		3 1/2 REG	3 1/2 REG	3 1/2 BECO	4 BECO	4 1/2 BECO	5 1/4 BECO
SPINDLE SUB	A	-----	-----	52223815	52223815	52223815	-----
FLATS		-----	-----	4 1/2"	4 1/2"	4 1/2"	-----
LOCK TABS	B	-----	-----	50628007	50628007	50628007	-----
DRILL PIPE	C	50262187	-----	50426493	52259009	52182011	-----
FLATS		-----	-----	-----	-----	-----	-----
STARTER PIPE	D	50426238	-----	50426246	57139164	52190246	-----
LIFTING BAIL	E	50524628	-----	50624188	50624188	50624188	-----
THREAD		3 1/2 REG	-----	4 FH	4 FH	4 FH	-----
BUSHING	F	57200461	57320145	57199663	57292930	57200446	57225526
ROTARY		57423881	57328114	57338451	57411019	-----	-----
DHD-CENT		-----	-----	-----	-----	-----	-----
DHD-SPLIT							
BREAKOUT FORK	G	57313330	57313330	57313348	57313348	50820893	57329690
FLATS		3 1/2"	3 1/2"	4"	4 1/2"	5"	-----
FLATS		-----	-----	-----	-----	57313348	-----
ROD SEAL	H	50622604	50623859	50622596	50623867	50820893	57230369

DML DRILL STRINGS

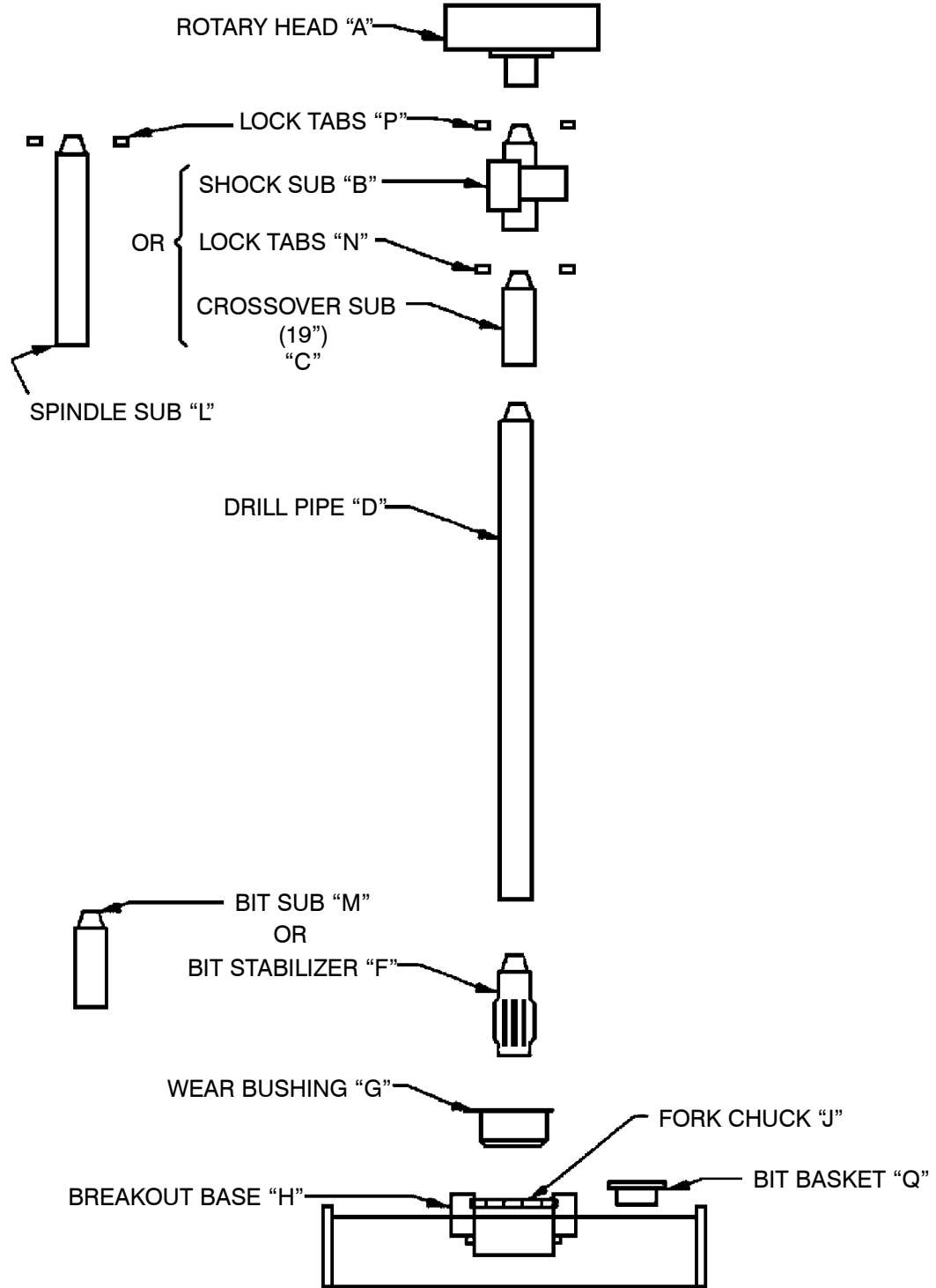
		30' DRILL PIPE					
		DRILL PIPE SIZE					
			4 1/2"	5"	5 1/2"	6 1/4"	7"
SPINDLE SUB	A	57032880	57032880	52222353	57033052	57030975	57030975
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	5"	5"
LOCK TABS	B	50628007	50628007	50628007	50628007	50628007	50628007
DRILL PIPE	C	57316228	557155814	57178865	57178873	57178881	-----
FLATS		-----	-----	-----	-----	-----	-----
STARTER PIPE	D	57156663	57155830	57178766	57178774	57178782	-----
LIFTING BAIL	E	50524628	50524628		52237096	50702943	50702943
THREAD		3 1/2 REG	3 1/2 REG	3 1/2 BECO	4 BECO	4 1/2 BECO	5 1/4 BECO
SPINDLE SUB	A	57032880	57032880	52223815	52223815	52223815	57030975
FLATS		3 1/2"	3 1/2"	4 1/2"	4 1/2"	4 1/2"	5"
LOCK TABS	B	50628007	50628007	50628007	50628007	50628007	50628007
DRILL PIPE	C	57155780	57155798	57178899	57178832	57178857	-----
FLATS		-----	-----	-----	-----	-----	-----
STARTER PIPE	D	57156663	57155830	57178790	57178808	57178816	-----
LIFTING BAIL	E	50524628	50524628	50624188	50624188	50624188	-----
THREAD		3 1/2 REG	3 1/2 REG	4 FH	4 FH	4 FH	-----
BUSHING	F	57200461	57320145	57199663	57292930	57200446	57225526
ROTARY		57423881	57328114	57338451	57411019	-----	-----
DHD-CENT		-----	-----	-----	-----	-----	-----
DHD-SPLIT							
BREAKOUT FORK	G	57313330	57313330	57313348	57313348	50820893	57329690
FLATS		3 1/2"	3 1/2"	4"	4 1/2"	5"	-----
FLATS		-----	-----	-----	-----	57313348	-----
						4 1/2"	-----
ROD SEAL	H	50622604	50623859	50622596	50623867	50820893	57230369

