

STUCKEY'S SPECIALTY TOOLS

FISHING TOOLS AND SPECIALIZED EQUIPMENT

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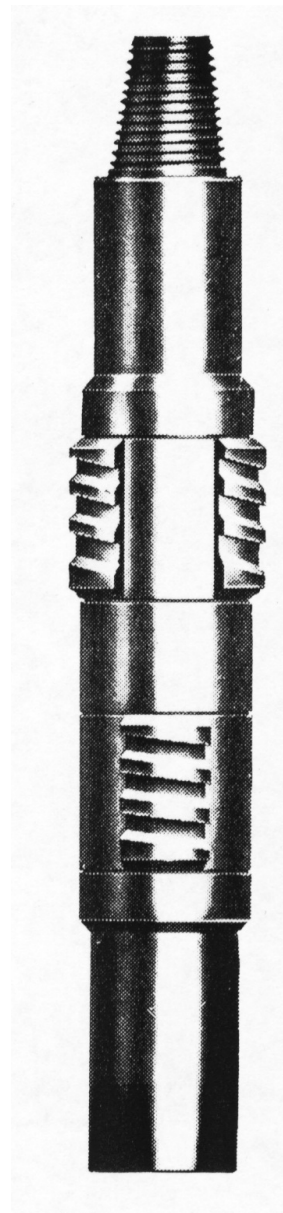
CASING SCRAPER

ROTATING TYPE

ARE USED TO CLEAN MUD, RUST, MILL SCALE, CEMENT, PARAFFIN, AND ANY OTHER FOREIGN MATERIAL FROM INSIDE THE CASING WALLS. STUCKEY'S SPECIALTY TOOLS' CASING SCRAPERS ARE MANUFACTURED FROM HEAT TREATED ALLOY STEEL. THE SCRAPER BLADES ARE ARRANGED FOR COMPLETE 360 DEGREE FULL CIRCUMFERENCE, AS THE SCRAPER MANDREL & BLADES ROTATE TO CLEAN THE I.D. OF THE CASING.

SPECIFICATIONS

NOM. SIZE	CASING RANGE	A.P.I. CONN.	WT.
2-3/8"	2-3/8"	1-13/16" WILSON	12#
2-7/8"	2-7/8" – 3-1/2"	2-1/4" WILSON	21#
4"	4" – 4-1/4"	2-3/8" API REG.	60#
4-1/2"	4-1/2" – 5-1/2"	2-3/8" API REG.	85#
5"	5"	2-3/8" API REG.	110#
5-1/2"	5-1/2" – 6-5/8"	2-7/8" API REG.	110#
6-5/8"	6-5/8" – 8-5/8"	3-1/2" API REG.	190#
7"	7" – 8-5/8"	3-1/2" API REG.	190#
9-5/8"	8-5/8" – 13-5/8"	4-1/2" API REG.	380#
13"	13-3/8"	6-5/8" API REG.	690#
20"	20"	7-5/8" A.P.I. REG.	1,285#



STUCKEY'S SPECIALTY TOOLS

ROTO-VERT CASING SCRAPER

ROTATING TYPE



THE ROTO-VERT CASING SCRAPER IS IDEAL TO REMOVE CEMENT SHEATH, SCALE, PERFORATING BURRS, AND OTHER FOREIGN SUBSTANCES FROM THE INSIDE WALLS OF CASING. THE SCRAPER BLADES ARE ARRANGED FOR COMPLETE 360 DEGREE FULL CIRCUMFERENCE, AS THE SCRAPER MANDREL & BLADES ROTATE TO CLEAN THE I.D. OF THE CASING.

THE IMPORTANCE OF KEEPING THE CASING ID CLEAN AND SMOOTH IS NECESSARY AS NEARLY ALL SUBSEQUENT OPERATIONS IN THE WELL ARE AFFECTED IN ONE WAY OR ANOTHER BY THE CONDITION OF THE CASING BORE. ANY JAGGED IMPERFECTION IN THE CASING, VARIATION IN THE ID, OR LAYER OF MUD OR CEMENT CAN CAUSE TOOL FAILURE IN A VARIETY OF OPERATIONS.

PERFORMANCE FEATURES:

THE BODY AND BLADE BLOCKS OF THE ROTO-VERT ARE MACHINED FROM SOLID BAR STOCK. THE BLADE BLOCKS ARE HARDENED BY HEAT TREATMENT TO PROVIDE MAXIMUM STRENGTH AND WORKING LIFE FOR THE SCRAPER.

THE ROTO-VERT OPERATES SUCCESSFULLY WHEN ROTATED OR RECIPROCATED VERTICALLY EITHER ON DRILL PIPE OR TUBING.

THE ANGLE AND DIRECTION OF SHEAR ON THE SCRAPING EDGES OF THE BLADES GUARANTEE THAT NO IMPERFECTIONS ARE BYPASSED.

CONSTRUCTION:

THE BODY AND BLADES OF THE TOOL ARE MACHINED FROM SOLID BAR STOCK TO ENSURE MAXIMUM STRENGTH, WHILE THE REPLACEABLE BLADE BLOCKS ARE HARDENED BY HEAT TREATMENT. THE ANGLE AND DIRECTION OF SHEAR ON THESE SCRAPING EDGES FURTHER NEGATE THE CHANCE OF IMPERFECTION BYPASS. THE TOOL OPERATES SUCCESSFULLY WHEN ROTATED OR RECIPROCATED, ON DRILL PIPE OR TUBING.

STUCKEY'S SPECIALTY TOOLS

NON-ROTATING CASING SCRAPER

STUCKEY'S SPECIALTY TOOLS' CASING SCRAPERS ARE USED TO CLEAN MUD, RUST, MILL SCALE, CEMENT, PARAFFIN, AND ANY OTHER FOREIGN MATERIAL FROM INSIDE THE CASING WALLS. STUCKEY'S SPECIALTY TOOLS' CASING SCRAPERS ARE MANUFACTURED FROM HEAT TREATED ALLOY STEEL. THE SCRAPER BLADES ARE ARRANGED FOR COMPLETE 360 DEGREE FULL CIRCUMFERENCE.

STUCKEY'S NON-ROTATING CASING SCRAPER CAN EASILY BE CONVERTED TO A BRUSH TYPE CLEAN OUT TOOL BY CHANGING THE STANDARD BLADES WITH BLADES CONTAINING STAINLESS STEEL BRUSHES. IN THE NON-ROTATING OPERATION, THE BLADES AND OPTIONAL BRUSHES REMAIN STATIONARY. THE DRILL STRING CAN BE ROTATED FOR ANY PERIOD OF TIME WHILE CIRCULATING TO CLEAN THE WELLBORE, WITHOUT THE WORRY OF WEAR TO THE CASING I.D.

THE NON-ROTATING CASING SCRAPER IS RUGGED DESIGNED AND CONTAINS NO EXTERNAL BOLTS.

IT IS RECOMMENDED THAT THE CASING SCRAPER BE RUN IMMEDIATELY ABOVE THE BIT ON DRILLING OR COMPLETION OPERATIONS. FOR COMPLETION OPERATIONS, IT IS RECOMMENDED THAT A FULL-BODY CASING SCRAPER BE SPACED TO REACH BOTTOM OF ALL CASINGS. THE CASING SCRAPER CAN BE SPACED ABOVE TO FURTHER SCOUR AND PREPARE CASING ID'S FOR FLUID EXCHANGE AND PRODUCTION EQUIPMENT. THE CASING SCRAPER CAN BE RUN IN CONJUNCTION WITH A BRUSH TOOL AND A MAGNET TOOL. THE CASING SCRAPER DESIGN IS AVAILABLE FROM 2-3/8" TUBING TO 20" CASING.

STANDARD SCRAPERS ARE MANUFACTURED TO RUN PIN UP. THE DESIGN ALLOWS BIT OR MILL TO BE MADE UP ON BOTTOM AND ORIENTS CUTTING EDGE OF BLADES DOWN HOLE. THE PROPER AMOUNT OF DRILL COLLAR SHOULD BE LOCATED JUST ABOVE THE CASING SCRAPER WITH A BIT SUB.



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STUCKEY'S SPECIALTY TOOLS

THE BRUSH TYPE CASING SCRAPER

STUCKEY'S SPECIALTY TOOLS' BRUSH TYPE CASING SCRAPERS ARE USED TO CLEAN MUD, RUST, MILL SCALE, CEMENT, PARAFFIN, AND ANY OTHER FOREIGN MATERIAL FROM INSIDE THE CASING WALLS. STUCKEY'S SPECIALTY TOOLS' CASING SCRAPERS ARE MANUFACTURED FROM HEAT TREATED ALLOY STEEL. THE SCRAPER BLADES ARE ARRANGED FOR COMPLETE 360 DEGREE FULL CIRCUMFERENCE.

OPERATION

IT IS RECOMMENDED THAT THE BRUSH CASING SCRAPER BE RUN IMMEDIATELY ABOVE THE BIT ON DRILLING OR COMPLETION OPERATIONS. FOR COMPLETION OPERATIONS, IT IS RECOMMENDED THAT A FULL-BODY BRUSH TOOL BE SPACED TO REACH BOTTOM OF ALL CASINGS. THE BRUSH TOOLS CAN BE RUN IN CONJUNCTION WITH A CASING SCRAPER AND MAGNET TOOL SPACED ABOVE TO FURTHER SCOUR AND PREPARE CASING ID'S FOR FLUID EXCHANGE AND PRODUCTION EQUIPMENT. THE BRUSH CASING SCRAPER DESIGN IS AVAILABLE FROM 4" TUBING TO 20" CASING.

STANDARD SCRAPERS ARE MANUFACTURED TO RUN PIN UP. THE DESIGN ALLOWS BIT OR MILL TO BE MADE UP ON BOTTOM AND ORIENTS CUTTING EDGE OF BLADES DOWN HOLE. THE PROPER AMOUNT OF DRILL COLLAR SHOULD BE LOCATED JUST ABOVE THE CASING SCRAPER WITH A BIT SUB.

SPECIFICATIONS

NOM. SIZE	CASING RANGE	A.P.I. CONN.	WT.
4"	4" – 4-1/4"	2-3/8" API REG.	60#
4-1/2"	4-1/2" – 5-1/2"	2-3/8" API REG.	65#
5-1/2"	5-1/2" – 6-5/8"	2-7/8" API REG.	75#
6-5/8"	6-5/8" – 8-5/8"	3-1/2" API REG.	100#
7"	7" – 8-5/8"	3-1/2" API REG.	125#
9-5/8"	8-5/8" – 13-5/8"	4-1/2" API REG.	375#
13"	13" - 13-3/8"	6-5/8" API REG.	525#



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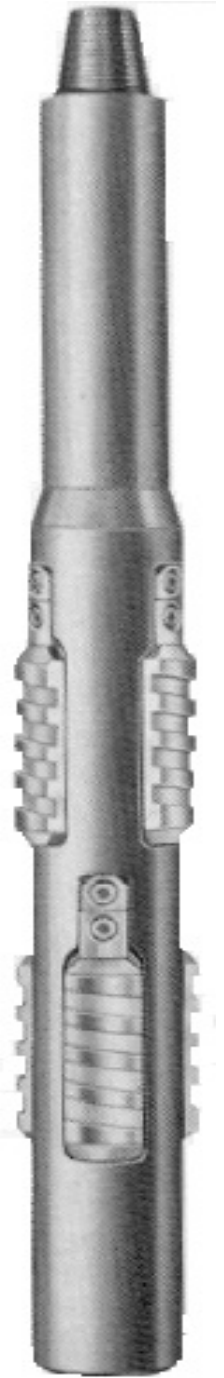
STUCKEY'S SPECIALTY TOOLS

GRANT TYPE CASING SCRAPER

THE STUCKEY'S SPECIALTY TOOLS CASING SCRAPER EXCELS IN REMOVING CEMENT, BULLET BURRS, AND OTHER FOREIGN MATERIAL BEFORE PACKERS ARE SET, SWABS ARE RUN, AND OTHER COMPLETION WORK IS PERFORMED. ONE SIZE TOOL CAN BE USED IN ALL WEIGHTS OF THE SIZE CASING IT IS DESIGNED TO SCRAPE.

CONSTRUCTION: THE STUCKEY'S SPECIALTY TOOLS CASING SCRAPER IS UNUSUALLY SIMPLE AND RUGGED. SIX CUTTERS ARE HELD AGAINST THE I.D. OF THE CASING BY HEAVY SPRINGS.

