

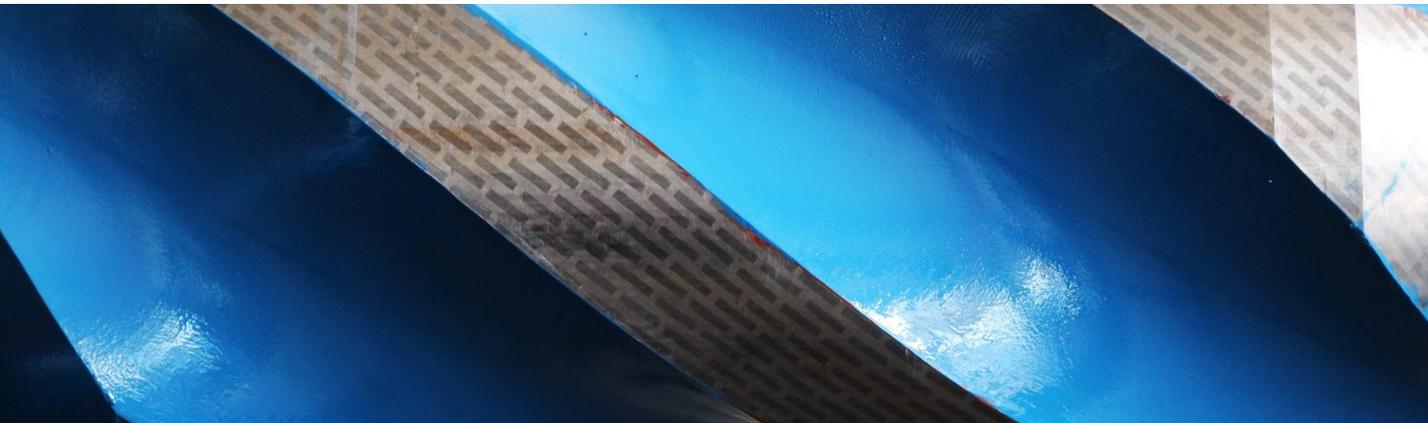
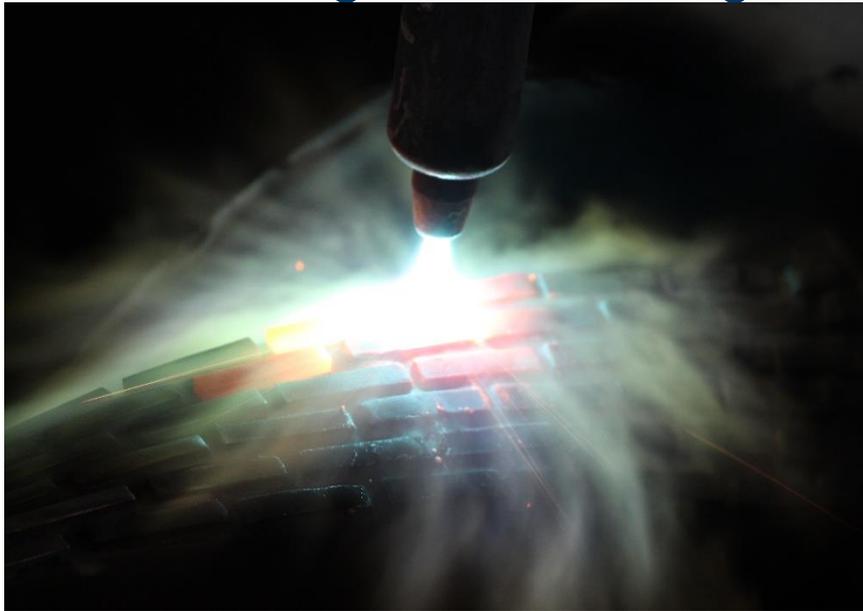


# OILFIELD SERVICES & SUPPLIES

ASSURING OUR BEST SERVICES AT ALL TIMES



## Drilling Tools Catalog





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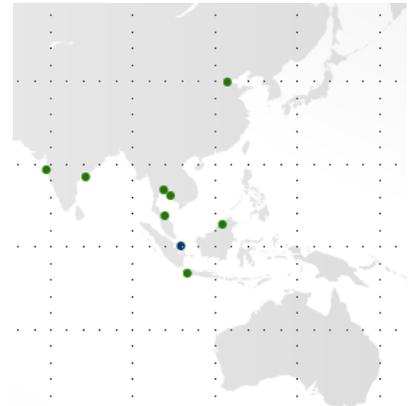
# Introduction

Oilfield Services and Supplies Pte Ltd (“OSS”) manufactures and services high quality down-hole tools and drill stem components that are used primarily by the oil, gas and mining exploration and production industries.

## Profile

Since the company headquarters’ inception in Singapore, 1999, OSS has met the dynamic needs of the drilling industry and complied with tighter tolerances required for many innovative and complex products. Today, OSS distributes a wide variety of down-hole drilling products all over the Asia Pacific Region and Middle East Region. Our main clients are leaders in the oil and gas industries: Halliburton, Baker Hughes, NOV (National Oilwell Varco), Weatherford and IOT.