DML DRILL STRINGS

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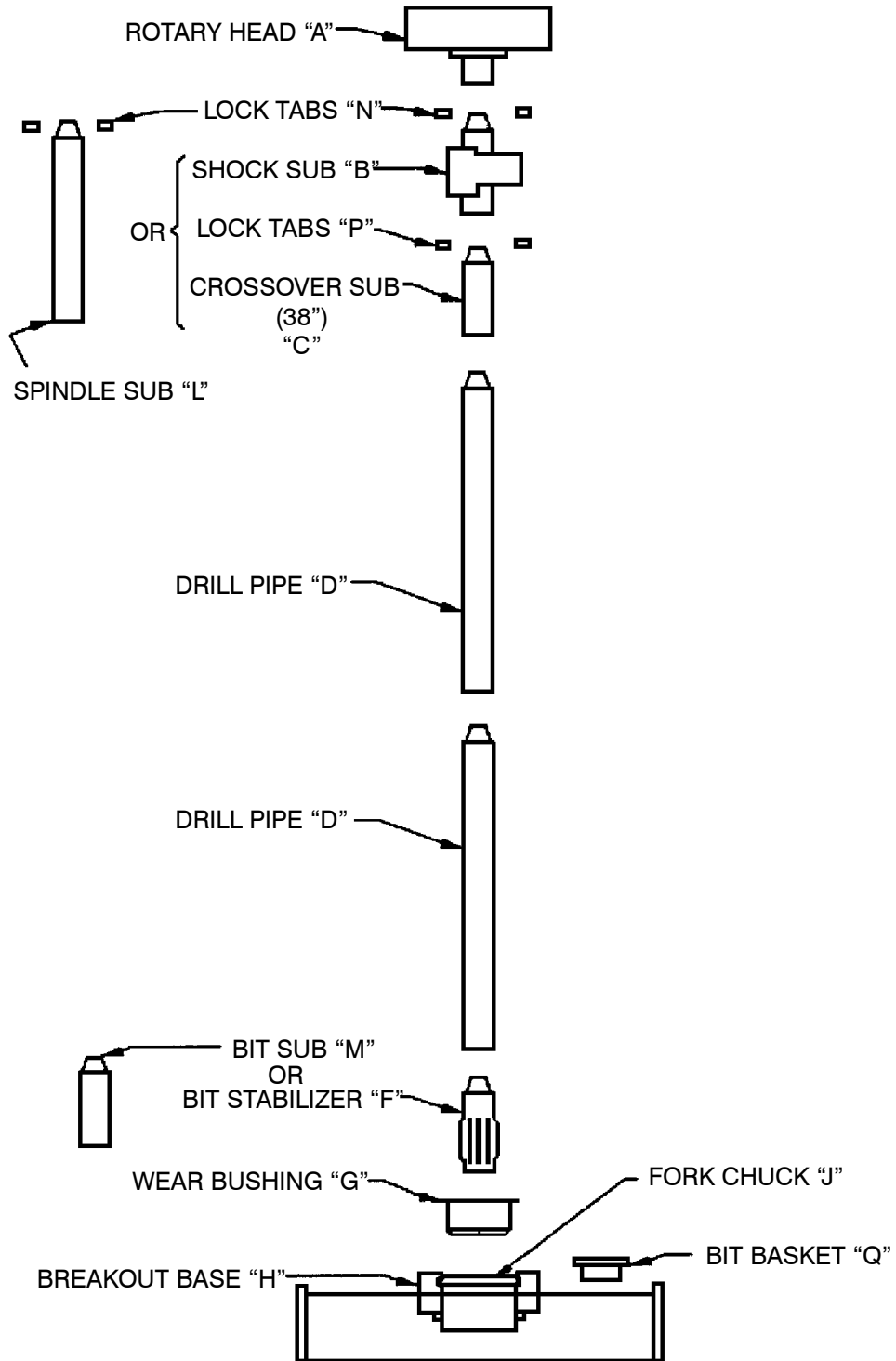
DMH DRILL STRINGS

DM-H (45' TOWER)

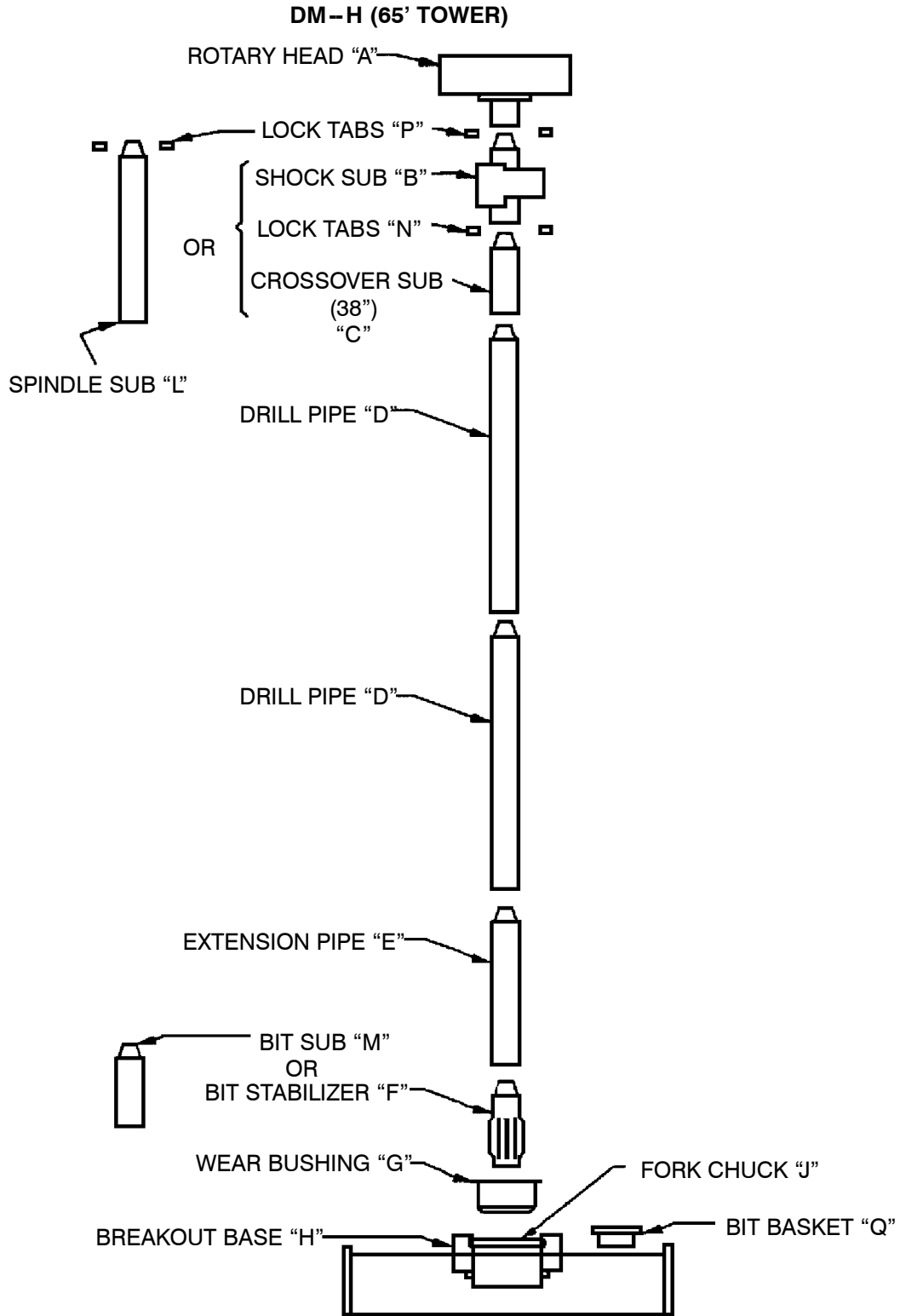


DMH DRILL STRINGS

DM-H (55' TOWER)



DMH DRILL STRINGS



DMH DRILL STRINGS

	45' TOWER				
	DRILL PIPE SIZE				
		7 5/8"	8 5/8"	9 1/4"	10 3/4"
POWER HEAD	A	56977036	56977036	-----	56977036
SHOCK SUB	B	57061160 57189896	57061160 57189896	----- -----	57061160 57189896
CROSSOVER SUB	C	52243375	52240371	52240371	52250743
DRILL PIPE	D	56978992	52192325	57162414	52191756
EXTENSION PIPE	E	NONE	NONE	NONE	NONE
BIT STABILIZER	F	57061301 52243466	57062424 52243474	----- -----	57061095 52243482
WEAR BUSHING STD ROLLER	G	52233061 57073264	52232998 56969066	----- 57161945	52275112 56983075
BREAKOUT BASE	H	52233111 56969074	52233111 56969074	56984586	56969074 56984586
FORK CHUCK FAB CAST	J	52233129 57113599	52232972 57113607	----- 57161937	52250750 57113615
THREAD "BECO"	K	5 1/4"	6"	6"	8"
SPINDLE SUB	L	57066037	57090003	57201147	57201154
BIT SUB	M	57109563	57110520	57201196	57201188
LOCK TAB SS NSS	N	57200958 57200958	57200958 57201113	57200958 57201121	57200958 57201139
LOCK TAB	P	57111262	57111262	57111262	57111262
BIT BASKET	Q	9 7/8" DIA BIT 52243771	10 5/8" DIA BIT 52193968	11" DIA BIT 57162331	12 1/4" DIA BIT 56982515

DMH DRILL STRINGS

	55' TOWER			
	DRILL PIPE SIZE			
		7 5/8"	8 5/8"	10 3/4"
POWER HEAD	A	56977036	56977036	56977036
SHOCK SUB	B	57061160 57189896	57061160 57189896	57061160 57189896
CROSSOVER SUB	C	52243375	52240371	52250743
DRILL PIPE	D	57078784	52279155	56972490
EXTENSION PIPE	E	NONE	NONE	NONE
BIT STABILIZER	F	57061145 52273133	57061152 52273141	57078651 52273158
WEAR BUSHING STD ROLLER	G	52233061 57073264	52232998 56969066	52275112 56983075
BREAKOUT BASE	H	52233111 56969074	52233111 56969074	56969074 56984586
FORK CHUCK FAB CAST	J	52233129 57113599	52232972 57113607	52250750 57113615
THREAD "BECO"	K	5 1/4"	6"	8"
SPINDLE SUB	L	57066037	57090003	57201154
BIT SUB	M	57109563	57110520	57201188
LOCK TAB SS NSS	N	57200958 57200958	57200958 57201113	57200958 57201139
LOCK TAB	P	57111262	57111262	57111262
BIT BASKET	Q	9 7/8" DIA BIT 52243771	10 5/8" DIA BIT 52193968	12 1/4" DIA BIT 56982515