THEY ARE SO SPACED THAT THEY COVER THE CASING BORE. THE ARRANGEMENT PERMITS FULL FLUID CIRCULATION. HELICAL BLADES EFFICIENTLY SHEAR FOREIGN MATERIAL FROM THE CASING BORE WHETHER THE TOOL IS ROTATED OR USED VERTICALLY. CUTTING EDGES ARE FACED WITH TUNGSTEN CARBIDE.



SPECIFICATIONS

Casing sizes to Run in (All Weights)	DIMENSIONS: IN. (")								
	4-1/2"	5"	5-1/2"	6-5/8"	7"	7-5/8"	8-5/8"	9-5/8"	13-3/8"
Body Size No.	0375	0375	0450	0537	0537	0537	0650	0775	0775
Max Scraping Size	4-1/8"	4-5/8"	5-1/8-5-3/8"	6-1/4"	6-1/4"	7-3/16"	8-3/8"	9-1/4"	12-7/8"
Min. Scraping Size	3-3/4"	4"	4-5/8-4-1/2"	5-1/2"	5-1/2"	6"	7-1/4"	8-1/4"	11-7/8"
Maximum Body O.D.	3-3/4"	3-3/4"	4-1/4-4-1/2"	5-3/8"	5-3/8"	5-3/8"	6-1/2"	7-3/4"	7-3/4"
Shoulder to Shoulder Lgth.	44"	44"	62-1/2-46-1/2"	49-1/4"	49-1/4"	49-1/4"	50-3/4"	47"	47"
Max Circulation Hole Size	1"	1"	3/4"-1-1/4"	1-1/2"	1-1/2"	1-1/2"	2-1/8"	2-1/4"	2-1/4"
API Tool Joint and Box Connections.*	2-3/8"	2-3/8"	2-7/8"	3-1/2"	3-1/2"	3-1/2"	4-1/2"	4-1/2"-6-5/8"	

STUCKEY'S SPECIALTY TOOLS

HYDRAULIC TUBING CUTTER

STUCKEY'S SPECIALTY TOOLS' HYDRAULIC TUBING CUTTER IS A RUGGEDLY DESIGNED HYDRAULIC TOOL THAT RUNS INSIDE A SMALLER INNER STRING AND IS ABLE TO CUT MULTI-STRINGS OF PIPE FROM PRODUCTION CASING TO CONDUCTOR DRIVE PIPE. THE TOOL IS CAPABLE OF CUTTING CONCENTRIC OR ECCENTRIC STRINGS OF PIPE OR CASING. AFTER THE CUTTER ARMS ARE FULLY EXTENDED, A PRESSURE DROP IS DETECTED GIVING A POSITIVE CUT-OUT INDICATION. THE CUTTER ARMS ARE DRESSED WITH TUNGSTEN CARBIDE AND CAN BE EASILY REPLACED ON THE RIG FLOOR TO ACCOMMODATE THE NEXT SIZE CASING.

SPECIFICATIONS

<u>SIZE O.D.</u>	<u>CUTTING RANGE</u>	<u>TOP CONN.</u>	<u>WT.</u>
1-7/8"	2-7/8" - 3-1/2" TBG	1-13/16" WFJ	30#
2-1/4"	2-3/8" - 2-7/8" TBG	1-1/4" REG	35#
2-3/4"	3-1/2" - 4" TBG	1-1/4" REG	38#
3-1/2"	4-1/2" - 7" CSG	2-3/8" REG	65#
4-1/2"	5-1/2" - 8-5/8" CSG	2-7/8" REG	165#

STUCKEY'S SPECIALTY TOOLS

HYDRAULIC MULTI- STRING CASING CUTTER

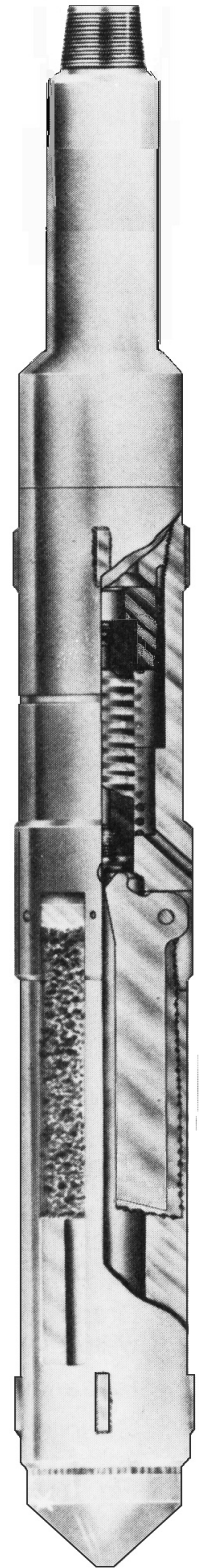
THE STUCKEY'S HYDRAULIC CASING CUTTER IS A FIELD PROVEN TOOL FOR MOST SINGLE CUT CASING OPERATIONS AT PRECISION DEPTHS. THE CUTTER FEATURES HYDRAULICALLY ACTIVATED KNIVES FOR SMOOTH, EFFICIENT CUTS AND A BUILT-IN FLO-TEL WHICH SIGNALS WHEN THE CUT IS COMPLETED.

THE CUTTER IS MADE UP ON THE RUNNING STRING AND LOWERED TO THE CUTTING DEPTH. WITH THE TOOL IN POSITION, THE ROTARY IS TURNED AT THE SUGGESTED CUTTING SPEED TO ESTABLISH A FREE TORQUE FIGURE. ROTATION IS CONTINUED AND CIRCULATION IS STARTED THROUGH THE TOOL. CIRCULATION IS INCREASED TO A RATE THAT WILL PRODUCE AN APPROPRIATE PRESSURE DROP ACROSS THE CUTTER NOZZLE. ROTATION IS CONTINUED UNTIL A DECREASE IN TORQUE AND A PRESSURE DROP INDICATE A SUCCESSFUL CUT HAS BEEN MADE.

THE CASING CUTTER IS AVAILABLE IN CUTTER O.D.'S FROM 5-1/4" TO 16" AND IS CAPABLE OF CUTTING A 60" DIAMETER.

S P E C I F I C A T I O N S

<u>SIZE O.D.</u>	<u>CUTTING RANGE</u>	<u>TOP CONN.</u>	<u>WT.</u>
5-1/4"	6-5/8" - 11-3/4" CSG	3-1/2" REG	250#
5-1/2"	7" - 13-3/8" CSG	3-1/2" REG	270#
5-3/4"	7" - 16" CSG	3-1/2" REG	270#
8-1/4"	9-5/8" - 30" CSG	6-5/8" REG	787#
11-3/4"	13-3/8" - 36" CSG	6-5/8" REG	1925#



STUCKEY'S SPECIALTY TOOLS

K-MILL TYPE (SECTION MILL)

STUCKEY'S SPECIALTY TOOLS' SECTION MILLS CUTTER ARMS ARE DESIGNED WITH A SINGLE BLADE. THE BLADE IS DRESSED WITH TUNGSTEN CARBIDE MATRIX TO PROVIDE A RUGGED AND DURABLE CUTTING SURFACE THAT RESULTS IN ECONOMICAL MILLING.

THE SIX CUTTER ARM KNIVES ARE TWO LENGTHS, HALF FOR CUT-OUT AND ALL FOR MILLING. THE CUT-OUT BEGINS AS THE ARMS ARE EXPANDED BY THE PISTON WHEN PRESSURE IS APPLIED. ONCE THE ARMS ARE FULLY OPEN, THE SECOND SET OF ARMS AUTOMATICALLY BEGINS MILLING.

STUCKEY'S SPECIALTY TOOLS' SECTION MILL IS PROVIDED WITH A FLO-TEL WHICH PROVIDES THE DRILLER WITH A POSITIVE INDICATION ON THE RIG FLOOR TO KNOW WHEN THE ARMS ARE FULLY OPEN. THIS IS INDICATED BY A DROP IN PUMP PRESSURE AND FOLLOWED BY A PICK-UP IN PUMP STROKE.

SPECIFICATIONS

TOOL SERIES	CASING SIZE	BODY DIA.	OVERALL LENGTH	TOP PIN CONN.	WEIGHT LBS.
3600	4-1/2"	3-5/8"	56"	2-3/8"	135
4100	5"	4-1/8"	66"	2-3/8"	175
4500	5-1/2"	4-1/2"	68"	2-3/8"	190
5500	6-5/8 – 7"	5-1/2"	74"	3-1/2"	350
6100	7-5/8"	6-1/8"	74"	3-1/2"	368
7200	8-5/8 – 9-5/8"	7-1/4"	89"	4-1/2"	554
8200	9-5/8"	8-1/4" 6-5/8"	87"	4-1/2"	900
9200	10-3/4" 11-3/4"	9-1/4" 6-5/8"	87"	4-1/2"	980
11700	13-3/8"	11-1/2"	90"	6-5/8" 7-5/8"	1725

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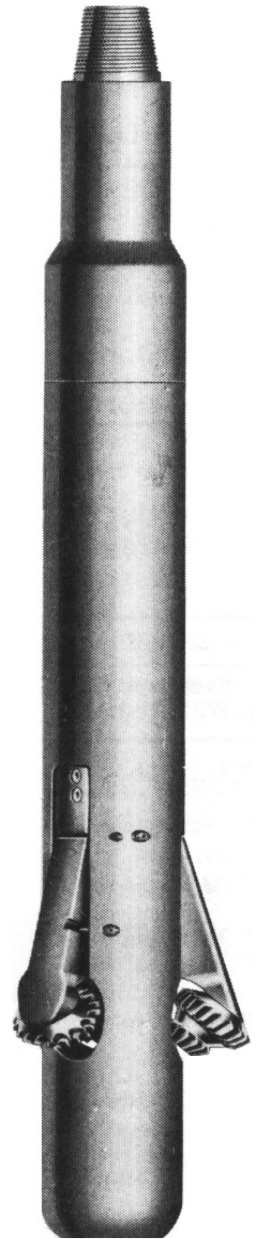
STUCKEY'S SPECIALTY TOOLS

ROCK TYPE UNDERREAMER

STUCKEY'S SPECIALTY TOOLS' ROCK TYPE UNDERREAMERS ARE USED TO ENLARGE SECTIONS OF THE HOLE BELOW THE SURFACE. STUCKEY'S UNDERREAMER IS A RUGGED HYDRAULICALLY ACTUATED TOOL USED TO PROVIDE CLEARANCE FOR RUNNING CASING, OBTAINING SUITABLE ANNULAR SPACE FOR CEMENTING, ENLARGING SECTIONS FOR GRAVEL PACKING, OR FOR OTHER DOWNHOLE OPERATIONS DURING DRILLING OR PRODUCTION PROCEDURES. SINCE THE RUGGED DESIGN OF THE TOOL ALLOWS FOR LARGER CONES AND BEARINGS TO BE USED, MORE PENETRATION CAN BE OBTAINED. MEDIUM HARD FORMATION CONES ARE STANDARD, BUT OTHER CONES ARE AVAILABLE FROM HARD TO SOFT FORMATION. A POSITION STOP ASSURES TRUE GAUGE DIAMETER. FLOW THROUGH THE TOOL IS REGULATED BY A TUNGSTEN CARBIDE ORIFICE. BY USING THIS ORIFICE, A WIDE SELECTION OF SIZES ARE AVAILABLE THAT WILL MEET ANY MUD PUMP REQUIREMENTS.

SPECIFICATIONS

<u>TOOL O.D.</u>	<u>OPERATING RG.</u>	<u>PIN CONN.</u>	<u>WT./LB.</u>
3-3/4"	4-1/2" - 6-1/4"	2-3/8" REG.	150
4-1/2"	4-3/4" - 9"	2-7/8" REG.	200
5-3/4"	6-1/2" - 13"	3-1/2" REG.	360
8-1/4"	11-1/2" - 17"	6-5/8" REG.	810
9-1/2"	13" - 18"	6-5/8" REG.	1175
11-3/4"	14-3/4" - 22"	6-5/8" REG.	1725
14-3/4"	17-1/2" - 30"	6-5/8" REG.	2600



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STUCKEY'S SPECIALTY TOOLS

DRAG BLADE TYPE UNDERREAMER

STUCKEY'S SPECIALTY TOOLS' DRAG TYPE UNDERREAMERS ARE USED IN POORLY CONSOLIDATED SOFT TO MEDIUM FORMATIONS WHERE LARGE DIAMETER INTERVALS ARE REQUIRED FOR GRAVEL PACKING OR CEMENTING. IT IS ALSO AN EFFECTIVE TOOL FOR BELL HOLE OPERATIONS IN FAULT ZONES. PILOT HOLES CAN BE ENLARGED UP TO THREE TIMES THE BODY DIAMETER IN A SINGLE TRIP. THESE TOOLS CAN BE OPERATED WITH WATER, MUD, AIR, AERATED MUD, OR ANY OTHER CIRCULATING FLUID. LOW COST CUTTER ARMS ARE FIELD REPLACEABLE AND ARE DRESSED WITH TUNGSTEN CARBIDE FOR GOOD CUTTING ACTION.