With the opening of the company’s 8<sup>th</sup> satellite workshop in Labuan, East Malaysia in 2013, OSS is strategically located to offer short turnaround time and integrated after-sales services to our customers, without sacrificing on quality and price.



Regional presence in Asia-Pacific

## Quality Assurance & Accreditations

A skilled workforce, a well organized manufacturing facility as well as dedication to quality and service form the foundation of our business. Today, OSS has successfully implemented a quality management system that complies with the ISO (International Organization for Standardization) 9001 standard, ISO9001:2008 which also incorporates the American Petroleum Institute Standard (API), namely API Specification Q1, API Spec 7-1 with API Monogram license.



# Vision, Mission and Core Values

“We aspire to be an internationally recognised leading Oil & Gas manufacturing and service solution provider of the highest standards, and an employer of choice that is committed to quality, health, safety and environmental excellence.”



**Peter Ong See Kong**  
Managing Director,  
Oilfield Services & Supplies

Assuring our best services at all times by striving for continuous improvement in operational efficiency, building our core capabilities through innovation, and developing strategic partnerships with our valued stakeholders to achieve mutual success.

These initiatives are supported by each and every employee's relentless focus on his/her quality, health, safety and environmental responsibilities. At OSS, we believe in empowering our greatest asset – our people – to proactively overcome challenges of the future and to exceed our stakeholders' expectations.



**Responsibility**



**Improvement**



**Collaboration**



**Excellence**



**American  
Petroleum  
Institute**



2011191  
11/2011

## **Certificate of Authority to use the Official API Monogram**

**License Number: 7-1-0491**

**ORIGINAL**

The American Petroleum Institute hereby grants to

**OILFIELD SERVICES & SUPPLIES PTE LTD**  
**No. 20 Tuas Avenue 10**  
**Singapore**  
**Singapore**

the right to use the Official API Monogram<sup>®</sup> on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1<sup>®</sup> and API Spec 7-1 and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram should be used in conjunction with this certificate number: **7-1-0491**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following products: Drill Stem Subs; Threading for Rotary Shouldered Connections

QMS Exclusions: Section 7.3, Design and Development

**Effective Date: MARCH 30, 2012**  
**Expiration Date: MARCH 30, 2015**

To verify the authenticity of this license, go to [www.api.org/compositelist](http://www.api.org/compositelist).

American Petroleum Institute

Director of Global Industry Services



AMERICAN PETROLEUM INSTITUTE

REGISTRATION NO. Q1-0236

## Certificate of Registration

The American Petroleum Institute certifies that the quality management system of

**OILFIELD SERVICES & SUPPLIES PTE LTD**  
No. 20 Tuas Avenue 10  
Singapore  
Singapore

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

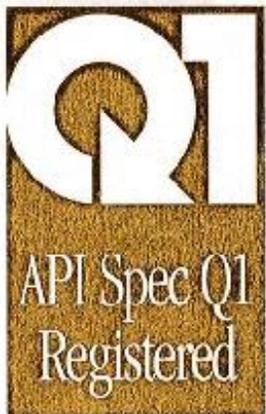
### API Specification Q1

The scope of this registration and the approved quality management system applies to the:

**Manufacture, Repair and Remanufacture of Rotary Drill Stem Elements for the Oil and Gas Industry**

API approves the organization's justification for excluding:

**Section 7.3, Design and Development**



**Effective Date:** March 30, 2012  
**Expiration Date:** March 30, 2015  
**Registered Since:** May 23, 2005

*W. Dan Whittaker*  
Manager of Operations, APIQR

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry; and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A., it is the property of API, and must be returned upon request. To verify the authenticity of this certificate, go to [www.api.org/compositelist](http://www.api.org/compositelist).

9328-118 | 07/09 | LM



## Certificate of Registration

**APIQR® REGISTRATION NUMBER**  
**0507**

*This certifies that the quality management system of*

**OILFIELD SERVICES & SUPPLIES PTE LTD**  
**No. 20 Tuas Avenue 10**  
**Singapore**  
**Singapore**

*has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard:*

**ISO 9001:2008**

*The scope of this registration and the approved quality management system applies to the*  
**Manufacture, Repair and Remanufacture of Rotary Drill Stem Elements for the Oil and Gas Industry**

*APIQR® approves the organization's justification for excluding:*  
**Section 7.3, Design and Development**

**Effective Date: March 30, 2012**  
**Expiration Date: March 30, 2015**  
**Registered Since: May 23, 2005**

*W. Dan Whittaker*  
*Manager of Operations, APIQR*

accredited by member of  
the International  
Accreditation Forum  
Multilateral Recognition  
Arrangement for Quality  
Management Systems