DMH DRILL STRINGS

	65' TOWER			
	DRILL PIPE SIZE			
		7 5/8"	8 5/8"	10 3/4"
POWER HEAD	A	56977036	56977036	56977036
SHOCK SUB	B	57061160 57189896	57061160 57189896	57061160 57189896
CROSSOVER SUB	C	57078776	57013054	57003154
DRILL PIPE	D	57078784	52279155	56972490
EXTENSION PIPE	E	57078768	57073561	57003162
BIT STABILIZER	F	57061301 52243466	57062424 52243474	57061095 52243482
WEAR BUSHING STD ROLLER	G	52233061 57073264	52232998 56969066	52275112 56983075
BREAKOUT BASE	H	52233111 56969074	52233111 56969074	56969074 56984586
FORK CHUCK FAB CAST	J	52233129 57113599	52232972 57113607	52250750 57113615
THREAD "BECO"	K	5 1/4"	6"	8"
SPINDLE SUB	L	57066037	57090003	57201154
BIT SUB	M	57109563	57110520	57201188
LOCK TAB SS NSS	N	57200958 57200958	57200958 57201113	57200958 57201139
LOCK TAB	P	57111262	57111262	57111262
BIT BASKET	Q	9 7/8" DIA BIT 52243771	10 5/8" DIA BIT 52193968	12 1/4" DIA BIT 56982515

DMH DRILL STRINGS

COMM#	DESCRIPTION
45' TOWER	HOLE SIZE = 9 7/8"
56978992	DRILL ROD 7 5/8" X 45' / 5 1/4" BECO
52243375	19" CROSSOVER SUB / 6 5/8" API TO 5 1/4" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061301	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 56" LONG
52243466	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 5' LONG
52233061	WEAR BUSHING 7 5/8" STANDARD
57073264	WEAR BUSHING 7 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 7 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113599	FORK CHUCK 7 5/8"
57066037	SPINDLE SUB 6 5/8" API PINS / 5 1/4" BECO BOX
57109563	BIT SUB: 5 1/4" BECO PIN / 6 5/8" API BOX
57200958	LOCK TAB UPPER, USE WITH 7 5/8" PIPE
57111262	LOCK TAB LOWER
52243771	BIT BASKET FOR 9 7/8" ROLLER BIT
52148236	9 7/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148707	9 7/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH
45' TOWER	HOLE SIZE = 10 5/8"
52192325	DRILL ROD 8 5/8" X 45' / 6" BECO
52240371	19" CROSSOVER SUB / 6 5/8" API TO 6" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57062424	BIT STABILIZER 6" BECO TO 6 5/8" API 56" LONG
52243474	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 5' LONG
52232998	WEAR BUSHING 8 5/8" STANDARD
56969066	WEAR BUSHING 8 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 8 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113607	FORK CHUCK 8 5/8"
57090003	SPINDLE SUB 6 5/8" API PINS / 6" BECO BOX
57110520	BIT SUB: 6" BECO PIN / 6 5/8" API BOX
57201113	LOCK TAB UPPER, USE WITH 8 5/8" PIPE
57111262	LOCK TAB LOWER
52193968	BIT BASKET FOR 10 5/8" ROLLER BIT
52148186	10 5/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148715	10 5/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

DMH DRILL STRINGS

COMM#	DESCRIPTION
45' TOWER	HOLE SIZE = 11"
57162414	DRILL ROD 8 5/8" X 30' / 6" BECO
52240371	38" CROSSOVER SUB / 6 5/8" API TO 6" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
	BIT STABILIZER 6" BECO TO 6 5/8" API 56" LONG
	BIT STABILIZER 6" BECO TO 6 5/8" API 5' LONG
	WEAR BUSHING 8 5/8" STANDARD
57161945	WEAR BUSHING 8 5/8" ROLLER
	BREAKOUT BASE FOR STANDARD WEAR BUSHING 8 5/8"
56984586	BREAKOUT BASE FOR ROLLER WEAR BUSHING 8 5/8"
57161937	FORK CHUCK 8 5/8"
57201147	SPINDLE SUB 6 5/8" API PINS / 6" BECO BOX
57248965	BIT SUB: 6" BECO PIN / 6 5/8" API BOX
57201121	LOCK TAB UPPER, USE WITH 8 5/8" PIPE
57111262	LOCK TAB LOWER
57162331	BIT BASKET FOR 10 5/8" ROLLER BIT
	10 5/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
	10 5/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH
45' TOWER	HOLE SIZE = 12 1/4"
52191756	DRILL ROD 10 3/4" X 45' / 8" BECO
52250743	19" CROSSOVER SUB / 6 5/8" API TO 8" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061095	BIT STABILIZER 8" BECO TO 6 5/8" API 56" LONG
52243482	BIT STABILIZER 8" BECO TO 6 5/8" API 5' LONG
52275112	WEAR BUSHING 10 3/4" STANDARD
56983075	WEAR BUSHING 10 3/4" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 10 3/4"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 10 3/4"
57113615	FORK CHUCK 10 3/4"
57201154	SPINDLE SUB 6 5/8" API PINS / 8" BECO BOX (47")
57201188	BIT SUB: 8" BECO PIN / 6 5/8" API BOX (15" 9 1/4" FLATS)
57201139	LOCK TAB UPPER, USE WITH 10 3/4" PIPE
57111262	LOCK TAB LOWER
56982515	BIT BASKET FOR 12 1/4" ROLLER BIT (BIT DETACH CHUCK)
50462076	12 1/4" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148723	12 1/4" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

DMH DRILL STRINGS

COMM#	DESCRIPTION
55' TOWER	HOLE SIZE = 9 7/8"
57078784	DRILL ROD 7 5/8" X 30' / 5 1/4" BECO
52243375	19" CROSSOVER SUB / 6 5/8" API TO 5 1/4" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061145	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 41" LONG
52273133	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 41" LONG
52233061	WEAR BUSHING 7 5/8" STANDARD
57073264	WEAR BUSHING 7 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 7 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113599	FORK CHUCK 7 5/8"
57066037	SPINDLE SUB 6 5/8" API PINS / 5 1/4" BECO BOX
57109563	BIT SUB: 5 1/4" BECO PIN / 6 5/8" API BOX
57200958	LOCK TAB UPPER, USE WITH 7 5/8" PIPE
57111262	LOCK TAB LOWER
52243771	BIT BASKET FOR 9 7/8" ROLLER BIT
52148236	9 7/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148707	9 7/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH
55' TOWER	HOLE SIZE = 10 5/8"
52279155	DRILL ROD 8 5/8" X 30' / 6" BECO
52240371	19" CROSSOVER SUB / 6 5/8" API TO 6" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061152	BIT STABILIZER 6" BECO TO 6 5/8" API 41" LONG
52273141	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 41" LONG
52232998	WEAR BUSHING 8 5/8" STANDARD
56969066	WEAR BUSHING 8 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 8 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113607	FORK CHUCK 8 5/8"
57090003	SPINDLE SUB 6 5/8" API PINS / 6" BECO BOX
57110520	BIT SUB: 6" BECO PIN / 6 5/8" API BOX
57201113	LOCK TAB UPPER, USE WITH 8 5/8" PIPE
57111262	LOCK TAB LOWER
52193968	BIT BASKET FOR 10 5/8" ROLLER BIT
52148186	10 5/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148715	10 5/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

DMH DRILL STRINGS

COMM#	DESCRIPTION
55' TOWER	HOLE SIZE = 12 1/4"
56972490	DRILL ROD 10 3/4" X 30' / 8" BECO
52250743	19" CROSSOVER SUB / 6 5/8" API TO 8" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57078651	BIT STABILIZER 8" BECO TO 6 5/8" API 41" LONG
52273158	BIT STABILIZER 8" BECO TO 6 5/8" API 41" LONG
52275112	WEAR BUSHING 10 3/4" STANDARD
56983075	WEAR BUSHING 10 3/4" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 10 3/4"
56984586	BREAKOUT BASE FOR ROLLER WEAR BUSHING 10 3/4"
57113615	FORK CHUCK 10 3/4"
57201154	SPINDLE SUB 6 5/8" API PINS / 8" BECO BOX (47")
57201188	BIT SUB: 8" BECO PIN / 6 5/8" API BOX (15" 9 1/4" FLATS)
57201139	LOCK TAB UPPER, USE WITH 10 3/4" PIPE
57111262	LOCK TAB LOWER
56982515	BIT BASKET FOR 12 1/4" ROLLER BIT (BIT DETACH CHUCK)
50462076	12 1/4" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148723	12 1/4" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