SPECIFICATIONS

TOOL	STD	BODY	TOP PIN	WEIGHT
SERIES	OPENING DIA	DIA	CONN API REG	LBS
3600	9	3-5/8"	2-3/8"	185
4700	12	4-3/4"	2-7/8"	230
5700	16	5-3/4"	3-1/2"	350
7200	22	7-1/4"	4-1/2"	750
9500	28	9-1/2"	6-5/8"	1100
11000	36	11-3/4"	6-5/8"	1400

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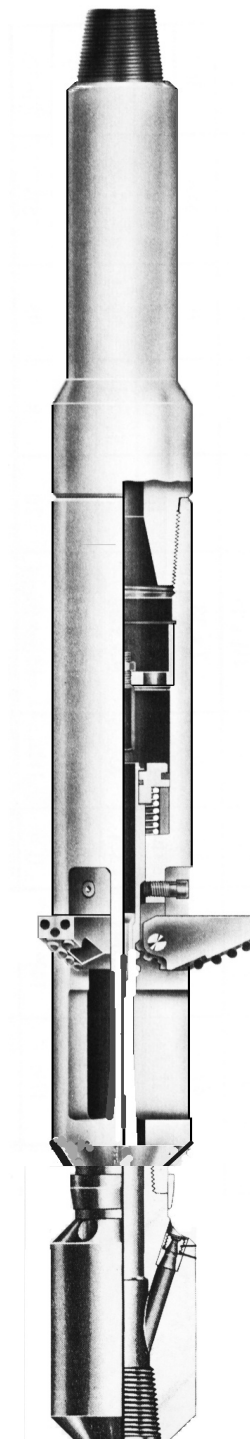
STUCKEY 'S SPECIALTY TOOLS

DRILLING DRAG TYPE UNDERREAMER

A DRILLING DRAG TYPE UNDERREAMER IS AVAILABLE. IT WILL ACCOMMODATE A STANDARD ROCK BIT TO DRILL AND UNDERREAM SIMULTANEOUSLY, AND WITH A JET SUB ON BOTTOM. THIS ALLOWS FOR GOOD HOLE CLEANING AND BOTTOM HOLE STABILIZATION, AS WELL AS BEING ABLE TO WASH THE CUTTER ARMS.

SPECIFICATIONS

TOOL	STD	BODY		TOP PIN	WEIGHT
SERIES	OPENING	DIA	DIA	CONN API REG	LBS
4700	12	4-3/4"		2-7/8"	230
5700	16	5-3/4"		3-1/2"	350
7200	22	7-1/4"		4-1/2"	750
9500	28	9-1/2"		6-5/8"	1100
11000	36	11"		6-5/8"	1400



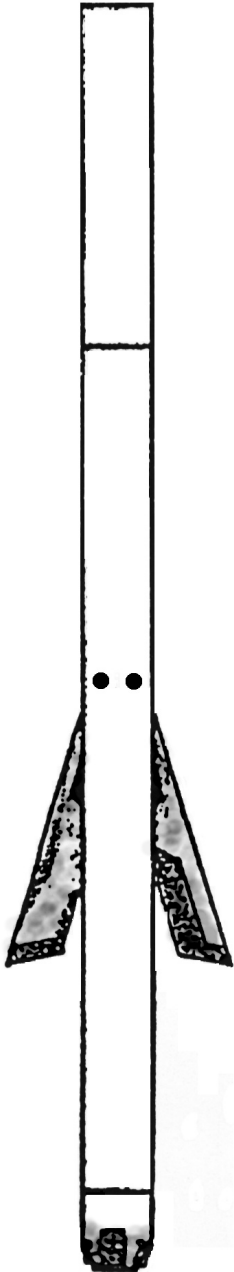
STUCKEY'S SPECIALTY TOOLS

TUBING UNDERREAMER

THE TUBING UNDERREAMER - CLEAN OUT TOOL AND CUTTER IS HYDRAULICALLY OPERATED WITH A MINIMUM OF 75 PSI PRESSURE. ALL TOOLS ARE DESIGNED WITH POSITIVE STOPS WHICH ALLOW THE CUTTER ARMS TO EXPAND ONLY TO A PREDETERMINED DIAMETER. THE CUTTER ARMS ARE DRESSED WITH VARIOUS SIZE AND CHIPS OF TUNGSTEN CARBIDE FOR MAXIMUM PENETRATION AND MATERIAL REMOVAL. A BLADE TYPE BIT OR BULLNOSE IS ALSO DRESSED WITH TUNGSTEN CARBIDE.

THE TUBING UNDERREAMER - CLEAN OUT TOOL AND CUTTER IS A UNIQUELY DESIGNED TOOL WHICH WILL OPERATE UNDERNEATH PRODUCTION PACKERS WITHOUT REMOVING OR PULLING THE PACKER. SCALE, CEMENT, CORROSION, OR FORMATION DEBRIS THAT MAY HAVE FORMED BENEATH THE PACKER CAN EASILY BE REMOVED. BY DISLODGING THIS UNWANTED FOREIGN MATERIAL FROM THE WELL BORE BENEATH THE PRODUCTION PACKER, PRODUCTION OF THE WELL WILL INCREASE WITHOUT REMOVING THE PACKER FROM THE WELL BORE. THE TOOL CAN ALSO BE DRESSED WITH TUNGSTEN CARBIDE TO CUT TUBING.

THE TUBING UNDERREAMER - CLEAN OUT TOOL AND CUTTER ARE AVAILABLE IN SIZES THAT CAN BE OPERATED 1.900" THROUGH 3-1/2" TUBING. THE MAXIMUM OPERATING RANGE OF EACH TOOL IS LISTED BELOW. THE TUBING UNDERREAMER - CLEAN OUT TOOL AND CUTTER CAN ALSO BE FURNISHED FOR H₂S SERVICE.



SPECIFICATIONS

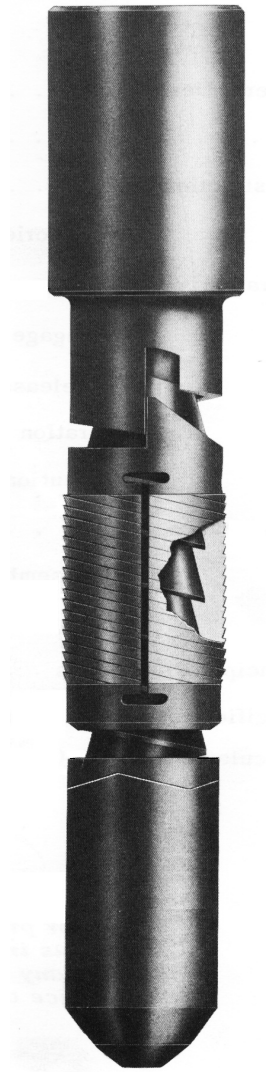
<u>TUBING SIZE</u>	<u>TOOL O.D.</u>	<u>(MAXIMUM)</u>
1.900"	1.600"	TUBING CUTTER
2-3/8"	1-7/8"	4-1/2" CSG. I.D.
2-7/8"	2-3/8"	5-1/2" CSG. I.D.
3-1/2"	3"	7" CSG. I.D.

STUCKEY'S SPECIALTY TOOLS

ITCO TYPE RELEASING SPEAR

STUCKEY'S SPECIALTY TOOLS' ITCO TYPE RELEASING SPEAR IS THE SIMPLEST, MOST DEPENDABLE AND YET INEXPENSIVE MEANS OF ENGAGING A FISH INTERNALLY. THE SPEAR IS CAPABLE OF ENGAGING AND RELEASING THE FISH AS WELL AS RE-ENGAGING AFTER THE SPEAR HAS BEEN RELEASED.

THE STUCKEY'S SPECIALTY TOOLS' ITCO TYPE RELEASING SPEAR IS COMPOSED OF THE MANDREL, GRAPPLE, RELEASE RING, AND THE NUT (BULLNOSE OR WITH PIN CONNECTION). IT CAN BE FURNISHED AS EITHER THE FLUSH TYPE OR SHOULDER TYPE.



SPECIFICATIONS

NOM CATCH SIZE	2-3/8"	2-7/8"	3-1/2"	5"	7"	9-5/8"
	O.D.	O.D.	O.D.	O.D.	O.D.	O.D.
	TUB.	TUB.	TUB.	CSG.	CSG.	CSG.
GRAPPLE NO.	1348	1227	9412	9682	9668	9283

STUCKEY'S SPECIALTY TOOLS

PACKER RETRIEVER SPEAR



THE PACKER RETRIEVER SPEAR IS INTERCHANGEABLE WITH THE H-E RETRIEVER SPEAR AND IS USED IN CONJUNCTION WITH THE PACKER MILLING RETRIEVING TOOL. THE PACKER RETRIEVER SPEAR IS DESIGNED FOR THE REMOVAL OF OR TO MILL THROUGH THE PACKER. DUE TO ITS J-SLOT DESIGN THE SPEAR WILL REMAIN AT IT PROPER CATCH POSITION AT ALL TIMES. THE PACKER RETRIEVER SPEAR IS COMPOSED OF FOUR PARTS: TOP COUPLING, MANDREL, SLIP, AND BULL NOSE PLUG. THE SLIPS ARE AVAILABLE IN ALL SIZES TO CATCH FROM 1-1/4" TO 5" PACKERS.

STUCKEY'S SPECIALTY TOOLS

MARINE SWIVEL

STUCKEY'S SPECIALTY TOOLS' MARINE SWIVEL IS USED IN CONJUNCTION WITH THE MARINE CUTTER AND NON-ROTATING STABILIZER. THE SWIVEL'S PRIMARY USE IS TO MAINTAIN THE MARINE CUTTER AT A DESIRED LOCATION FOR A SMOOTHER AND EASIER CUT. THE MARINE SWIVEL IS DESIGNED SO THAT THE THRUST BEARINGS ARE IN AN OIL BATH, WHICH INSURES LONGER, TROUBLE FREE OPERATION. THE SWIVEL CAN BE USED WITH VARIOUS LANDING ADAPTERS FOR ALL SIZES OF PIPE FROM 13-3/8" TO 30".

SPECIFICATIONS

UPPER CONN.	LOWER CONN.	I.D.	O.D.	WT.
6-5/8" REG.	6-5/8" REG.	3"	12-1/4"	1095#

STUCKEY'S SPECIALTY TOOLS

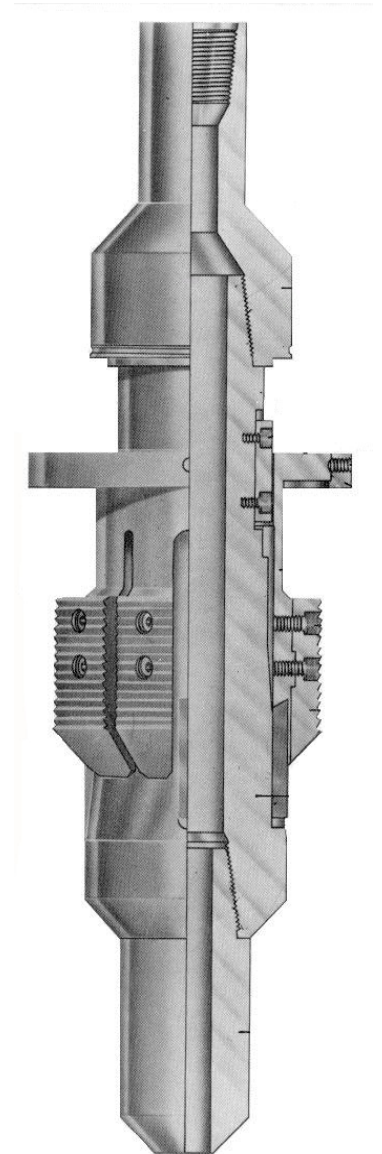
MARINE SPEAR

STUCKEY'S SPECIALTY TOOLS' MARINE SPEAR IS AN EXCELLENT COMPANION TOOL WITH THE CASING / PIPE CUTTER, STABILIZER, AND SWIVEL.