This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Agreement and the requirements of the Registrar Agreement. Registration is maintained and regularly re-evaluated through annual audits as a condition of this certification regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 1220L Street, N.W., Washington, D.C. 20005-4000 U.S.A., it is the property of APIQR, and it is to be returned upon request. To verify the authenticity of this certificate, go to [www.apiqr.org/verify](http://www.apiqr.org/verify)



0507-0507-11-07



REGISTRATION NO. TS-0029

## Certificate of Registration

The American Petroleum Institute certifies that the quality management system of

**OILFIELD SERVICES & SUPPLIES PTE LTD**  
No. 20 Tuas Avenue 10  
Singapore  
Singapore

has been assessed by the American Petroleum Institute and found to be in compliance with the following:

### ISO/TS 29001

The scope of this registration and the approved quality management system applies to the:

**Manufacture, Repair and Remanufacture of Rotary Drill Stem Elements for the Oil and Gas Industry**

API approves the organization's justification for excluding:

#### Section 7.3, Design and Development



Effective Date: **March 30, 2012**  
Expiration Date: **March 30, 2015**  
Registered Since: **May 23, 2005**

*W. Don Whittaker*

Manager of Operations, APIQR

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of ISO/TS 29001, Petroleum, Petrochemicals and Natural Gas Industry - Sector Specific Quality Management Systems, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API office located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A., it is the property of API, and must be returned upon request. To verify the authenticity of this certificate, go to [www.api.org/compositests](http://www.api.org/compositests).

2003-380 | 08.12 | 1st | Printed in the USA |

# Certifications

 Certificate of Authorization

Authorized TenarisHydril Licensee

**Oilfield Services & Supplies Pte. Ltd.**

Singapore

Licensee Number 149 Expiration Date 30-June-2014

Verify Licensees current authorized connections at [www.tenaris.com](http://www.tenaris.com)

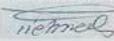
  
**Doug Enderle**  
Manufacturing Services Director,  
Premium Connections

**HALLIBURTON**  
Drilling and Formation  
Evaluation

**CERTIFICATE**

*This is to certify that*  
**Sperry Drilling Services**  
*Has conducted a quality assessment*  
*and machine shop audit of*  
**Oilfield Services & Supplies**  
located at  
**11 Joo Koon Road**  
**Singapore 628974**

*Has been approved to manufacture and/or repair Sperry  
Drilling Services' Drilling Tools Threaded Connections.  
The approval was granted after the quality program and  
machining capabilities were found to be in compliance with  
Sperry Drilling Services' standards.*

Effective Date: October 22, 2007  
Expiration Date: December 31, 2009  
Approved By:   
Walter Pietrzak

Certificate No. 065-3-09

**TPS TECHNITUBE**  
RÖHRENWERKE GMBH

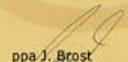
**Certification of Authority**  
for  
**TPS-Multiseal**  
**Connection Thread Repair**

Licensed Company: Oilfield Services & Supplies PTE Ltd  
No. 20 Tuas Ave 10,  
Singapore 639144

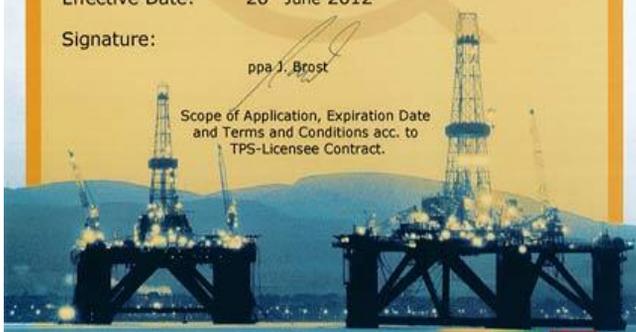
Location: Singapore

TPS-Licensee No.: TPS TL 10

Effective Date: 26<sup>th</sup> June 2012

Signature:   
ppa J. Brost

Scope of Application, Expiration Date  
and Terms and Conditions acc. to  
TPS-Licensee Contract.





## CERTIFICATE OF QUALIFICATION

Certificate No. DPMS.CQ.OSS.001  
Licensee No. DPML-SG-001

This is to certify that Oilfield Services & Supplies Pte Ltd located at No. 20 Tuas Ave 10, Singapore 639144, has successfully met all Technical, Quality Control, Quality Assurance and Qualification Requirements of DPM to manufacture the following DPM premium connections.

Qualification certificate is thereby issued for repair of tool joints or accessory equipment and cut new threads on accessory equipment.