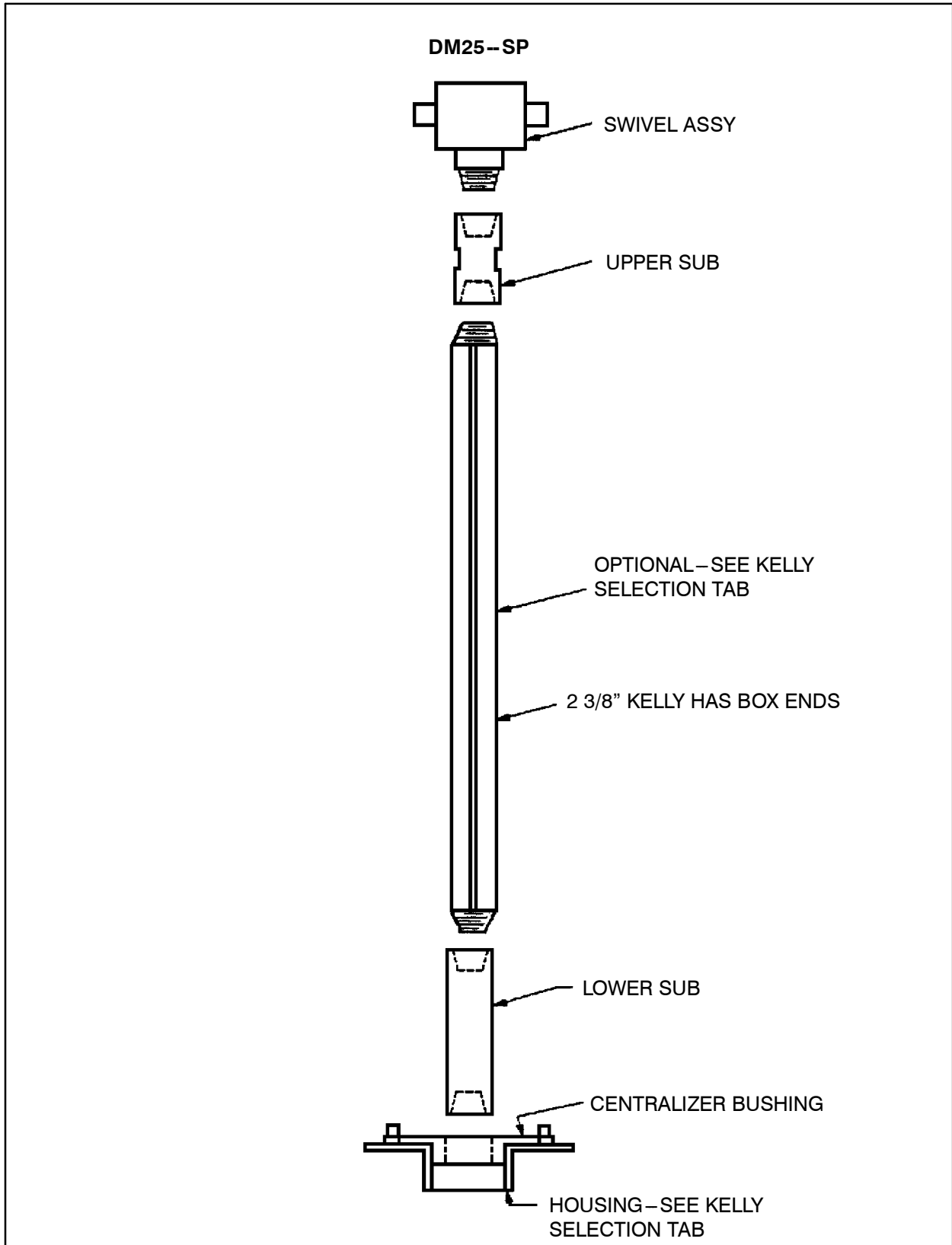
DMH DRILL STRINGS

COMM#	DESCRIPTION
65' TOWER	HOLE SIZE = 9 7/8"
57078784	DRILL ROD 7 5/8" X 30' / 5 1/4" BECO
57078776	38" CROSSOVER SUB / 6 5/8" API TO 5 1/4" BECO
57078768	EXTENSION PIPE 7 5/8" / 5 1/4" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061301	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 56" LONG
52243466	BIT STABILIZER 5 1/4" BECO TO 6 5/8" API 5' LONG
52233061	WEAR BUSHING 7 5/8" STANDARD
57073264	WEAR BUSHING 7 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 7 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113599	FORK CHUCK 7 5/8"
57066037	SPINDLE SUB 6 5/8" API PINS / 5 1/4" BECO BOX
57109563	BIT SUB: 5 1/4" BECO PIN / 6 5/8" API BOX
57200958	LOCK TAB UPPER, USE WITH 7 5/8" PIPE
57111262	LOCK TAB LOWER
52243771	BIT BASKET FOR 9 7/8" ROLLER BIT
52148236	9 7/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148707	9 7/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH
65' TOWER	HOLE SIZE = 10 5/8"
52279155	DRILL ROD 8 5/8" X 30' / 6" BECO
57013054	38" CROSSOVER SUB / 6 5/8" API TO 6" BECO
57073561	82" EXTENSION PIPE 8 5/8" / 6" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57062424	BIT STABILIZER 6" BECO TO 6 5/8" API 56" LONG
52243474	BIT STABILIZER 6" BECO TO 6 5/8" API 5' LONG
52232998	WEAR BUSHING 8 5/8" STANDARD
56969066	WEAR BUSHING 8 5/8" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 8 5/8"
56969074	BREAKOUT BASE FOR ROLLER WEAR BUSHING 7 5/8"
57113607	FORK CHUCK 8 5/8"
57090003	SPINDLE SUB 6 5/8" API PINS / 6" BECO BOX
57110520	BIT SUB: 6" BECO PIN / 6 5/8" API BOX
57201113	LOCK TAB UPPER, USE WITH 8 5/8" PIPE
57111262	LOCK TAB LOWER
52193968	BIT BASKET FOR 10 5/8" ROLLER BIT
52148186	10 5/8" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148715	10 5/8" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

DMH DRILL STRINGS

COMM#	DESCRIPTION
65' TOWER	HOLE SIZE = 12 1/4"
56972490	DRILL ROD 10 3/4" X 30' / 8" BECO
57003154	38" CROSSOVER SUB / 6 5/8" API TO 8" BECO
57003162	82" EXTENSION PIPE 10 3/4" / 8" BECO
57306425	SHOCK SUB 6 5/8" API PIN/BOX
57189896	SHOCK SUB 6 5/8" API PIN/BOX
57061095	BIT STABILIZER 8" BECO TO 6 5/8" API 56" LONG
52243482	BIT STABILIZER 8" BECO TO 6 5/8" API 5' LONG
52275112	WEAR BUSHING 10 3/4" STANDARD
56983075	WEAR BUSHING 10 3/4" ROLLER
56969074	BREAKOUT BASE FOR STANDARD WEAR BUSHING 10 3/4"
56984586	BREAKOUT BASE FOR ROLLER WEAR BUSHING 10 3/4"
57113615	FORK CHUCK 10 3/4"
57201154	SPINDLE SUB 6 5/8" API PINS / 8" BECO BOX (47")
57201188	BIT SUB: 8" BECO PIN / 6 5/8" API BOX (15" 9 1/4" FLATS)
57201139	LOCK TAB UPPER, USE WITH 10 3/4" PIPE
57111262	LOCK TAB LOWER
56982515	BIT BASKET FOR 12 1/4" ROLLER BIT (BIT DETACH CHUCK)
50462076	12 1/4" ROLLER CONE BIT HARD FORMATION / STEEL TOOTH
52148723	12 1/4" ROLLER CONE BIT HARD FORMATION / T/C TOOTH

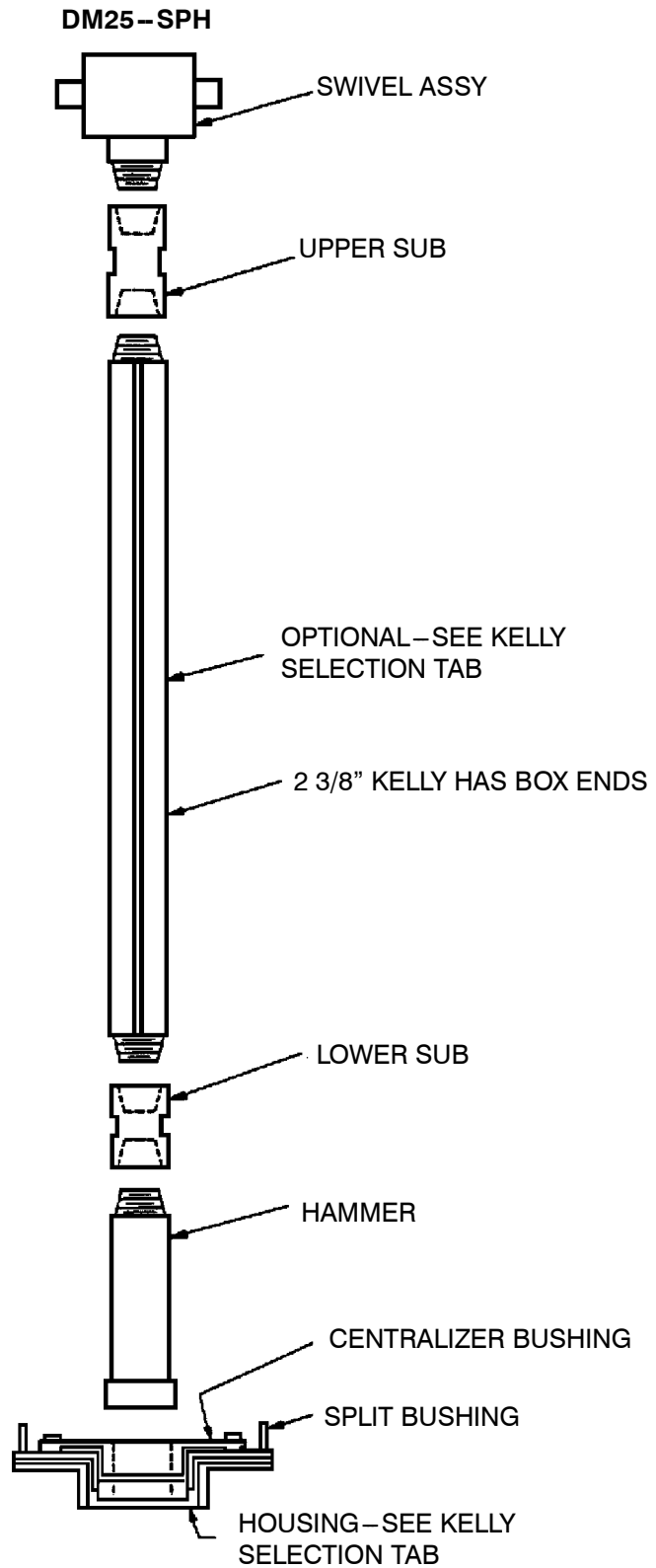
DM25-SP DRILL STRINGS



DM25 – SP DRILL STRINGS

KELLY SIZE	UPPER SUB	KELLY	LOWER SUB	CENTRALIZER BUSHING
2 3/8"	56800220	SEE KELLY SELECTION TAB		57036733
2 7/8"	56931074	SEE KELLY SELECTION TAB	56945116	57036741
3 3/4"	56930340	SEE KELLY SELECTION TAB	56944937	57036758
4 3/4"	56929615	SEE KELLY SELECTION TAB	56944747	57036766