CONVERSION FROM ONE CASING / PIPE SIZE TO ANOTHER IS ACCOMPLISHED SIMPLY BY CHANGING THE SLIP AND GUIDE RINGS USING A BASIC MANDREL AND RELEASING MECHANISM.

STUCKEY'S SPECIALTY TOOLS' MARINE SPEAR CAN BE USED AS A BUMPER TYPE SPEAR (WITH A STOP SUB TO RESTRICT DEPTH OF SPEAR ENGAGEMENT), OR A STRINGER TYPE WHICH ALLOWS SETTING THE SPEAR AT ANY DEPTH.

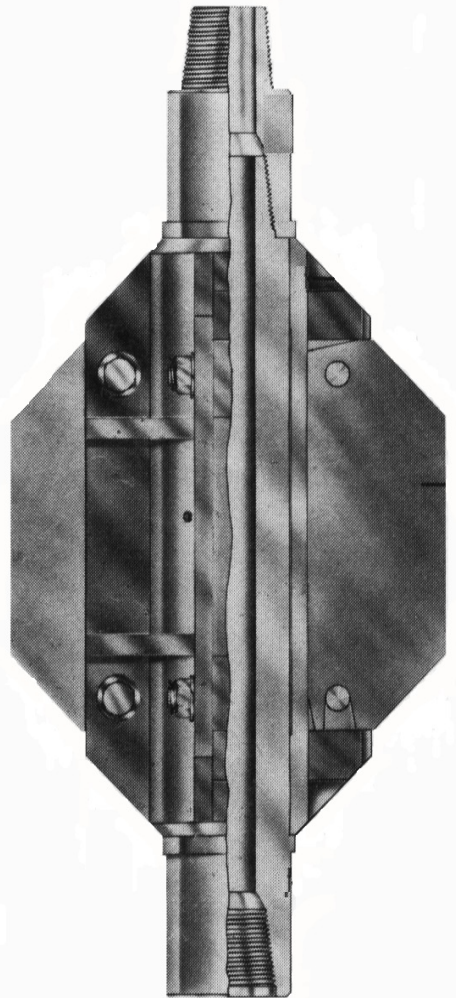
STUCKEY'S SPECIALTY TOOLS' MARINE SPEAR IS MANUFACTURED FROM ALLOY HEAT TREATED STEEL WITH ONLY A FEW PARTS SUBJECT TO HEAT, THUS PROVIDING INDEFINITE PERFORMANCE. STUCKEY'S SPECIALTY TOOLS' MARINE SPEAR IS USUALLY FURNISHED IN TWO BASIC TOOLS TO COVER 7" THROUGH 9-5/8", 10-3/4", THROUGH 30" SIZES.



STUCKEY'S SPECIALTY TOOLS

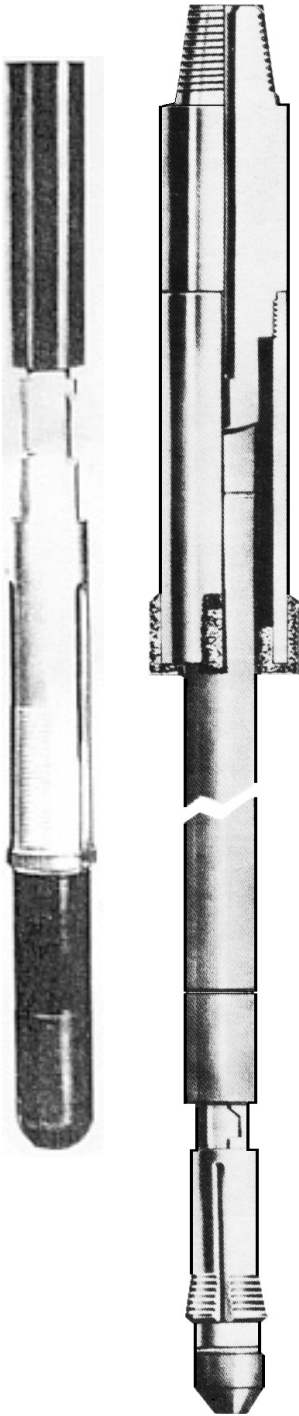
NON-ROTATING STABILIZER

STUCKEY'S NON-ROTATING STABILIZER IS A SPECIALLY DESIGNED STABILIZER USED WITH A MARINE CUTTER WHEN CUTTING 20" OR LARGER CASING. THE NON-ROTATING STABILIZER IS POSITIONED IN THE STRING DIRECTLY ABOVE THE CUTTER IN ORDER TO CENTER THE CUTTER IN THE CASING. THE TOOL CONSISTS OF FOUR COMPONENTS: TOP SUB, BODY, SLEEVE, AND BLADES. DURING ROTATION, THE BLADES REMAIN STATIONARY AND ONLY THE TOP SUB AND BODY ROTATES. THE BLADES CAN EASILY BE REMOVED AND INSTALLED FOR VARIOUS SIZES OF CASING. THE NON-ROTATING STABILIZER IS 12-1/4" O.D.



STUCKEY'S SPECIALTY TOOLS

PACKER RETRIEVER SPEAR AND PACKER MILLING/RETRIEVING TOOL



THE STUCKEY'S SPECIALTY TOOLS PACKER RETRIEVER SPEAR IS INTERCHANGEABLE WITH BOTH THE H-E AND BOWEN RETRIEVER SPEAR. THIS SPEAR IS USED IN CONJUNCTION WITH THE STUCKEY'S PACKER MILLING AND RETRIEVING TOOL. THE PACKER RETRIEVER SPEAR IS DESIGNED FOR REMOVAL OF THE PACKER OR TO MILL THROUGH THE PACKER. BECAUSE OF ITS J-SLOT DESIGN, THE SPEAR WILL REMAIN AT ITS PROPER CATCH POSITION AT ALL TIMES. STUCKEY'S PACKER RETRIEVER SPEAR IS COMPOSED OF FOUR PARTS: TOP COUPLING, MANDREL, SLIP, AND BULLNOSE PLUS. THE SLIPS ARE AVAILABLE IN ALL SIZES TO CATCH FROM 1-1/4" TO 5" PACKERS.

STUCKEY'S SPECIALTY TOOLS' PACKER MILLING AND RETRIEVING TOOL WILL RETRIEVE A PACKER IN A SINGLE OPERATION. THE TOOL IS DESIGNED TO MILL OVER ANY SIZE BORE PACKER, CATCHING THE OPERATION. THE PACKER MILLING AND RETRIEVING TOOL IS CAPABLE OF MILLING OVER THE FULL BORE PACKER, CATCHING THE PACKER AND RETRIEVING THE PACKER IN A SINGLE OPERATION. THE SPEAR (DESCRIBED ABOVE) IS ALSO ABLE TO BE RELEASED AT ANY TIME DURING THIS OPERATION.

THE TOOL CONSISTS OF: BUSHING, WASHPIPE EXTENSION, RETRIEVING TOOL, AND A ROTARY TYPE MILLING SHOE. THE ROTARY TYPE MILLING SHOES ARE DRESSED WITH TUNGSTEN CARBIDE AND MAY BE FURNISHED IN ANY TYPE OF CONFIGURATION OR SIZE. THE RETRIEVING TOOL MAY BE USED TO RETRIEVE PACKER OR VARIOUS DOWNHOLE EQUIPMENT WITH BORES RANGING FROM 1-1/4" THROUGH 8-1/4".

STUCKEY'S SPECIALTY TOOLS

MILLING TOOLS

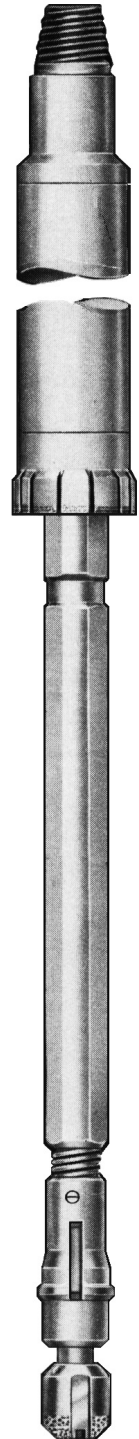
THROUGH THE USE OF ONE OF STUCKEY'S SPECIALTY TOOLS' MILLING TOOLS OR PLUG PLUCKER, PERMANENT BRIDGE PLUGS, CEMENT RETAINERS, AND PACKERS CAN BE QUICKLY AND SAFELY MILLED OVER AND/OR RETRIEVED FROM THE WELL.

BECAUSE ONLY A VERY SMALL PORTION OF THE PLUG, RETAINER, OR PACKER EVER NEEDS TO BE MILLED OUT, AND THE MILLING SHOES HAVE BEEN SPECIFICALLY DESIGNED TO REMOVE ONLY THE NECESSARY SECTIONS, MILL-OUT TIME IS GREATLY REDUCED.

CEMENTING AND TREATING WORK PREVIOUSLY LIMITED BY THE CAPABILITIES OF RETRIEVABLE PLUGS OR PACKERS CAN BE DONE WITH HIGH PERFORMANCE DRILLABLE TOOLS SINCE THEY CAN SAFELY BE REMOVED FOLLOWING TREATMENT.

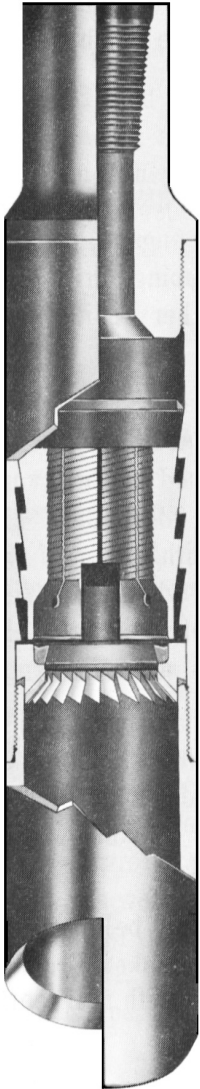
MODEL "CJ" PACKER MILLING TOOL

FOR MILLING OVER PERMANENT PACKERS AND RETRIEVING THE MILLED OUT PACKER FROM WELL.



STUCKEY'S SPECIALTY TOOLS

RELEASING AND CIRCULATING OVERSHOT



STUCKEY'S SPECIALTY TOOLS' RELEASING AND CIRCULATION OVERSHOT IS THE STRONGEST AVAILABLE FISHING TOOL FOR EXTERNALLY ENGAGING, PACKING OFF OR PULLING A CATCH. ITS BASIC OUTSIDE CONSTRUCTION CONSISTS OF A TOP SUB, THE BOWL, AND THE GUIDE. THE INTERNAL PARTS DEPEND ON THE CATCH DESIRED. A SPIRAL GRAPPLE, SPIRAL GRAPPLE CONTROL, AND TYPE "A" PACKER CAN BE USED OR A BASKET GRAPPLE AND A MILL CONTROL PACKER.

STUCKEY'S SPECIALTY TOOLS' RELEASING AND CIRCULATION OVERSHOT REQUIRES ONLY RIGHT HAND ROTATION DURING BOTH ENGAGING AND RELEASING OPERATIONS. NO DAMAGE OR DISTORTION RESULTS TO THE CATCH OR THE OVERSHOT DUE TO THE HELICALLY TAPERED SPIRALS ON THE INSIDE DIAMETER OF THE BOWL.

STUCKEY'S SPECIALTY TOOLS' RELEASING AND CIRCULATING OVERSHOT IS INTERCHANGEABLE WITH THE SERIES 150 OVERSHOT.

IT IS PROVIDED IN ALL RANGES OF SIZES TO CATCH FROM 1-3/4" O.D. TO 9-1/8" O.D.

STUCKEY'S SPECIALTY TOOLS

REVERSE CIRCULATION JUNK BASKET

STUCKEY'S SPECIALTY TOOLS' REVERSE CIRCULATION JUNK BASKET IS AN EXCELLENT TOOL FOR RETRIEVING ALL TYPES OF SMALL JUNK OBJECTS FROM THE WELL BORE. ITS UNIQUE DESIGN OF REVERSING THE CIRCULATION OF THE FLOW ASSURES COMPLETE CLEAN-UP PROCEDURES AND ELIMINATES THE POSSIBILITY OF A PLUGGED CORE. STUCKEY'S SPECIALTY TOOLS' REVERSE CIRCULATION JUNK BASKET CAN BE ADAPTED WITH A FISHING MAGNET AND STILL RETAIN THE REVERSE CIRCULATION FEATURE.