DPM-DS50; REV B

22 December 2011

Patrick Murphy  
Director Sales & Marketing  
DP-Master Singapore

Date of Issue

To verify the authenticity of this certificate, go to [www.dpmaster.com.sg](http://www.dpmaster.com.sg)



## CERTIFICATE OF APPROVAL

Awarded To

**Oilfield Services and Supplies Pte., Ltd.**  
Singapore

As An

### ARNCO CERTIFIED APPLICATOR

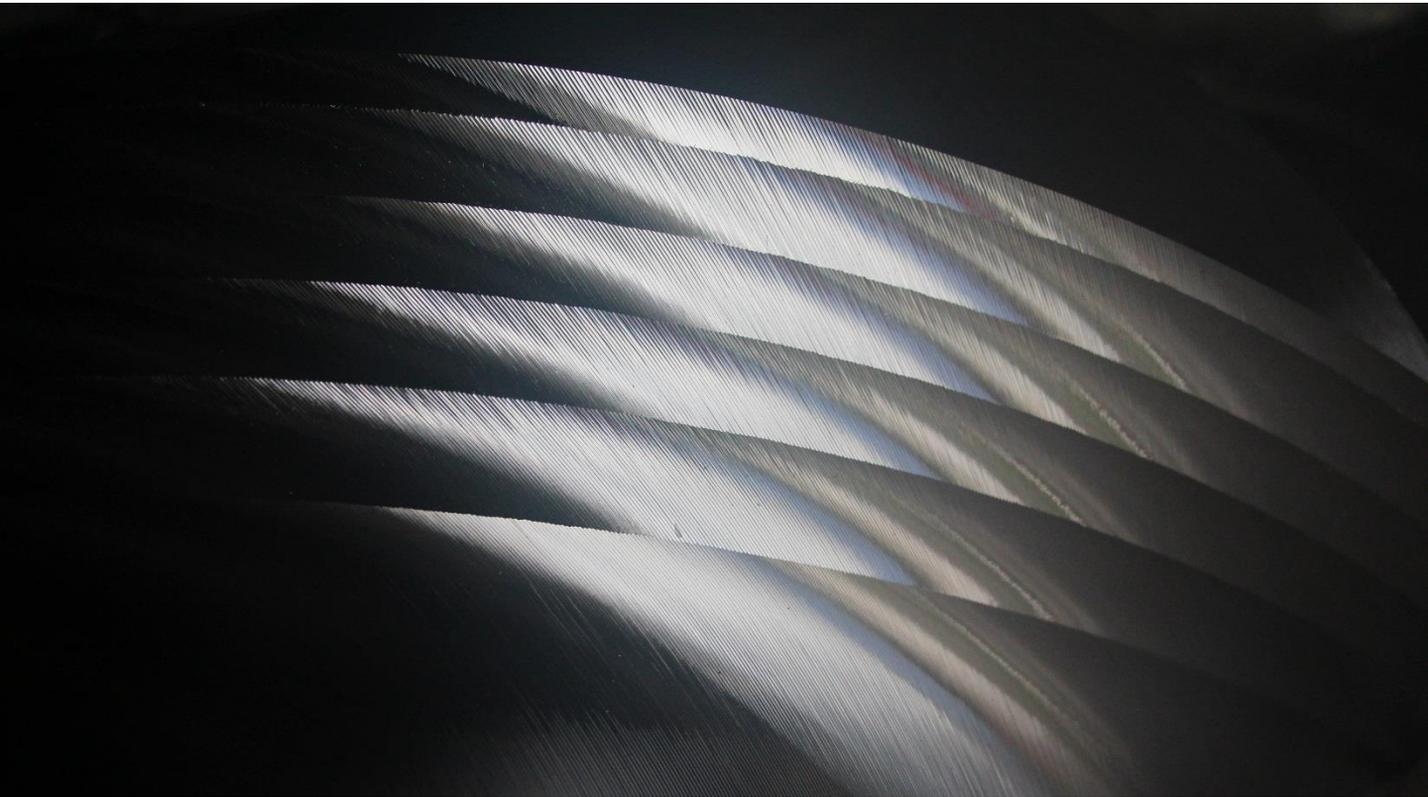
TO APPLY ARNCO 100XT, 150XT, 300XT HARDBANDING PRODUCTS  
IN ACCORDANCE WITH THE ARNCO HARDBANDING SPECIFICATION MANUAL

Larry S. Jones  
Arnco Technology Trust, Ltd.

**February 15, 2012**  
(Expires February 15, 2015)

# Non-Magnetic Drill Collar and Stabilizer

Customized specifications are achieved through our robust manufacturing process and our drive towards excellence.



Milled Waterways

# Non-Magnetic Drill Collar

OSS non-Magnetic drill collars are manufactured from heat-treated material for optimum strength and ductility in the critical threaded surface. The collars are made from selected bars of chromium molybdenum alloy steel with chemistries specially formulated for down-hole tools.

Our non-magnetic bar stocks are sourced from reputable suppliers such as Carpenter from USA, Edeltahl Witten Krefeld (EWK/DEW) from Germany, and Daido from Japan.

After boring to precision, every drill collar is subject to a thorough ultrasonic examination. This is a rigorous and integral in-house inspection requirement.