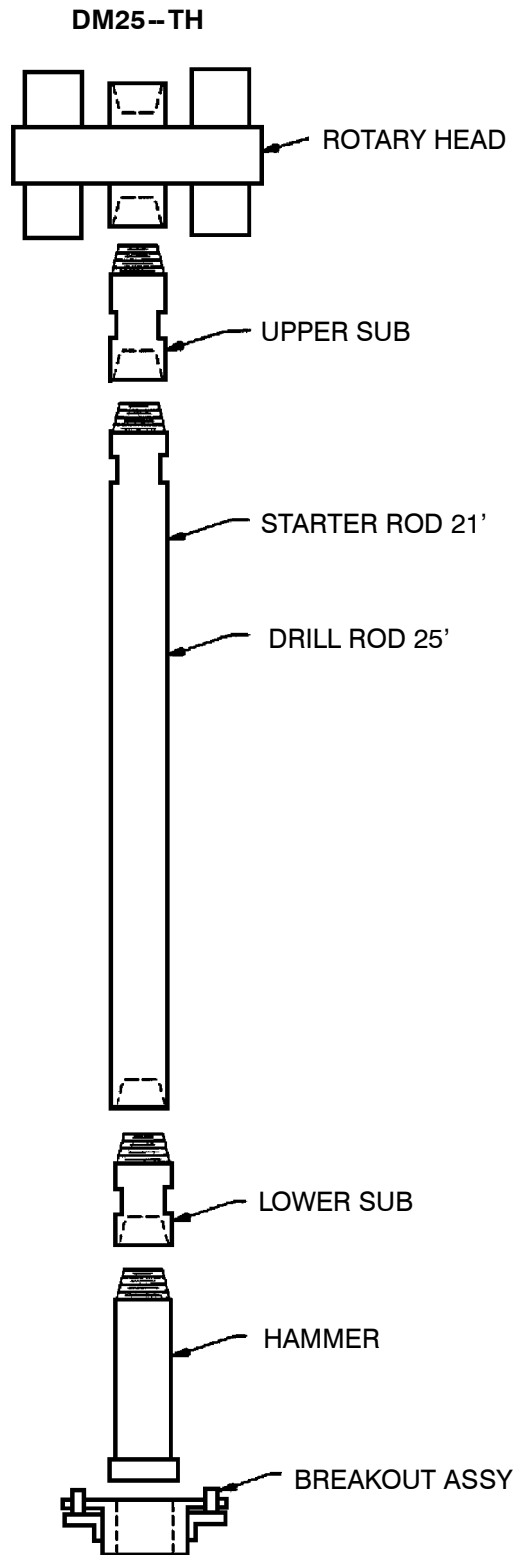
DM25-SPH DRILL STRINGS



DM25 – SPH DRILL STRINGS

KELLY SIZE	UPPER SUB	KELLY	LOWER SUB	CENTRALIZER BUSHING	SPLIT BUSHING	HAMMER
2 3/8"	56800220	SEE KELLY SELECTION		57036659		
2 7/8"	56931074	SEE KELLY SELECTION	56909963	57036667	56951726	340H
3 3/4"	56830340	SEE KELLY SELECTION	56934789	57036675	56952310	350H
4 3/4"	56929615	SEE KELLY SELECTION	56930563	57036683	56952328	360H

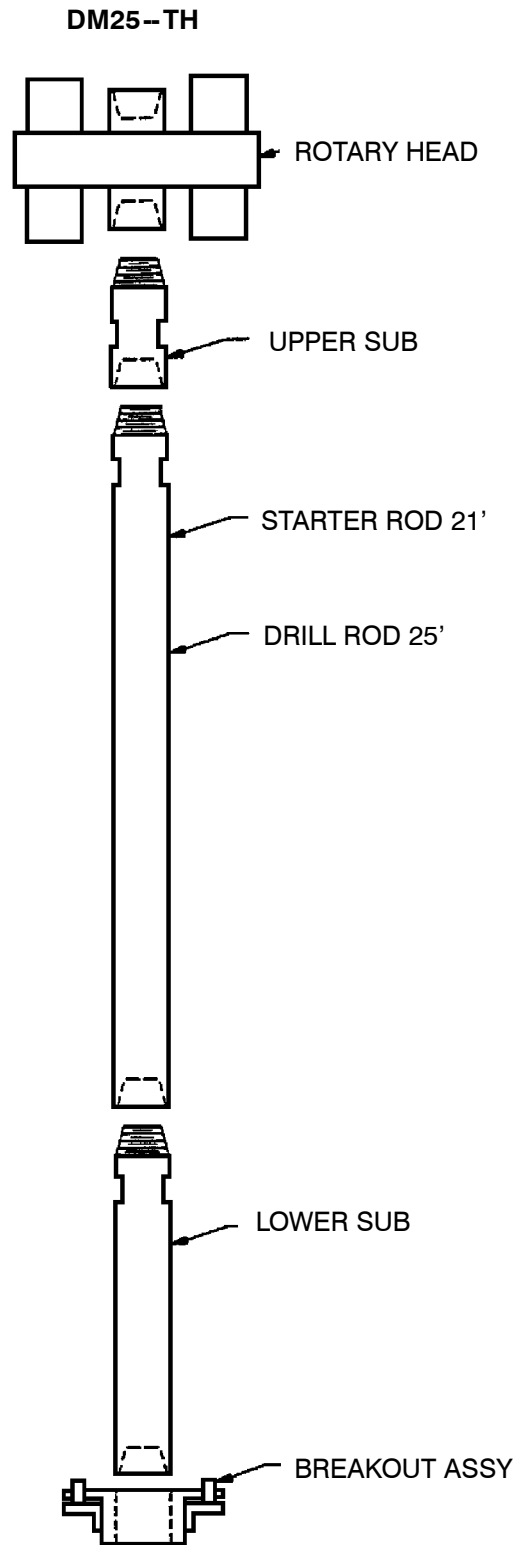
DM25-TH HAMMER



DM25 – TH HAMMER

DRILL PIPE SIZE	UPPER SUB	STARTER PIPE	DRILL PIPE	HAMMER	LOWER SUB
3"	56938608	56971633	56971641	340H	56938749
3 1/2"	56938665	56970783	56970775	350H	56979008
4"	56996317	56995863	57006769	350H	56996663
4 1/2"	56792385	50426238	50425859	360H	56892649