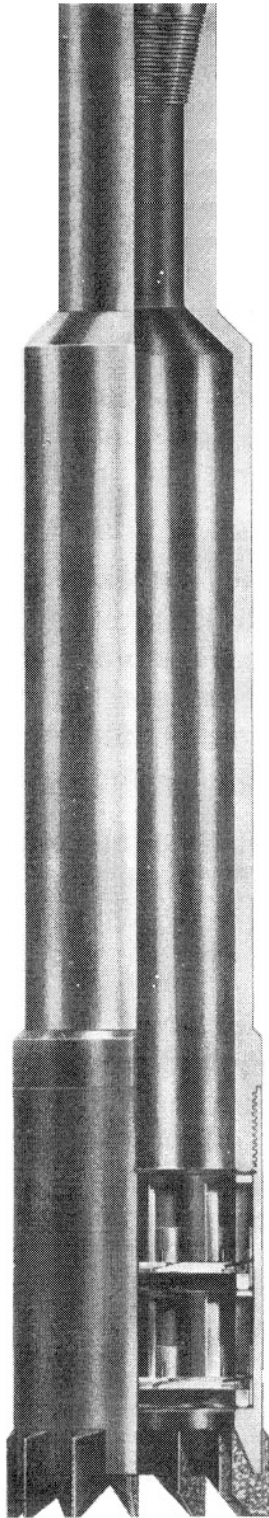
A SINGLE JUNK CATCH IS USED IN THE ASSEMBLY AND A LIFTING SUB IS PROVIDED FOR EASE IN HANDLING. THE LIFTING SUB ALSO PROVIDES IDEAL STORAGE SPACE FOR THE STEEL BALL. DURING OPERATION THE STEEL BALL FITS INTO A VALVE CUP TO ALLOW THE FLUID TO FLOW THROUGH THE INNER PASSAGE OF THE BARREL AND OUT THE VENTS IN THE LOWER END. THIS CAUSES A CONTINUOUS STREAM OF FLUID TO FLOW THROUGH THE CENTER OF THE TOOL AND UP THROUGH THE RETURN PORT IN THE UPPER END OF THE BARREL. THUS ALL OF THE JUNK IS CARRIED INTO THE BARREL AND DEPOSITED IN THE JUNK CATCHER.

STUCKEY'S SPECIALTY TOOLS' REVERSE CIRCULATION JUNK BASKET IS MANUFACTURED FROM 3-5/8" O.D. TO 16" O.D.



STUCKEY'S SPECIALTY TOOLS

ITCO TYPE JUNK BASKET (GLOBE TYPE)



THE ITCO TYPE JUNK BASKET IS A SIMPLE BUT RUGGED AND DEPENDABLE FISHING TOOL. ITS SIMPLE CONSTRUCTION, OPERATION, AND MAINTENANCE ENABLES DRILLING CREWS TO USE AND MAINTAIN IT EASILY.

THE JUNK BASKET ASSURES THROUGH PICK-UP AND RETENTION OF ALL TYPES OF JUNK BECAUSE OF THE TWO FREE-REVOLVING CATCHERS. A VARIETY OF SHOES ARE AVAILABLE FOR USE WITH THE JUNK BASKET.

THE ITCO TYPE JUNK BASKET IS COMPOSED OF A BARREL, SHOE, UPPER CATCHER, AND LOWER CATCHER.

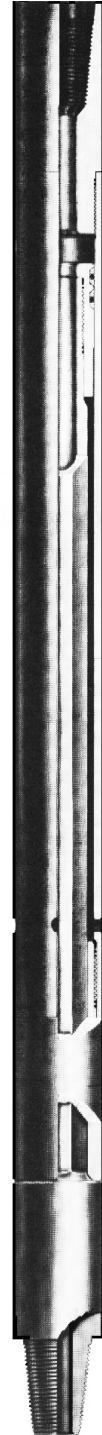
THE STANDARD REGULAR SHOE –“R” WILL BE FURNISHED, UNLESS OTHERWISE SPECIFIED. THE SHOE HOLDS THE TWO CATCHERS OR ONE MAGNET ELEMENT AND HAS MILLING TEETH FACED WITH CONVENTIONAL HARD METAL. AVAILABLE OPTIONALLY ARE SHOES WITH SINTERED TUNGSTEN CARBIDE - SHOE “G”, THE MILLING SHOE “M” , AND THE FINGER TYPE SHOE.

STUCKEY'S SPECIALTY TOOLS

FISHING BUMPER SUB

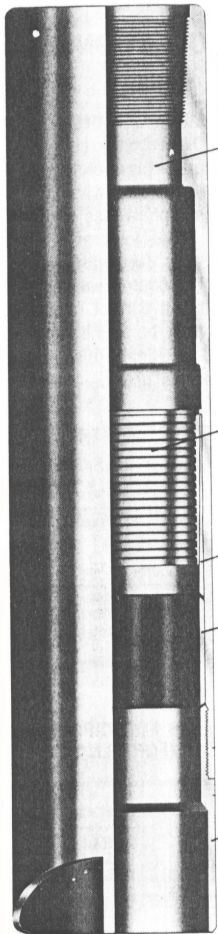
STUCKEY'S SPECIALTY TOOLS' FISHING BUMPER SUB IS A SIMPLE TOOL WHICH IS COMPOSED OF ONLY FIVE PARTS. THE HEXAGON-SHAPED MANDREL SLIDES INTO A SIMILAR SHAPED MANDREL BODY TO PROVIDE CONTINUOUS TORQUE CAPABILITY. THE STANDARD 20" STROKE OF THESE TOOLS IS OPTIMUM FOR MOST PURPOSES, BUT LONGER STROKES CAN BE FURNISHED UPON REQUEST.

STUCKEY'S SPECIALTY TOOLS' FISHING BUMPER SUBS ARE SUITED FOR ALL FISHING OPERATIONS. THEY WILL BUMP DOWN, JAR UP, OR HELP DISENGAGE A FISH AFTER RETRIEVAL.



STUCKEY'S SPECIALTY TOOLS

PACKER TYPE CASING PATCH



THE PACKER TYPE CASING PATCH IS USED TO REPAIR CASING/TUBING STRINGS WHICH HAVE BECOME DAMAGED. TO SET THE PATCH THE CASING IS REMOVED TO A POINT BELOW THE DAMAGED SECTION. THE TOP OF THE DOWNHOLE CASING IS THEN DRESSED WITH A MILLING TOOL AND THE CASING PATCH IS RUN IN OVER THE CASING REMAINING IN THE WELL TO SUFFICIENT DEPTH TO ENGAGE THE SLIP. THE STRING IS RAISED TO ENGAGE THE SLIP, COMPRESSING THE RUBBER PACKING RING UNTIL A PERMANENT SEAL IS ACCOMPLISHED BETWEEN THE PATCH AND THE CASING. AFTER SQUEEZING THE PACKER, THE CASING IS SUSPENDED IN THE WELL TO KEEP IT UNDER TENSION.

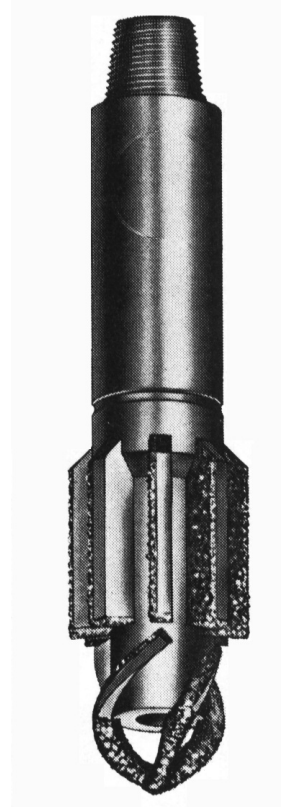
THE PACKER TYPE CASING/TUBING PATCH PERMITS FAST, ECONOMICAL CASING REPAIRS WITHOUT REDUCING THE CASING I.D. IT COMES IN BOTH REGULAR AND SLIM HOLE TYPES.

STUCKEY'S SPECIALTY TOOLS

PILOT MILL

STUCKEY'S SPECIALTY TOOLS' PILOT MILLS ARE RUGGEDLY DRESSED WITH TUNGSTEN CARBIDE TO PROVIDE THE MOST EFFECTIVE TOOL FOR MILLING WASHPIPE, LINERS, WASHOVER SHOES, SAFETY JOINTS, AND SWAG. MILLING RATES ARE VERY RAPID OVER OTHER MILLING TOOLS AND MILLING TIME IS GREATLY REDUCED.

THE STUCKEY'S SPECIALTY TOOLS' PILOT MILLS ARE PROVIDED IN ALL STANDARD MILLING SIZES. ANY SPECIAL CUSTOMER REQUIREMENT FOR CHANGES CAN EASILY BE PROVIDED.

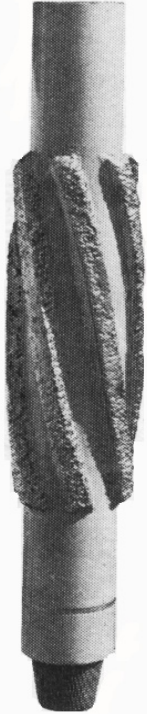


SPECIFICATIONS

STD MILLING DIA.	PIN API REG.	PILOT DIA.	OVERALL LENGTH	FISHING NECK LENGTH	FISHING NECK DIA.
3-1/4 - 3-7/8	2-3/8	1-3/4 - 2-3/4	27	12	3
4 - 4-3/8	2-3/8	1-3/4 - 2-3/4	27	12	3-1/8
4 - 5-3/8	2-7/8	2 - 3-1/4	27	12	3-3/4
5-1/2 - 5-5/8	3-1/2	2-1/2 - 4-3/4	38	16	4-1/4
5-3/4 - 7-3/8	3-1/2	2-1/2 - 4-3/4	38	16	4-3/4
6- 9-7/8	4-1/2	4-3/4 - 6-3/4	42	18	5-3/4
9-7/8 - 17-1/2	6-5/8	7-3/4 - 15	45	18	7-3/4

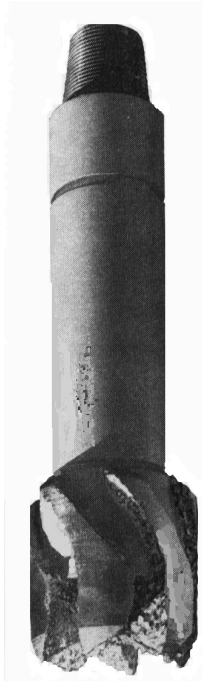
STUCKEY'S SPECIALTY TOOLS

WATERMELON/STRING MILL



STUCKEY'S SPECIALTY TOOLS' STRING MILL IS USUALLY POSITIONED IN THE DRILL COLLAR STRING FOR MILLING OUT TIGHT SPOTS IN CASING. THE STRING MILL (PLACED IN THE DRILL COLLAR STRING) IS REAMED UP AND DOWN OVER THE SIDETRACKING PORTION TO DEBAR AND CUT CLEARANCE FOR SUBSEQUENT CASING OR LINER OPERATIONS. THE STRING MILL IS DRESSED WITH TUNGSTEN CARBIDE MATERIAL.

STUCKEY'S WATERMELON MILL IS USED IN RUNNING THE SIDETRACKING SYSTEM. THE WATERMELON MILL IS USED IN THE SAME STRING WITH THE STUCKEY'S WINDOW MILL FOR SMOOTHING AND CUTTING CLEARANCE IN THE PACK-STOCK WINDOW. THE STRING MILL IS THEN ADDED TO THE STRING WITH THE TAPER MILL AND WATERMELON MILL TO MAKE A STIFFER CUTTING ASSEMBLY AND FURTHER OPEN THE WINDOW FOR SUBSEQUENT DRILLING OPERATION. ONCE AGAIN THE MILL IS DRESSED WITH TUNGSTEN CARBIDE MATERIAL.