Properties		Carpenter			EWK / DEW		Daido			
		15-15LC	15-15HS	15-15HS Max	Amagnit 501	Amagnit 601	NMS 100	NMS 140	110KSI	140KSI
Mechanical	Yield Strength min. (ksi)									
	3 1/2" to 6 7/8" OD	125	175	175	120	140	123	127	110	140
	7" OD to 11" OD	116	162	162	112	130	112	148	100	130
	Tensile Strength min. (ksi)	125	150	200	130	150	135	148	120	150
	Elongation (%)	32	32	32	25	20	28	30	25	20
	Reduction of area (%)	70	70	70	50	50	62	68	50	50
	Impact Energy min. (ft./lb.)	165	85	145	130	100	75	120	90	60
Chemical Composition	ISO-v longitudinal									
	Hardness – Brinell	275-350	285-370	285-370	Min 277	Min 290	269-341	311-341	260-350	350-430
	C	0.04(Max)	0.030	0.02	0.04	0.05	0.03	0.02	0.05	0.06
	Si	1.0(Max)	0.35	0.35	0.30-0.60	0.5	0.5	0.35		
	Cr	16-21	18-21	18-21	13-15	15.5-17.5	13	18.75	13-14	18.20-20.00
	Mn	15-19	16-19	16-19	18.5-22	18-20	18	19.50	18.50-20	20.50-21.60
	Ni	3.0(Max)	1,76	2	0.25-0.50	4.2-5	2.0	1.75		
	Mo	3.0(Max)	0.5	3	0.35-0.50	2-2.8	0.5	1.00	0.40-0.60	Min 0.50
	N	0.20-0.80	0.5	0.8	0.32-0.40	0.4-0.5	0.3	0.62	0.25-0.40	Min 0.60
	PRE*	28	28	28	23	28	23	28	22	33

\*Pitting Resisting Equivalent PRE = Cr + 3.3 Mo + 16 N

# Non-Magnetic Drill Collar

## NMDC Specifications

DIMENSION	WEIGHT		LENGTH (FT)	PPF	KG/M
	KG/PC	LBS/PC			
3-1/2" x 2"	317	699	31	22.5	33.5
3-3/4" x 2"	384	847	31	27.3	40.6
4-1/8" x 2-1/4"	460	1014	31	32.7	48.7
4-1/4" x 2-1/4"	497	1096	31	35.3	52.6
4-3/4" x 2-1/4"	658	1451	31	46.8	69.6
4-3/4" x 2-11/16"	588	1296	31	41.8	62.2
5" x 2-13/16"	652	1437	31	46.4	69.0
5-1/4" x 2-13/16"	750	1653	31	53.3	79.4
5-1/2" x 2-13/16"	853	1881	31	60.7	90.3
6-1/2" x 2-1/4"	1450	3197	31	103.1	153.5
6-1/2" x 2-13/16"	1325	2921	31	94.2	140.2
6-1/2" x 3-1/4"	1191	2626	31	84.7	126.0
6-3/4" x 2-13/16"	1460	3219	31	103.8	154.5
6-3/4" x 3"	1374	3029	31	97.7	145.4
7" x 2-13/16"	1620	3571	31	115.2	171.5
7-3/4" x 2-13/16"	2008	4427	31	142.8	212.5
8" x 2-13/16"	2150	4740	31	152.9	227.5
8" x 3"	2067	4557	31	147.0	218.8
8-1/4" x 2-13/16"	2330	5137	31	165.7	246.8
8 1/4" x 3"	2220	4894	31	157.9	235.0
8-1/2" x 2-13/16"	2457	5417	31	174.7	260.0
8-1/2" x 3"	2377	5240	31	169.0	251.6
9" x 3"	2749	6061	31	195.5	290.9
9-1/2" x 3"	3150	6945	31	224.0	333.4
9-1/2" x 3-1/4"	2995	6603	31	213.0	317.0
10" x 3"	3475	7661	31	247.1	367.8

**Surface Finish:** Available as rolled, milled or machined finish.

**Thread connections:** Machined to API specification with stress relief grooves and bore back, further protected by a phosphate surface coating to minimize galling and corrosion.

**Thread protectors:** Heavy duty plastic thread protectors furnished at no additional charge for most popular-sized drill collar connections.

**Cold-rolled thread roots:** All thread connections are cold-rolled on API connections to increase fatigue resistance.

## Ordering Information

OSS Drill Collars are available in lengths of 5, 10, 15, 20, 30 and 31 feet and in nominal sizes ranging from 3½" to 14", while other sizes are available on request.

When enquiring, please specify:

1. Type of collars (slick or spiral grooved)
2. Outside and inside diameters (O.D. and I.D.)
3. Length
4. Connection size and type
5. Any other features



# Non-Magnetic Integrated Blade Stabilizer

OSS Non-Magnetic Integral Blade Stabilizers are manufactured from Chromium Manganese Austenitic Stainless Steel.

## Mechanical Properties

Tensile	120,000 psi minimum
Yield	100,000 psi minimum
Hardness	285 BHN. minimum

## Magnetic Permeability

Max	1.01
Average	1.005



Packed NM Stabilizers

## Surface Treatment

OSS offers as an option, an additional treatment which, when applied to the inside diameter and/or between the blades creates a compressive layer, giving additional protection against stress induced cracking. This treatment is recommended when equipment is to be used in environments with high chloride concentrations.