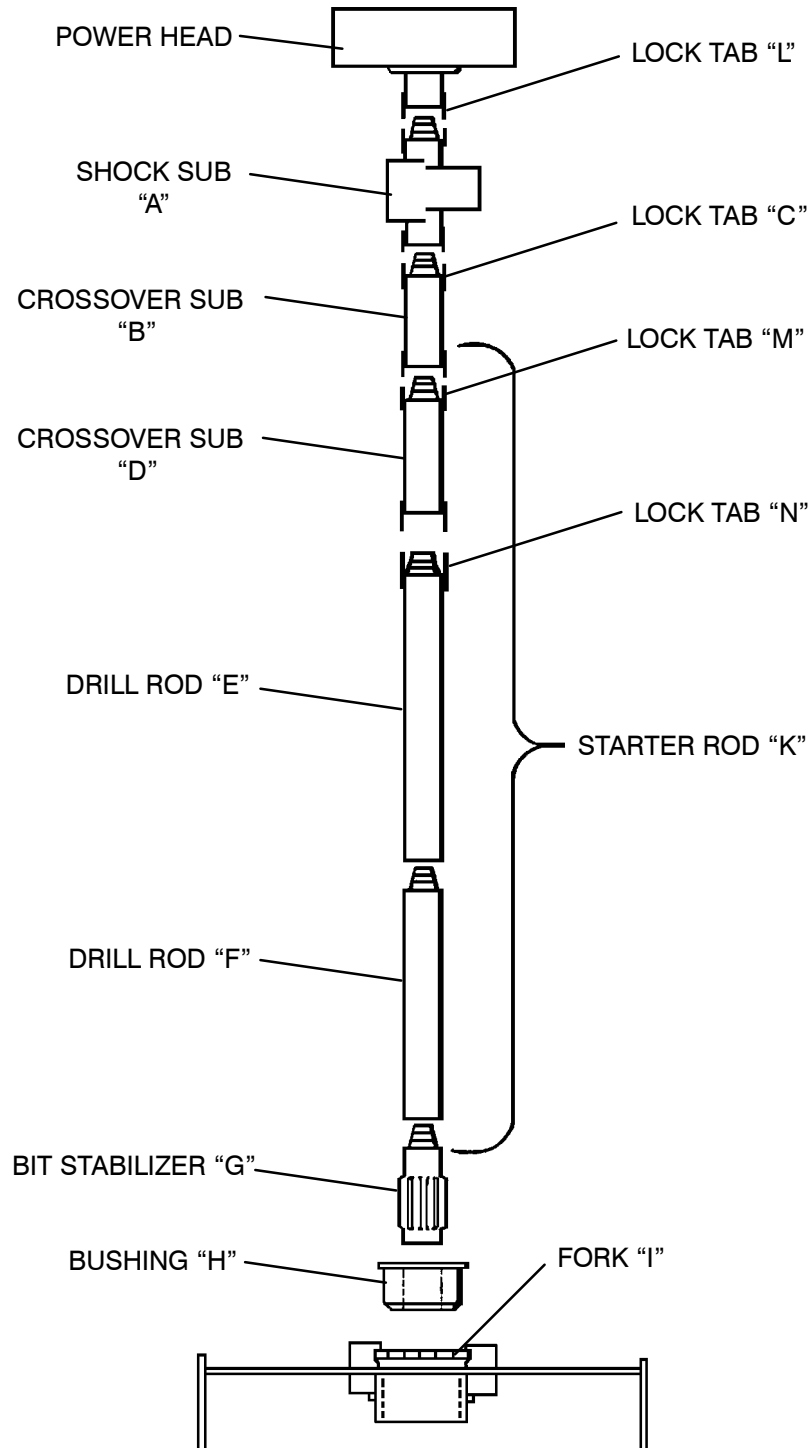
DM25-TH ROTARY



DM25 – TH ROTARY

DRILL PIPE SIZE	UPPER SUB	STARTER PIPE	DRILL PIPE	LOWER SUB
3"	56938608	56971633	56971641	56938699
3 1/2"	56938665	56970783	56970775	56938673
4"	56996317	56995863	57006769	56996671
4 1/2"	56792385	50426238	50425859	56939812

DMM2 DRILL STRINGS



DMM2 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
HOLE SIZE = 5 1/2"		
A	57189896	SHOCK SUB, 6-5/8 API REG
B	57138042	CROSSOVER SUB
C	57111262	LOCK TAB
E	57134439	DRILL ROD, 3-1/2 BECO X 35'
G	57134413	BIT ADAPTER, 5-1/2 BECO TO 5-1/4 API
H	57134520	BUSHING
I	57134421	BREAKOUT FORK
L	57051807	LOCK TAB
HOLE SIZE = 7"		
A	57189896	SHOCK SUB, 6-5/8 API REG
B	52240371	CROSSOVER SUB, 6-5/8 API REG
C	57111346	LOCK TAB
D	57110926	CROSSOVER SUB, 6" TO 5-1/4 BECO
E	57111338	DRILL ROD, 5-1/4 BECO X 31'
F	57110785	DRILL ROD, 5-1/4 BECO X 27"
G	57110819	STABILIZER, 5-1/4 BECO X 4-1/4 API REG
H	57110892	WEAR BUSHING
I	57110876	BREAKOUT FORK
K	57110769	STARTER ROD, 5-1/4 BECO X 35'
L	57111346	LOCK TAB
N	57111346	LOCK TAB

DMM2 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
HOLE SIZE = 7 5/8"		
A	57189896	SHOCK SUB, 6-5/8 API REG
B	52243375	CROSSOVER SUB
C	57111262	LOCK TAB
E	58248956	DRILL ROD, 5-1/4 BECO X 35'
G	57108615	BIT ADAPTER, 5-1/4 BECO TO 5-1/4 API
H	57111098	BUSHING
I	57265449	BREAKOUT FORK
K	57065955	DRILL PACKAGE 94 DRILL RODS 5-1/4 BECO X 35')
L	57051807	LOCK TAB

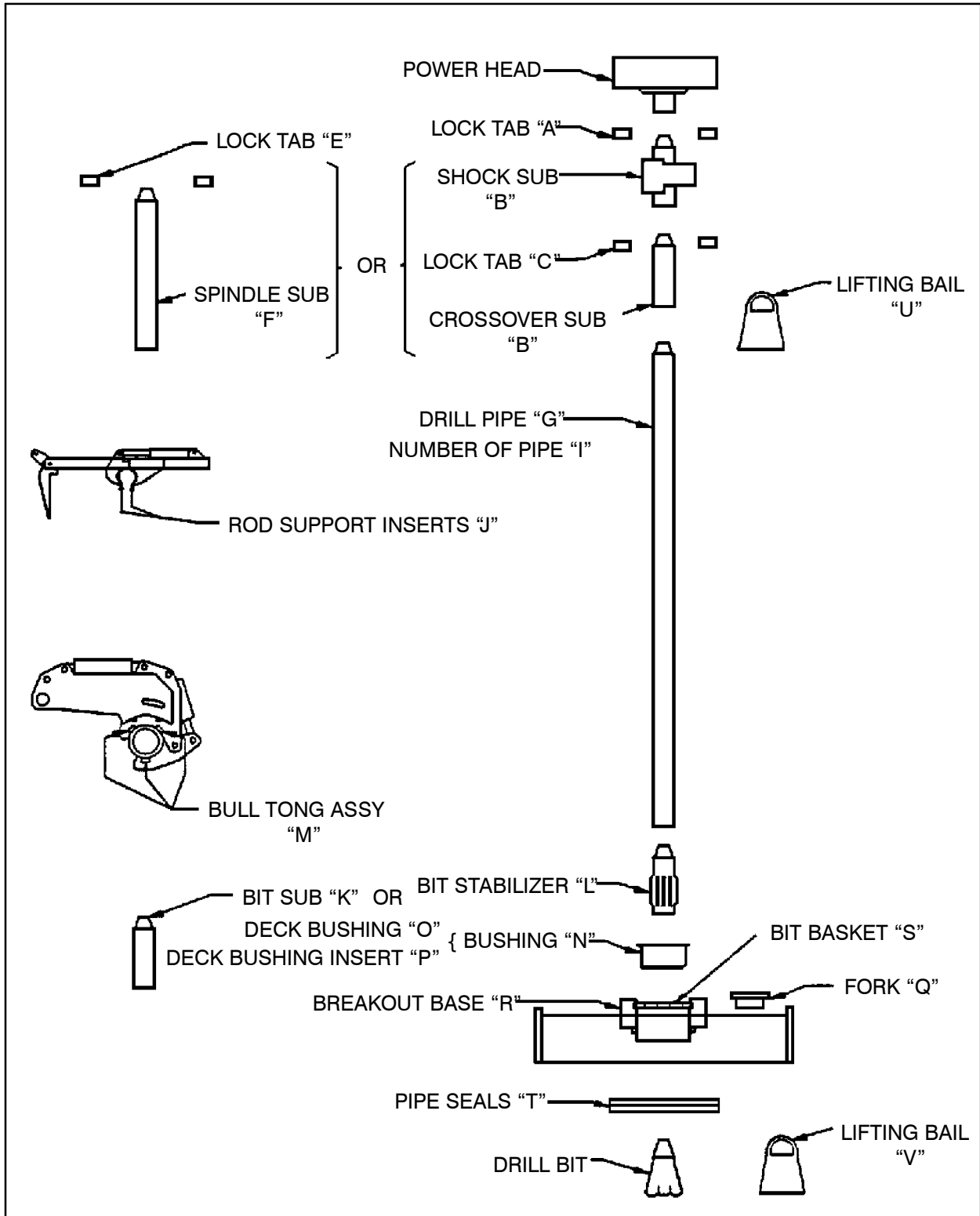
HOLE SIZE = 8 5/8"

A	57189896	SHOCK SUB, 6-5/8 API REG
B	52240371	CROSSOVER SUB, 6-5/8 API REG
C	57111346	LOCK TAB
E	57110595	DRILL ROD, 6" BECO X 32' - 9"
F	57110751	DRILL ROD, 6" BECO X 27"
G	57110496	STABILIZER, 5" BECO X 5-1/2 API REG X 35-1/2"
H	57110850	WEAR BUSHING
I	57110546	BREAKOUT FORK
K	57110744	STARTER ROD, 6" BECO X 35'
L	57111346	LOCK TAB