WINDOW MILL

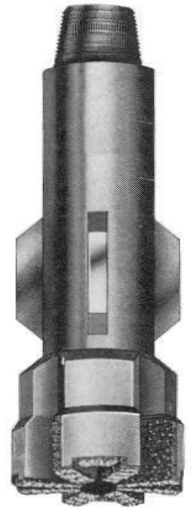
STUCKEY'S SPECIALTY TOOLS' WINDOW MILL IS USED WITH A SIDETRACKING SYSTEM TO CUT THE WINDOW IN THE CASING WALL. AFTER BEGINNING THE CUT OUT WITH STUCKEY'S STARTER MILL, THE BOTTOM HOLE ASSEMBLY IS CHANGED TO ADD THE WINDOW MILL AND STUCKEY'S WATERMELON MILL. THE STUCKEY'S WINDOW MILL IS DRESSED WITH TUNGSTEN CARBIDE TO PROVIDE MAXIMUM CUTTING ABILITY FOR GREATER PENETRATION

STUCKEY'S SPECIALTY TOOLS

JUNK MILL

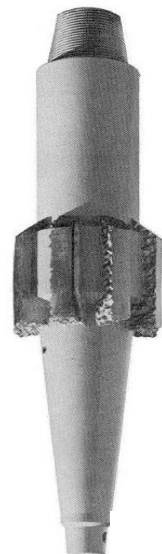
DESIGNED FOR USE IN MILLING UP TOOLS SUCH AS RETAINERS, BRIDGE PLUGS, AND RETAINER TYPE PRODUCTION PACKERS THAT ARE CEMENTED OR STUCK. COMPLETE COVERAGE IS PROVIDED BY THE CUTTING SURFACE DRESSING OF TUNGSTEN CARBIDE CHIPS AND MATRIX MATERIAL. THE LOCATION OF THE CIRCULATION PORTS ALLOW FOR COMPLETE REMOVAL OF CUTTINGS AND ARE HIGHLY RESISTANT TO IMPACT LOADS.

STUCKEY'S JUNK MILLS ARE SUPPLIED WITH FLAT OR CONCAVE BOTTOM AND BLADES, OR UNBLADED. THE STANDARD O.D. RANGE COVERS FROM 1-7/8" TO 13" OR TO ANY DESIRED CUSTOMER SPECIFICATIONS.



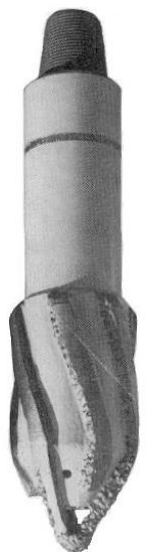
STARTER MILL

STUCKEY'S STARTER MILL IS A SPECIALIZED MILLING TOOL USED IN CONJUNCTION WITH THE SIDETRACKING SYSTEM. BECAUSE OF THE TAPERED PILOT, THE STARTER MILL IS USED TO MILL ONLY THE FIRST 18 - 24 INCHES OF CASING. THE STARTER MILL IS DRESSED WITH TUNGSTEN CARBIDE.



TAPER MILL

STUCKEY'S SPECIALTY TOOLS' TAPER MILL HAS PROVEN MOST SUCCESSFUL IN CORRECTING COLLAPSED CASING PROBLEMS. THESE RUGGED MILLS (DRESSED WITH TUNGSTEN CARBIDE) WILL MILL OUT FULL GAGE CASING THAT IS SPLIT AND COLLAPSED. STUCKEY'S TAPER MILLS ARE ALSO USED FOR REMOVING BURRS AND CLEANING UP PERMANENT WHIPSTOCK WINDOWS. IT IS RECOMMENDED TO RUN MILLS ON STABILIZED DRILL COLLARS FOR MAXIMUM RESULTS.



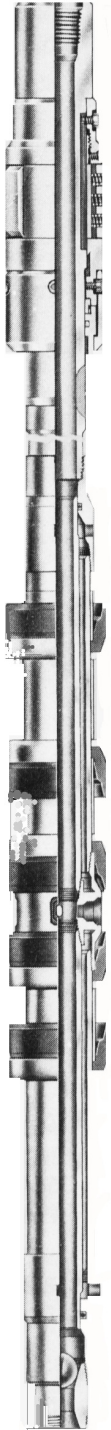
STUCKEY'S SPECIALTY TOOLS

CIRCULATING WASHER

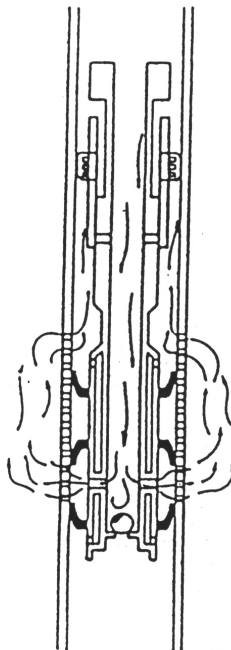
"E" TYPE CIRCULATING WASHER

THE "E" TYPE CIRCULATING WASHER IS USED FOR WASHING OR ACIDIZING PERFORATIONS IN CASING OR SAND SCREENS, FOR CHECKING NEW PERFORATIONS TO ESTABLISH INJECTIVITY AND VERIFY PENETRATION, OR TO OPEN A VOID BEING THE CASING FOR MORE EFFECTIVE GRAVEL PACKING AND SAND CONSOLIDATION.

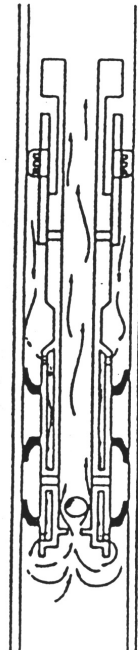
IT IS A SWAB CUP, STRADDLE-TYPE TOOL, INCORPORATING PROVEN WASHING TOOL CHARACTERISTICS, AMONG THE MORE IMPORTANT DESIGN FEATURES OF THE "E" TYPE CIRCULATING WASHER ARE MODULAR CONSTRUCTION WHICH PERMITS RAPID REPLACEMENT OF WORN OR DAMAGED PARTS, AND THE ABILITY TO EFFECTIVELY REVERSE SAND AND DEBRIS OFF BOTTOM.



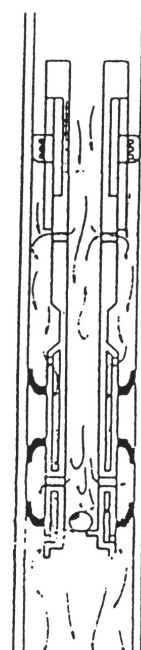
Running In



Washing
Perforations



Reversing Off
Bottom



Coming Out
Of Hole

STUCKEY'S SPECIALTY TOOLS

CASING SWAGE

THE CASING SWAGE IS AN ECONOMICAL METHOD TO SWAGE OR OPEN COLLAPSED CASING. THE TOOL IS ALSO USED TO MAKE A SWAGE RUN PRIOR TO RUNNING A PRODUCTION TOOL TO MAKE SURE THE CASING I.D. IS CLEAR.

THE TOOL HAS A LONG TAPERED NOSE WHICH LEADS THE TOOL THROUGH THE DAMAGED OR COLLAPSED SECTION, AND A TAPERED HEEL THAT LEADS BACK THROUGH THE TIGHT SPOT ON RETRIEVING THE TOOL. GENEROUS CIRCULATION SLOTS ARE PROVIDED. IN CERTAIN INSTANCES IT MAY BE NECESSARY TO RUN A SUCCESSION OF SWAGES, EACH LARGER THAN THE PREVIOUS ONE, SO AS TO GRADUALLY FORCE THE CASING BACK TO ITS ORIGINAL I.D.

THE TOOL IS USUALLY RUN WITH A SAFETY JOINT, DRILL COLLARS, BUMPER SUBS AND JARS. SWAGES ARE AVAILABLE FOR ALL SIZES OF CASING AND TUBING.

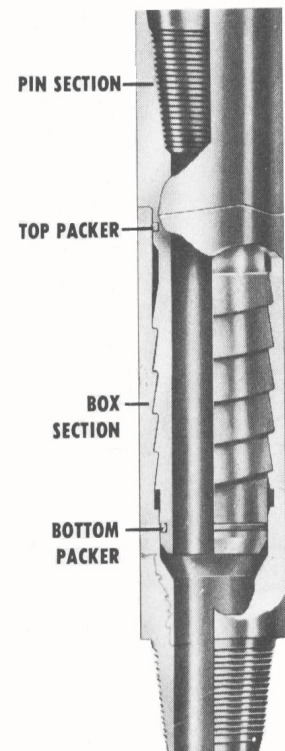


STUCKEY'S SPECIALTY TOOLS

SAFETY JOINTS

STUCKEY'S SAFETY JOINTS ARE TWO-PIECE RELEASING DEVICES WHICH PROVIDE A POSITIVE MEANS OF PARTING THE DRILL PIPE, TUBING OR WASHOVER STRING IF THE NEED ARISES. THEY ARE SIMPLE AND EASY TO MAKE UP, RELEASE, AND RE-ENGAGE. THEY TRANSMIT FULL TORQUE IN EITHER DIRECTION AND WITHSTAND EVERY NORMAL OPERATION. NO MOVEMENT CAN TAKE PLACE BETWEEN THE TWO SECTIONS OF THE JOINT, NOR CAN IT BE BROKEN WITHOUT SPECIFIC MECHANICAL PROCEDURE.

THE CONSTRUCTION OF THE SAFETY JOINTS IS SIMPLE, MAKING THEM RUGGED AND RELIABLE. THEY CONSIST OF A PIN SECTION, A BOX SECTION, A TOP PACKER AND A BOTTOM PACKER.



THREE SPECIFIC TYPES ARE AVAILABLE
AS FOLLOWS:

DRILL PIPE SAFETY JOINTS WITH TOOL JOINT CONNECTIONS; O.D. AND I.D. CORRESPOND TO THOSE OF TOOL JOINTS.

TUBING SAFETY JOINTS WITH TUBING CONNECTIONS O.D. SAME AS O.D. OF COUPLING; I.D. SAME AS I.D. OF TUBING STRING.

WASHOVER SAFETY JOINTS, RUN BETWEEN DRILL PIPE AND WASHOVER STRING, HAVE TOOL JOINT BOX IN SAFETY JOINT PIN SECTION, AND WASHOVER STRING PIN ON SAFETY JOINT BOX SECTION. DIAMETERS CONFORM TO THOSE IN USE ON WASHOVER PIPE.

STUCKEY'S SPECIALTY TOOLS

TUBING ANCHOR

SLIP DESIGNED TO HOLD IN TWO DIRECTIONS

EACH RUGGED SLIP CONTAINS TWO SETS OF DIRECTIONAL WICKERS, ONE DESIGNED TO PREVENT UPWARD MOVEMENT, THE OTHER TO PREVENT DOWNWARD MOVEMENT.

STUCKEY'S LONG EXPERIENCE WITH DIRECTIONAL WICKER SLIP DESIGN IN THEIR BRIDGE PLUGS, RETAINER PACKERS AND RETRIEVABLE CEMENTERS HAS CLEARLY PROVEN THE SUPERIORITY OF THIS DESIGN OVER THE SO-CALLED "UNIVERSAL" NON-DIRECTIONAL TOOTH PROFILE.

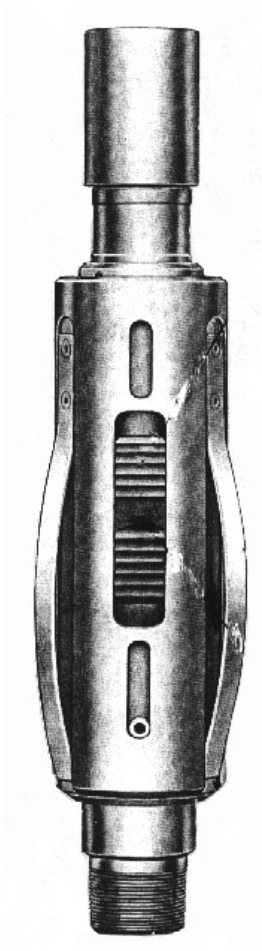
OPERATING INFORMATION

SETTING

AT THE DESIRED SETTING DEPTH ROTATE TUBING TO THE LEFT WITH HAND TONGS (5 TO 8 TURNS, DEPENDING ON CASING WEIGHT). AFTER SLIPS CONTACT CASING, PULL FULL CALCULATED TENSION, SLACK OFF AND, WHILE HOLDING LEFT-HAND TORQUE ON TUBING, ALTERNATELY PULL UP AND SET DOWN WEIGHT SEVERAL TIMES TO FIRMLY SET THE SLIPS. RELEASE TORQUE AND APPLY FULL TENSION.

APPLYING TENSION AT THE SURFACE

THE "OVERSTRETCH" OF SEVERAL INCHES REQUIRED TO APPLY TENSION WITH DOUGHNUT-TYPE HANGER CAN BE REDUCED TO ABOUT ONE INCH THROUGH USE OF THE DOUBLE BOX BUSHING.



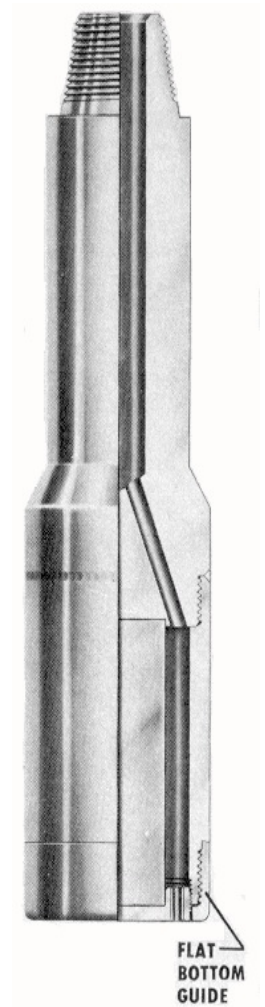
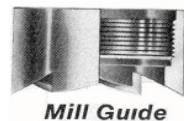
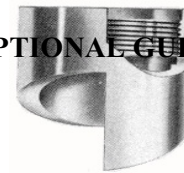
STUCKEY'S SPECIALTY TOOLS

FISHING MAGNET

STUCKEY'S SPECIALTY TOOLS FISHING MAGNETS ARE THE BEST AVAILABLE SPECIAL PURPOSE FISHING TOOLS TO RETRIEVE UNDRILLABLE OBJECTS HAVING MAGNETIC ATTRACTION. SMALL SHAPED ITEMS WHICH CANNOT BE CAUGHT BY OTHER CONVENTIONAL (INSIDE OR OUTSIDE CATCH) FISHING TOOLS ARE READILY ATTRACTED AND RETRIEVED BY THE FISHING MAGNET.

THESE MAGNETS ARE AVAILABLE IN ALL COMMON SIZES FROM 1" O.D. THROUGH 14" O.D., AND WITH ALL POPULAR THREADED PIN CONNECTIONS, FOR BOTH WIRE LINE AND PIPE OPERATION. SST FISHING MAGNETS ARE CAPABLE OF EXERTING PULLS FROM 5 POUNDS TO 3,000 POUNDS, DEPENDING ON SIZE. FULL CIRCULATION MAY BE MAINTAINED THROUGH THESE TOOLS AT ALL TIMES DURING SERVICE.

OPTIONAL GUIDES



STUCKEY'S SPECIALTY TOOLS



HOLE OPENER

THE STUCKEY'S SPECIALTY TOOLS' HOLE OPENER IS DESIGNED FOR USE ON SOFT TO MEDIUM-HARD FORMATIONS, SOFT CLAYS AND SHALES AND MEDIUM LIMESTONE. THE TOOL IS PARTICULARLY EFFECTIVE IN STICKY FORMATIONS WHERE BALLING PROBLEMS ARE ENCOUNTERED.

THE STUCKEY'S HOLE OPENER FEATURED DEMOUNTABLE CUTTERS WHICH ARE EASILY REPLACED ON THE RIG FLOOR.

ALL STUCKEY'S HOLE OPENERS FEATURE JETS WITH REPLACEABLE DIFFUSER NOZZLES BEHIND EACH CUTTER TO CLEAN CUTTERS, PREVENT BALLING AND ASSURE FAST PENETRATION.

ON SIZES 17-1/2" AND LARGER, THERE ARE THREE ADDITIONAL JETS WITH REPLACEABLE NOZZLES TO ASSURE EFFECTIVE HOLE CLEANING.

Std. Opening Dia.	Pilot Hole Dia. (Min.)	Fishing Neck			Bottom Neck			Overall Length	Weight with Cutters Lbs. (Approx.)	Weight Cutters Per Set Lbs. Approx.	*Std. Bore
		Length	Dia.	Top Pin. Conn. API Reg.	Length	Dia.	Bottom Box Conn. API Reg.				
7 7/8	5 3/8	24	5 3/4	4 1/2	30	5	3 1/2	73	460	11	1
8 1/2 8 3/4	6 1/8	24	5 3/4	4 1/2	12	5 1/8	3 1/2	55	380	17	1
9 1/2 9 7/8	6 1/4	24	7 3/4	6 5/8	12	5 1/4	4 1/2	59	685	23	1
12 1/4	8 1/2	24	8	6 5/8	12	5 3/4	6 5/8	61	750	48	1 1/2
14 3/4 15	9 7/8	24	8	6 5/8	12	8	6 5/8	68	930	68	1 1/2
17 1/2	9 7/8	24	8	6 5/8	12	8	6 5/8	68	1000	108	1 1/2
20	12 1/4	30	8	6 5/8	12	8	6 5/8	68	1200	108	1 1/2
22	12 1/4	30	8 - 9	6 5/8 7 5/8	12	8	6 5/8	70	1800	240	1 1/2
24	14 3/4	30	8 - 9	6 5/8 7 5/8	12	9	7 5/8	70	1850	240	1 1/2
26	14 3/4	30	8 - 9	6 5/8 7 5/8	12	9	7 5/8	70	1900	240	1 1/2
36	17 1/2	30	9	6 5/8 7 5/8	12	9	7 5/8	84	3400	320	2 1/4

STUCKEY'S SPECIALTY TOOLS



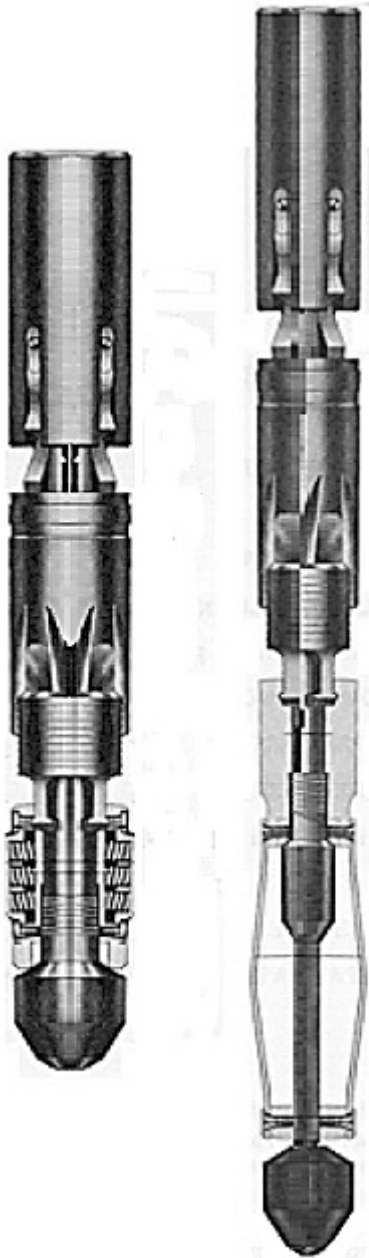
BAILER

- IDEAL FOR REMOVING LOOSE DEBRIS FROM HOLE BOTTOMS
- SIMPLE AND ECONOMICAL
- STURDY, TROUBLE-FREE DESIGN

THE STUCKEY'S SPECIALTY TOOLS BAILER IS A STURDY, SIMPLE TOOL WHICH IS IDEAL FOR REMOVING SAND AND LOOSE DEBRIS FROM WELL BOTTOMS. IT IS PARTICULARLY VALUABLE WHEN USED TO REMOVE DEBRIS DISLODGED FROM THE HOLE WALLS. THE BAILER HAS A DOUBLE ACTING VALVE. THE TOOL IS ALSO AVAILABLE IN EITHER A 5 OR 10 FOOT OPERATING STROKE.

STUCKEY'S SPECIALTY TOOLS

MECHANICAL (INTERNAL) CUTTER



THE INTERNAL CUTTERS ARE RUGGEDLY BUILT, EFFICIENT TOOLS FOR CUTTING TUBING, CASING, OR DRILL PIPE. SIZES RANGING FROM 1.900" TUBING UP TO 20-3/4" CASING ARE AVAILABLE. INTERNAL CUTTERS ARE MANUFACTURED TO EXACTING STANDARDS OF INTERCHANGEABILITY, PERMITTING RELATIVE EASE OF MAINTENANCE AFTER USE AND THE REDRESSING OF A BASIC ASSEMBLY TO CUT ALTERNATE SIZES OF PIPE.

THE INTERNAL CUTTER IS USED TO CUT TUBING, CASING OR DRILL PIPE. IT MAY BE RUN ON "MACARONI" TUBING, TUBING OR DRILL PIPE, DEPENDING UPON THE DIAMETER OF THE PIPE TO BE CUT.

STUCKEY'S SPECIALTY TOOLS

ROTARY REAMER

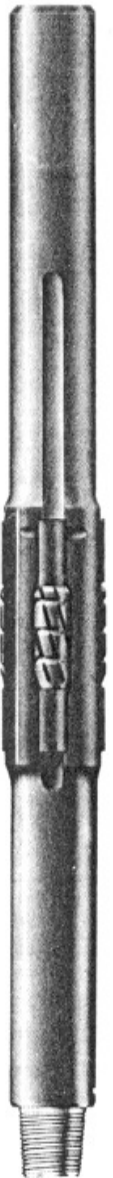
THE ROTARY REAMER IS A HEAVY-DUTY DESIGNED DOWNHOLE-HOLE REAMER. IT HAS A WIDE RANGE OF DOWNHOLE USES. THE REAMER BODY UTILIZES DRIVE-FIT HARDENED REAMER PIN AND BEARING BLOCKS.

A WIDE RANGE OF CUTTER TYPES ARE AVAILABLE FOR MOST EFFICIENT CUTTING ACTION IN ALL TYPES OF FORMATIONS:

1. TYPE V/HM CUTTER FOR MAXIMUM REAMING ACTION IN THE SOFTER FORMATIONS SUCH AS SOFT LIME OR SHALE WHERE PENETRATION OF THE TEETH INTO THE FORMATION IS DESIRABLE. THE V/HM CUTTER CARBURIZED, HARDENED AND HARD-FACED WITH TUNGSTEN CARBIDE ALONG THE LEADING EDGE OF THE TEETH.
2. TYPE Q CUTTER FOR MAXIMUM REAMING ACTION IN HARD FORMATIONS SUCH AS DOLOMITE, HARD LIME, AND CHERT WHERE CRUSHING ACTION AGAINST THE FORMATION IS DESIRABLE. THE Q CUTTER IS HARD-FACED IN GROOVES ON THE FACE OF THE TEETH, CARBURIZED, HARDENED, AND GROUND TO GAGE.
3. BUTTON CUTTER FOR EXTREMELY HARD FORMATIONS SUCH AS CHERT, GRANITE, OR HARD SAND. TUNGSTEN CARBIDE COMPACTS ACT AS TEETH TO FRACTURE THE FORMATION.



1



2

STUCKEY'S SPECIALTY TOOLS

INTEGRAL BLADE STABILIZER



THE INTEGRAL BLADE STABILIZER FEATURES THREE RIBS CONTOURED TO MINIMIZE TORQUE IN DRILLING AND REDUCE DAMAGE TO WALL OF HOLE.

THE INTEGRAL BLADE STABILIZER IS AVAILABLE WITH OR WITHOUT TUNGSTEN CARBIDE INSERTS ON THE THREE RIBS.

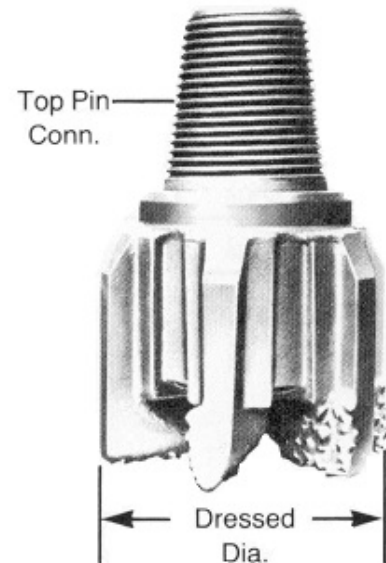
FLUTES BETWEEN THE RIBS ARE MACHINED DOWN TO THE NECK OR DRILL COLLAR DIAMETER FOR MAXIMUM CIRCULATION PASSAGE.

THE STABILIZER IS FURNISHED WITH OR WITHOUT SLEEVE CONSTRUCTION .