DMM2 DRILL STRINGS

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DMM3 DRILL STRINGS



DMM3 DRILL STRINGS

		40' TOWER					
		DRILL PIPE SIZE					
		7"	7 5/8"	8 5/8"	9 1/4"	10"	10 3/4"
LOCK TAB	A	57359762	57359762	57359762	57359762	57359762	57359762
		57359754	57359754	57359754	57359754	57359754	57359754
		57359770	57359770	57359770	57359770	57359770	57359770
SHOCK SUB	B	57214538	57214538	57214538	57214538	57214538	57214538
		57189896	57189896	57189896	57189896	57189896	57189896
		57061160	57061160	57061160	57061160	57061160	57061160
LOCK TAB	C	57111262	57111262	57111262	57111262	57111262	57111262
		57359788	57359788	57359788	57359788	57359788	57359788
		57359788	57359788	57359788	57359788	57359788	57359788
CROSSOVER SUB FLATS	D	57134223 5 3/4"	52243375 6 3/4"	52240371 7 3/4"	57384497 7 3/4"	57384406 7 3/4"	52250743 9 1/4"
LOCK TAB	E	57200958	57200958	57201113	57201121	-----	57201139
SPINDLE SUB FLATS	F	57134181 5 3/4"	57066037 6 3/4"	57090003 7 3/4"	57201147 7 3/4"	----- 7 3/4"	57201154 9 1/4"
DRILL PIPE 1.0" WALL 1.5" WALL FLATS	G	57351306 N/A 5 3/4"	57347478 N/A 6 3/4"	57347163 N/A 7 3/4"	57347460 N/A 7 3/4"	57384315 N/A 7 3/4"	57315509 57315491 9 1/4"
# OF DRILL PIPE	H	6 MAX	6 MAX	6 MAX	5 MAX	5 MAX	5 MAX
# OF DRILL PIPE	I	6 MAX	6 MAX	6 MAX	5 MAX	5 MAX	5 MAX
ROD SUPPORT 4 ROD ARM 4 ROD JAW 5 ROD ARM 5 ROD JAW	J	57374514 57374522 57358228 57358236	57374498 57374506 57358202 57358210	57374472 57374480 57354284 57354292	57358194 57358186 NONE NONE	57384380 57384398 NONE NONE	57323198 57323180 NONE NONE
BIT SUB 6 5/8" API 5 1/2" API 4 1/2 API FLATS	K	NONE NONE 57384802 5 3/4"	57384786 57384794 NONE 6 3/4"	57384760 57384778 NONE 7 3/4"	57384752 NONE NONE 7 3/4"	57384414 NONE NONE 7 3/4"	57384745 NONE NONE 9 1/4"
BIT STABILIZER 6 5/8" API 5 1/2" API 4 1/2 API FLATS	L	NONE NONE 57375727 5 3/4"	52273133 57375719 NONE 6 3/4"	52273141 57375701 NONE 7 3/4"	57375735 NONE NONE 7 3/4"	----- NONE NONE 7 3/4"	52273158 NONE NONE 9 1/4"
BULL TONG DIES	M	57235988	57221293	57221285	57221277	57384463	57221285
BUSHING ASSY CENTRALIZER ROLLER	N	57358376 57347999	57358368 57347981	57358350 57347973	57358343 57347965	----- 57384422	57358335 57316358

DMM3 DRILL STRINGS

		7"	7 5/8"	8 5/8"	9 1/4"	10"	10 3/4"
DECK BUSHING CENTRALIZER ROLLER	O	57358384	57358384	57358384	57358384	57358384	57358384
		57316358	57316358	57316358	57316358	57316358	57316358
BUSHING INSERT CENTRALIZER ROLLER	P	57358434	57358426	57358418	57358400	-----	57358392
		57316887	57316879	57316861	57316853	57384430	NONE
FORK FAB CAST OPENING	Q	NONE	52233129	52232972	NONE	NONE	52250750
		57384554	57113599	57113607	57161937	57384489	57113615
		5 1/16"	6 13/16"	7 13/16"	7 13/16"	7 13/16"	9 5/16"
BREAKOUT BASE	R	56984644	56984644	56984644	56984644	56984644	56984644
BIT BASKET	S	8 3/4" DIA.	9 7/8" DIA.	10 5/8" DIA.	11" DIA.	12 1/4" DIA.	12 1/4" DIA.
		57384653	52243771	52193968	57162331	57376006	56982515
PIPE SEAL	T	57317216	57317208	57317190	57317182	57384455	57317174
DRILL PIPE LIFTING BAIL	U	4 1/2" BECO	5 1/4" BECO	6" BECO	6" BECO	6" BECO	8" BECO
		50702943	50702950	50617265	50617265	50617265	52153780
BIT LIFTING BAIL 4 1/2" API 5 1/2" API 6 5/8" API	V	50524644	-----	-----	-----	-----	-----
		-----	57192320	57192320	-----	-----	-----
		-----	50524669	50524669	50524669	50524669	50524669
CARROUSEL 4 ROD 5 ROD	W	57360570	57360562	57360554	57360547	57384331	57320186
		57360638	57360620	57348351	NONE	NONE	NONE
UP LOCK PLATE 4 ROD 5 ROD	X	57360612	57360604	57360596	57360588	57384349	52192085
		57360653	57360646	57348377	NONE	NONE	NONE
CENTER TUBE 4 ROD 5 ROD	Y	57320194	57320194	57320194	57320194	57320194	57320194
		57320194	57320194	57320194	NONE	NONE	NONE
SPACER PLATE 4 ROD 5 ROD	Z	57360927	57360919	57360901	57360893	57384372	56983802
		57360679	57360661	57348385	NONE	NONE	NONE
MOUNT PLATE 4 ROD 5 ROD	AA	52233392	52233392	52233392	52233392	52233392	52233392
		57348393	57348393	57348393	NONE	NONE	NONE
BULL GEAR 4 ROD 5 ROD	BB	56967474	56967474	56967474	56967474	56967474	56967474
		57348369	57348369	57348369	NONE	NONE	NONE
ROD CUP	CC	57384620	57384596	57348690	57162380	57384448	57011785
BUSHING	DD	52233863	52233863	52233863	52233863	52233863	52233863

DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 7"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	57134223	CROSSOVER SUB, 5 3/4" FLATS
E	57200958	LOCK TAB
F	57134181	SPINDLE SUB, 5 3/4" FLATS
G	57351306	DRILL PIPE: 1" WALL, 5 3/4" FLATS, 4 1/2" BECO
J	57374514	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57374522	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
J	57358228	ROD SUPPORT WEAR INSERTS: 5 ROD ARM
J	57358236	ROD SUPPORT WEAR INSERTS: 5 ROD JAW
K	57384802	BIT SUB: 4 1/2" API, 5 3/4" FLATS
L	57375727	BIT STABILIZER: 4 1/2" API, 5 3/4" FLATS
M	57235988	BULL TONG DIES
N	57358376	BUSHING ASSY: CENTRALIZER
N	57347999	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57358434	DECK ASSY INSERT: CENTRALIZER
P	57316887	DECK ASSY INSERT: ROLLER
Q	57384554	FORK: 5 13/16" OPENING
R	56984644	BREAKOUT BASE
S	57384653	BIT BASKET: 8 3/4" DIAMETER
T	57317216	PIPE SEAL
U	50702943	DRILL PIPE LIFTING BAIL: 4 1/2" BECO
V	50524644	DRILL BIT LIFTING BAIL: 4 1/2" API

DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 7 5/8"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	52243375	CROSSOVER SUB, 6 3/4" FLATS
E	57200958	LOCK TAB
F	57066037	SPINDLE SUB, 6 3/4" FLATS
G	57347478	DRILL PIPE: 1" WALL, 6 3/4" FLATS, 5 1/4" BECO
J	57374498	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57374506	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
J	57358202	ROD SUPPORT WEAR INSERTS: 5 ROD ARM
J	57358210	ROD SUPPORT WEAR INSERTS: 5 ROD JAW
K	57384786	BIT SUB: 6 5/8" API, 6 3/4" FLATS
K	57384794	BIT SUB: 5 1/2" API, 6 3/4" FLATS
L	52273133	BIT STABILIZER: 6 5/8" API, 6 3/4" FLATS
L	57375719	BIT STABILIZER: 5 1/2" API, 6 3/4" FLATS
M	57221293	BULL TONG DIES
N	57358368	BUSHING ASSY: CENTRALIZER
N	57347981	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57358426	DECK ASSY INSERT: CENTRALIZER
P	57316879	DECK ASSY INSERT: ROLLER
Q	52233129	FORK: 6 13/16" OPENING
Q	57113599	FORK: 6 13/16" OPENING
R	56984644	BREAKOUT BASE
S	52243771	BIT BASKET: 9 7/8" DIAMETER
T	57317208	PIPE SEAL
U	50702950	DRILL PIPE LIFTING BAIL: 5 1/4" BECO
V	50524669	DRILL BIT LIFTING BAIL: 6 5/8" API
V	57192320	DRILL BIT LIFTING BAIL: 5 1/2" API

DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 8 5/8"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	52240371	CROSSOVER SUB, 7 3/4" FLATS
E	57201113	LOCK TAB
F	57090003	SPINDLE SUB, 7 3/4" FLATS
G	57347163	DRILL PIPE: 1" WALL, 7 3/4" FLATS, 6" BECO
J	57374472	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57374480	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
J	57354284	ROD SUPPORT WEAR INSERTS: 5 ROD ARM
J	57354292	ROD SUPPORT WEAR INSERTS: 5 ROD JAW
K	57384760	BIT SUB: 6 5/8" API, 7 3/4" FLATS
K	57384778	BIT SUB: 5 1/2" API, 7 3/4" FLATS
L	52273141	BIT STABILIZER: 6 5/8" API, 7 3/4" FLATS
L	57375701	BIT STABILIZER: 5 1/2" API, 7 3/4" FLATS
M	57221285	BULL TONG DIES
N	57358350	BUSHING ASSY: CENTRALIZER
N	57347973	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57358418	DECK ASSY INSERT: CENTRALIZER
P	57316861	DECK ASSY INSERT: ROLLER
Q	52232972	FORK: 7 13/16" OPENING
Q	57113607	FORK: 7 13/16" OPENING
R	56984644	BREAKOUT BASE
S	52193668	BIT BASKET: 10 5/8" DIAMETER
T	57317190	PIPE SEAL
U	50617265	DRILL PIPE LIFTING BAIL: 6" BECO
V	50524669	DRILL BIT LIFTING BAIL: 6 5/8" API
V	57192320	DRILL BIT LIFTING BAIL: 5 1/2" API

DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 9 1/4"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	57384497	CROSSOVER SUB, 7 3/4" FLATS
E	57201121	LOCK TAB
F	57201147	SPINDLE SUB, 7 3/4" FLATS
G	57347460	DRILL PIPE: 1" WALL, 7 3/4" FLATS, 6" BECO
J	57358194	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57358186	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
K	57384752	BIT SUB: 6 5/8" API, 7 3/4" FLATS
L	57375735	BIT STABILIZER: 6 5/8" API, 7 3/4" FLATS
M	57221277	BULL TONG DIES
N	57358343	BUSHING ASSY: CENTRALIZER
N	57347965	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57358400	DECK ASSY INSERT: CENTRALIZER
P	57316853	DECK ASSY INSERT: ROLLER
Q	57161937	FORK: 7 13/16" OPENING
R	56984644	BREAKOUT BASE
S	57162331	BIT BASKET: 11" DIAMETER
T	57317182	PIPE SEAL
U	50617265	DRILL PIPE LIFTING BAIL: 6" BECO
V	50524669	DRILL BIT LIFTING BAIL: 6 5/8" API

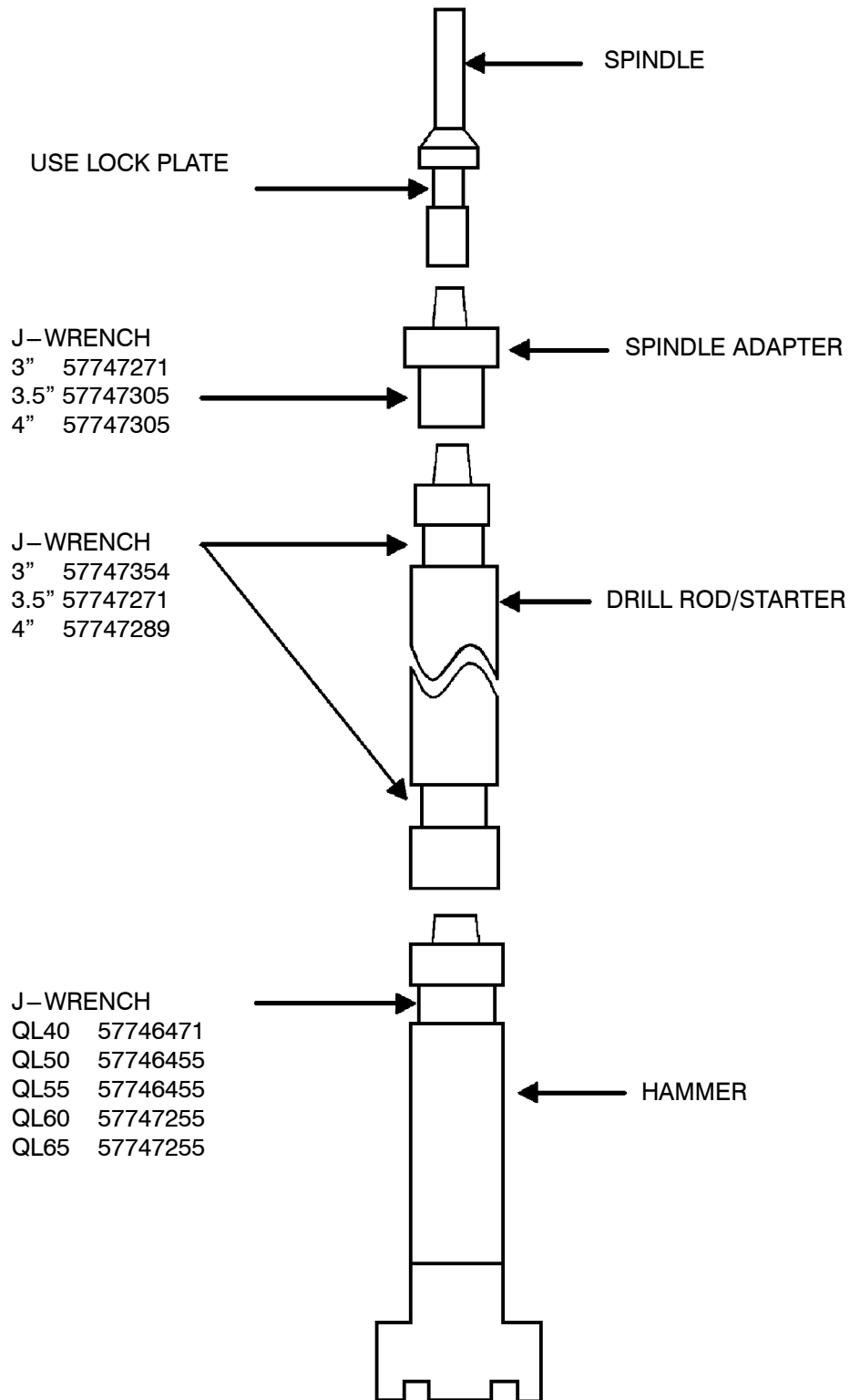
DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 10"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	57384406	CROSSOVER SUB, 7 3/4" FLATS
G	57384315	DRILL PIPE: 1" WALL, 7 3/4" FLATS, 6" BECO
J	57384380	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57384398	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
K	57384414	BIT SUB: 6 5/8" API, 7 3/4" FLATS
M	57384463	BULL TONG DIES
N	57384422	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57384430	DECK ASSY INSERT: ROLLER
Q	57384489	FORK: 7 13/16" OPENING
R	56984644	BREAKOUT BASE
S	57376006	BIT BASKET: 12 1/4" DIAMETER
T	57384455	PIPE SEAL
U	50617265	DRILL PIPE LIFTING BAIL: 6" BECO
V	50524669	DRILL BIT LIFTING BAIL: 6 5/8" API

DMM3 DRILL STRINGS

SECTION	COMM#	DESCRIPTION
40' TOWER		HOLE SIZE = 10 3/4"
A	57359762	LOCK TAB
A	57359754	LOCK TAB
A	57359770	LOCK TAB
B	57214538	SHOCK SUB
B	57189896	SHOCK SUB
B	57061160	SHOCK SUB
C	57111262	LOCK TAB
C	57359788	LOCK TAB
D	52250743	CROSSOVER SUB, 9 1/4" FLATS
E	57201139	LOCK TAB
F	57201154	SPINDLE SUB, 9 1/4" FLATS
G	57315509	DRILL PIPE: 1" WALL, 9 1/4" FLATS, 6" BECO
G	57315491	DRILL PIPE: 1 1/2" WALL, 9 1/4" FLATS, 6" BECO
J	57323198	ROD SUPPORT WEAR INSERTS: 4 ROD ARM
J	57323180	ROD SUPPORT WEAR INSERTS: 4 ROD JAW
K	57384745	BIT SUB: 6 5/8" API, 9 1/4" FLATS
L	52273158	BIT STABILIZER: 6 5/8" API, 9 1/4" FLATS
M	57221285	BULL TONG DIES
N	57358335	BUSHING ASSY: CENTRALIZER
N	57316358	BUSHING ASSY: ROLLER
O	57358384	DECK ASSY: CENTRALIZER
O	57316358	DECK ASSY: ROLLER
P	57358392	DECK ASSY INSERT: CENTRALIZER
Q	52250750	FORK: 9 5/16" OPENING
Q	57113615	FORK: 9 5/16" OPENING
R	56984644	BREAKOUT BASE
S	56982515	BIT BASKET: 12 1/4" DIAMETER
T	57317174	PIPE SEAL
U	52153780	DRILL PIPE LIFTING BAIL: 8" BECO
V	50524669	DRILL BIT LIFTING BAIL: 6 5/8" API

700 CRAWLER SERIES DRILL STRINGS



700 CRAWLER SERIES DRILL STRINGS

	WRENCH FLAT	WRENCH CPN	ASSY CPN
Hammer			
QL40	2.550/2.590	57746380	57746471
QL50	3.570/3.620	57746398	57746455
QL55	3.570/3.620	57746398	57746455
QL60	4.070/4.120	57746406	57747255
QL65	4.070/4.120	57746406	57747255
Drill Rod			
3" Rod	2.325/2.360	57747362	57747354
3 1/2" Rod	2.810/2.850	57746414	57747271
4" Rod	3.075/3.100	57746422	57747289
Adapter			
3" Adapter	2.810/2.850	57746414	57747271
3 1/2" Adapter	3.405/3.420	57746448	57747305
4" Adapter	3.405/3.420	57746448	57747305

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