STUCKEY'S SPECIALTY TOOLS

ECONOMILL

STUCKEY'S SPECIALTY TOOLS' ECONOMILLS ARE A LOW-COST MILL FOR LIGHT-DUTY MILLING JOBS. DRESSED WITH TUNGSTEN CARBIDE IT IS AN EFFECTIVE TOOL FOR MILLING PACKERS, RETAINERS, BRIDGE PLUGS, AND CEMENT. MANUFACTURED WITH STANDARD API CONNECTIONS, THE MILL IS MADE UP AND BROKEN OUT WITH A STANDARD BIT BREAKER. NO ADDITIONAL SUBS ARE REQUIRED. CIRCULATION IS DIRECTED ALONG EACH CUTTING BLADE AND THROUGH THE CENTER OF THE HEAD FOR PROPER CUTTING REMOVAL AND COOLING.



SPECIFICATIONS

TOOL SERIES	DRESSED DIA.	TOP PIN CONN. API REG	OVERALL LENGTH, IN.	WT, LBS.	RECOMMENDED TORQUE FT/LBS
3000	3-1/4"-4-3/8"	2-3/8"	7-5/8"	17	3,000 - 3,500
4000	4-1/2"-5-3/8"	2-7/8"	8-5/8"	26	6,000 - 7,000
5000	5-1/2"-7-3/8"	3-1/2"	9"	40	7,000 - 9,000
7000	7-1/2"-8-3/4"	4-1/2"	11-1/2"	76	12,000 - 16,000
10000	10-1/4"-12-1/4"	6-5/8"	16-1/2"	125	28,000 - 32,000
12000	13"-16"	7-5/8"	18"	250	45,000 - 60,000

STUCKEY'S SPECIALTY TOOLS

TUBING/CASING ROLLER

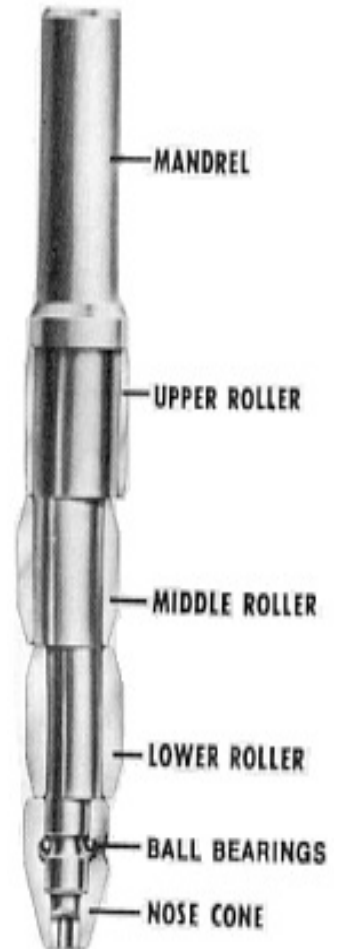
THE TUBING AND CASING ROLLER IS THE IDEAL TOOL FOR RESTORING YOUR COLLAPSED, BUCKLED OR DENTED CASING TO ITS NORMAL ROUNDNESS AND DIAMETER. THIS RUGGED TOOL IS COMPOSED OF THREE ECCENTRIC ROLLER AROUND A MANDREL. THESE ROLLERS ARE HELD IN PLACE BY A NOSE CONE WHICH IS SECURED TO THE MANDREL. THE NOSE CONE HOUSES A SERIES OF BALL BEARINGS WHICH ALLOW THE ROLLER TO MOVE FREELY AROUND THE MANDREL.

LARGER CASING CAN BE STRAIGHTENED BY SIMPLY REDRESSING THE MANDREL WITH LARGER SIZE ROLLERS. THE TUBING AND CASING ROLLER IS A SIMPLE TOOL WITH NO SPRINGS, PINS OR LOOSE PART TO INTERFERE WITH THE OPERATION.

THE CASING ROLLER IS EQUALLY EFFECTIVE USING RIGHT OR LEFT HAND ROTATION AND LEFT HAND CONNECTIONS CAN BE FURNISHED ON REQUEST.

LOWER STINGER CONNECTIONS MAY BE FURNISHED ON A SPECIAL NOSE CONE OR ON THE LOWER MANDREL END ON REQUEST, AT ADDITIONAL COST.

OPERATION IS VERY SIMPLE REQUIRING ONLY AMPLE FLUID CIRCULATION AND SLOW ROTARY SPEEDS.

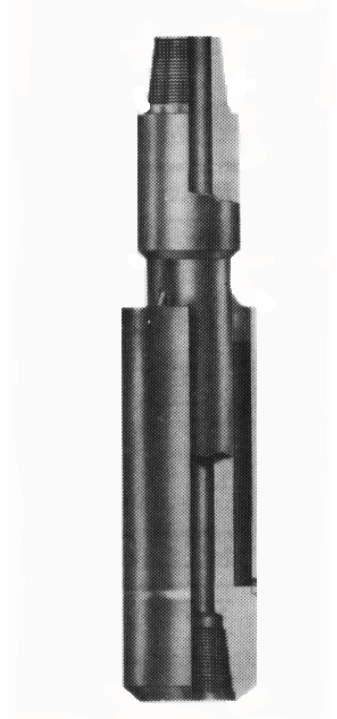


STUCKEY'S SPECIALTY TOOLS

BOOT BASKET JUNK SUB

STUCKEY'S SPECIALTY TOOLS' JUNK SUBS (BOOT BASKETS) ARE NORMALLY RUN ABOVE THE BIT TO REMOVE THE CUTTINGS FROM THE HOLE THAT ARE TOO LARGE TO BE CIRCULATED OUT OF THE HOLE. THEY ARE ALSO USED ABOVE A CASING SCRAPER TO ENABLE THE OPERATOR TO OBTAIN A QUICKER AND CLEANER CASING SCRAPER JOB.

STUCKEY'S SPECIALTY TOOLS' JUNK SUBS ARE AVAILABLE IN THE STANDARD TYPE AND PROVIDED WITH WELDED RIBBED GUIDES AND CUP. SIZES ARE AVAILABLE FROM 1-1/2" O.D. TO 12-7/8" O.D.



TUBING/CASING ROLLER

STUCKEY'S SPECIALTY TOOLS' TUBING AND CASING ROLLER IS THE IDEAL TOOL FOR RESTORING YOUR COLLAPSED, BUCKLED, OR DENTED CASING TO ITS NORMAL ROUNDNESS AND DIAMETER. THIS RUGGED TOOL IS COMPOSED OF THREE ECCENTRIC ROLLERS AROUND A MANDREL. THESE ROLLERS ARE HELD IN PLACE BY A NOSE CONE WHICH IS SECURED TO THE MANDREL. THE NOSE CONE HOUSES A SERIES OF BALL BEARINGS WHICH ALLOW THE ROLLER TO MOVE FREELY AROUND THE MANDREL.

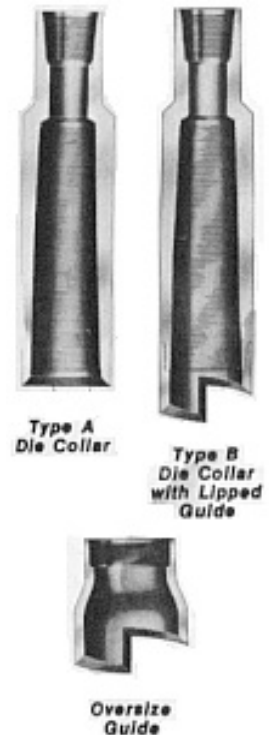
LARGER CASING CAN BE STRAIGHTENED BY SIMPLY REDRESSING THE MANDREL WITH LARGER SIZE ROLLERS. STUCKEY'S RUBBING AND CASING ROLLER IS A SIMPLE TOOL WITH NO SPRINGS, PINS, OR LOOSE PARTS TO INTERFERE WITH THE OPERATION.



STUCKEY'S SPECIALTY TOOLS

DIE COLLAR

STUCKEY'S SPECIALTY TOOLS' DIE COLLARS ARE THE SIMPLEST FISHING TOOL AVAILABLE FOR ENGAGING A FISH EXTERNALLY. IN OPERATION, IT IS NECESSARY ONLY TO RUN THE DIE COLLAR IN THE HOLE TO THE TOP OF THE FISH, APPLY LESS THAN ONE POINT OF WEIGHT AND ROTATE SUFFICIENTLY TO EMBED THE TAPERED THREADS OF THE DIE COLLAR INTO THE FISH, CEASE ROTATION AND PULL THE FISH.



TAPER TAP

STUCKEY'S SPECIALTY TOOLS' TAPER TAPS ARE THE SIMPLEST FISHING TOOLS AVAILABLE FOR ENGAGING A FISH INTERNALLY. IN OPERATION, IT IS NECESSARY ONLY TO RUN THE TAPER TAP IN THE HOLE TO THE TOP OF THE FISH, APPLY LESS THAN ONE POINT OF WEIGHT AND ROTATE SUFFICIENTLY TO EMBED THE TAPERED THREADS OF THE TAP INTO THE FISH, CEASE ROTATION AND PULL THE FISH.



STUCKEY'S

SPECIALTY

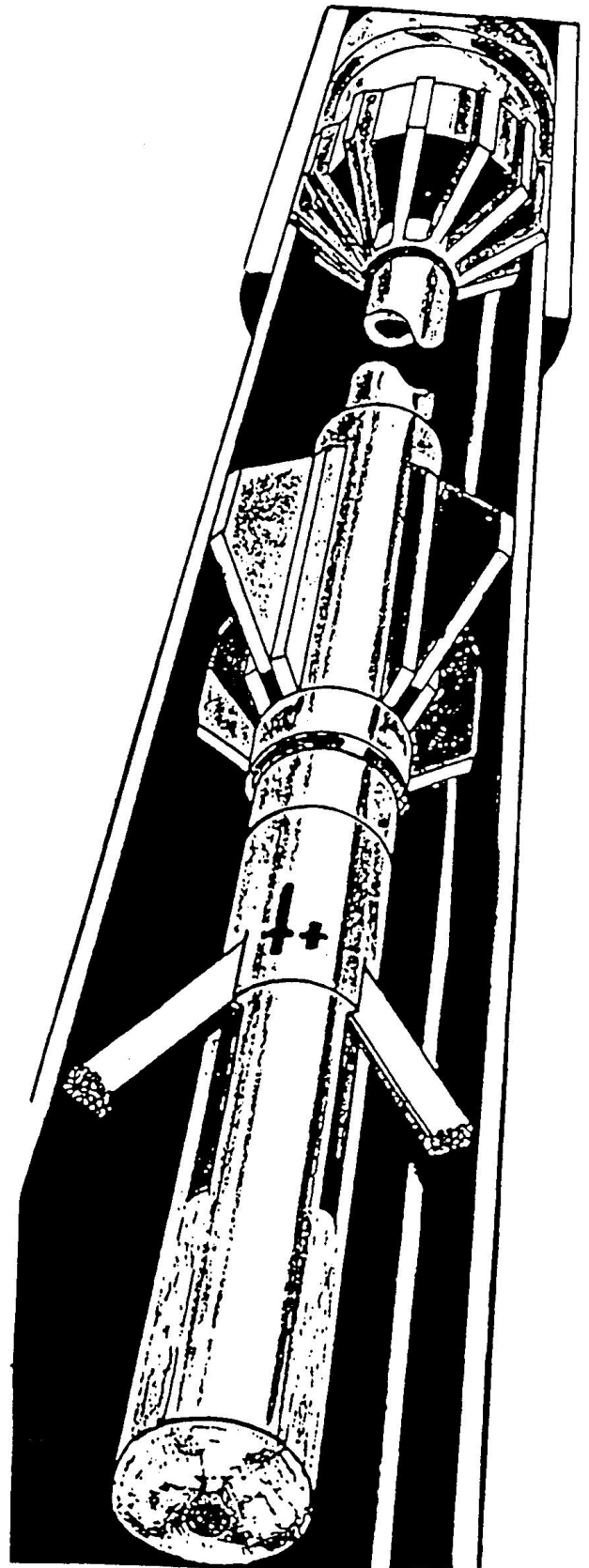
TOOLS

SPECIALIZING IN CUSTOM DOWNHOLE EQUIPMENT

OTHER TOOLS AVAILABLE

CROSS-OVER SUBS
BIT SUBS
SIDE DOOR ENTRY SUBS
DRILL PIP PUP JOINT
J-TYPE SAFETY JOINT
WASHOVER SHOES
TEST CUP MANDRELS
CIRCULATING HEAD
PACKERS
MILL GUIDES
IMPRESSION BLOCKS
ANCHORS
*OTHER TOOLS

OUR ENGINEERING STAFF AND MACHINE SHOP CAN
DESIGN AND MANUFACTURE ANY SPECIAL
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