## Stabilizer Hard-facing

For Non-Magnetic Stabilizers, OSS recommends hardface dressing type HF3000. This particular dressing comprises tungsten carbide inserts set in a powder spray deposit, which is ideal for abrasive formations. The dressing technique has been developed in-house to take full account of the chemical composition of the material and the need for repeat re-dressings without damage. This includes full temperature control of the parent body during the preheating process and also throughout the complete dressing procedure.

## Quality Assured Tools

Full quality control procedures are maintained throughout all production processes and when HF3000 hard-facing is deposited, final ultrasonic inspection is carried out to ensure that a minimum of 97% bonding of carbide inserts is obtained. This is the OSS guarantee and each tool is certified to this effect. Connections also receive full dye penetrant inspection and are finally coated with an anti galling treatment.

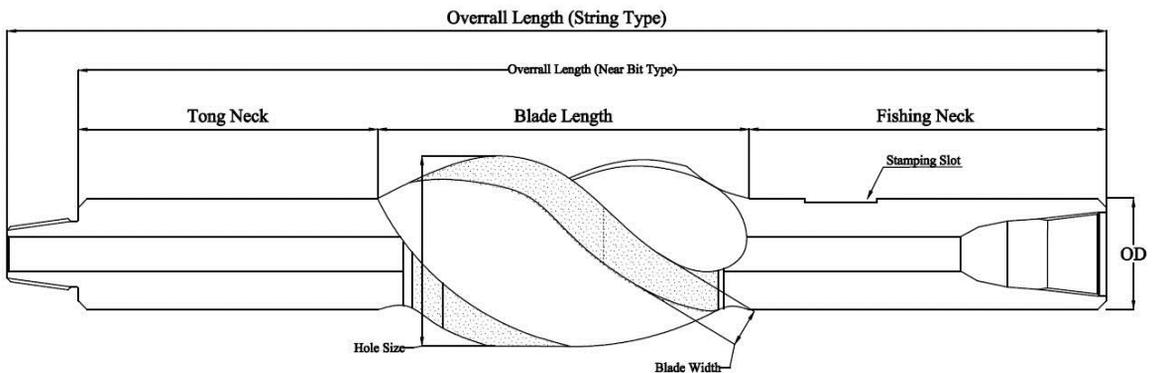


NM Integrated Blade Stabilizer

# Non-Magnetic Integrated Blade Stabilizer

Stabilizer Specifications

Hole Size		5-1/4" – 6-7/8"	7" – 9-7/8"	10" – 12-1/4"	13-3/4" – 16"
Drill Collar Range		4-1/2" – 5-1/2"	5-3/4" – 7-3/4"	8" – 9-1/2"	8" – 9-1/2"
Overall Length	Near Bit	64"	66"	72"	96"
	String	76"	76"	86"	100"
Fishing Neck (Min)		28"	28"	28" – 30"	32"
Crown Length (Min)		12"	16"	18"	20"
Blade Width		2-1/4"	2-1/4" – 2-3/4"	3" – 3-1/4"	3" – 4"
Tong Space	Near Bit	20"	20"	20" – 22"	24" – 28"
	String	24"	24" – 26"	26" – 28"	30" – 32"



**Integral ribs:** Milled from the steel body and have no welded or loose parts.

**Hard-facing ribs:** HF 1K, 2K, 3K, 5K & 6K provide tough hard-coating wear resistance over a large wall contact area, minimize torque and prevent unwanted reaming with optimum stabilization.

**Repair:** We provide complete repair service for threads and worn hard-facing ribs.

**Threads connections:** Made to API specification with stress relief grooves and bore backs. Thread roots are cold rolled before phosphate coating. Heavy duty rubber thread protectors are provided as standard.

## Ordering Information

When enquiring, please specify:

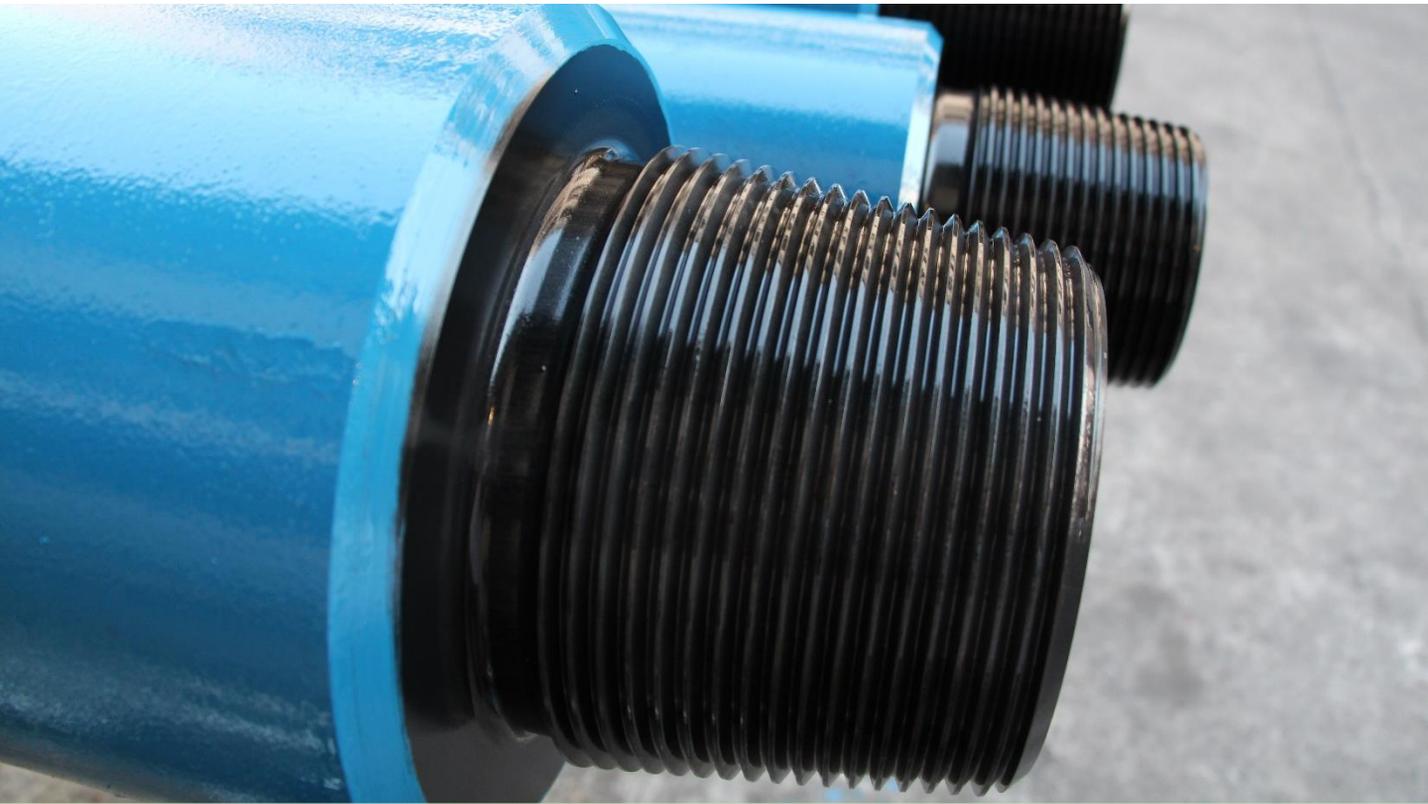
1. Type of stabilizer (string or near-bit)
2. Drill collar size and I.D.
3. Spiral type
4. Connection size and type
5. Type of hardfacing



Reamer Near-Bit Stabilizer

# Alloy Steel Equipment

True to our values, our lean and efficient operations yield shorter turnaround times and higher cost-efficiencies.



Threaded Connections

# Alloy Steel Drill Collar

OSS Stainless Steel Drill Collars are manufactured from Chromium, Molybdenum Alloy Steel conforming to AISI 4145 H Modified specification, fully heat treated and supplied in accordance to A.P.I. Spec. 7-1. The mechanical and chemical properties of the alloy steel are recorded in the Material Certificate, included with each collar.

## Surface Finish

The surface finish, linear straightness, roundness and O.D. tolerances are in conformance to A.P.I. requirements.

## Precision Boring

Deep-hole precision boring along the bar length within tight tolerances to eliminate wall thickness variation, followed by drifting to A.P.I. specifications.

## Threaded Connections

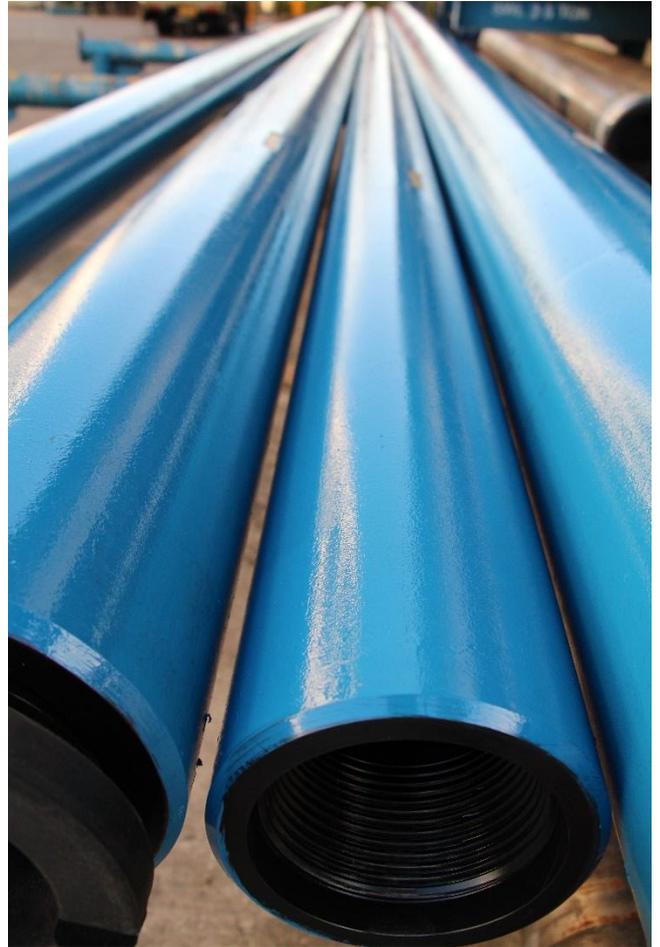
Every thread connection is machined to the highest possible accuracy and gauged to the requirements of A.P.I. Spec 7-1 and RP7G. Thereafter, each connection is:

**cold rolled** to increase fatigue resistance,  
**phosphated** to prevent galling,  
**coated** with A.P.I.-compliant thread compound to increase ease of makeup, and  
**protected** with thread protectors against any non-operational damage.

The specification of each thread, such as gauge standoff, taper, depth, pitch, etc., is also fully documented for traceability.

## Identity Markings

A.P.I. monogram will be applied on compliant drill collars. Furthermore, serial numbers, O.D., I.D., size and style of connections, customers' unique asset numbers and additional identity slots (at request) can be machined.



Drill Collar Box, Pin and Protector

# Alloy Steel Drill Collar

At OSS, Quality Control is paramount. Every Drill Collar is subject to a full-length and section ultrasonic examination using precise instruments.

All machined connections are individually examined by our in-house inspection department, and any non-conformances are addressed to ensure final product is of the highest quality.



Final Inspection

## Steel Alloy Drill Collar Specifications

SIZE O.D INS	BORE		CONNECTION STYLE AND SIZE				APPROX WT (30FT) LB	APPROX WT (30FT) KG
	Standard Ins	Optional Ins	Standard Bore		Optional Bore			
			A.P.I. No.	Other	A.P.I. No.	Other		
3½	1½		NC26	2¾ IF	NC26	2¾ IF	1012	459
4½	2	1¾	NC31	2¾ IF	NC31	2¾ IF	1298	589
4¾	2¼	2¼	NC35		NC38	3½ IF	1412	640
5	2¼	2	NC38	3½ IF	NC38	3½ IF	1606	728
5½	2¼	2	NC38	3½ IF	NC38	3½ IF	2046	928
6	2¼	213/16	NC44		NC40	4½ FH	2486	1128
6½	2¼	213/16	NC46	4 IF	NC50	4½ IF	2761	1252
6¾	2¼	213/16	NC46	4 IF	NC50	4½ IF	3025	1372
7	213/16	2¼	NC50	4½ IF	NC50	4½ IF	3304	1499
7½	213/16	2¾	NC50	4½ IF		5½ REG	3885	1762
7¾	213/16	3	NC56	6¾ REG	NC56	6¾ REG	4191	1901
8	213/16	3	NC56	6¾ REG	NC56	6¾ REG	4514	2048
8¼	213/16	3		6¾ REG		6¾ REG	4840	2195
8½	213/16	3		6¾ REG		6¾ REG	5181	2350
9	3	213/16	NC61	7¾ REG	NC61	7¾ REG	5786	2624
9¼	3	213/16	NC61	7¾ REG	NC61	7¾ REG	6182	2804
9½	3	213/16		7¾ REG		7¾ REG	6538	2966
9¾	3	213/16	NC70	7¾ REG	NC70	7¾ REG	6930	3143
10	3	213/16	NC70	8¾ REG	NC70	8¾ REG	7260	3293
11	3	213/16	NC77	8¾ REG	NC77	8¾ REG	9020	4091
11¼	3	213/16	NC77	8¾ REG	NC77	8¾ REG	9460	4291
12	3	213/16	NC77	8¾ REG	NC77	8¾ REG	10868	4930
14	3	213/16	NC77	8¾ REG	NC77	8¾ REG	14949	6781

## Spiral Grooved Drill Collar Specifications

Size O.D.	Depth of Cut	Spirals	Direction	Pitch	Type
4.1/2 - 5.1/8	7/32 ±1/32	3	R.H.	38 ± 1	A
5.7/8 - 6.3/8	9/32 ±1/16	3	R.H.	42 ± 1	A
6.1/2 - 6.7/8	5/16 ±1/16	3	R.H.	46 ± 1	A
7	5/16 ±1/16	3	R.H.	64 ± 1	A
7.1/8 - 7.7/8	11/32 ±1/16	3	R.H.	64 ± 1	B
8 - 8.7/8	3/8 ±1/16	3	R.H.	68 ± 1	B
9 - 9.7/8	13/32 ±3/32	3	R.H.	72 ± 1	B
10 -10.3/8	7/16 ±3/32	3	R.H.	76 ± 1	B
11-12	15/32 ±3/32	3	R.H.	80 ± 1	B

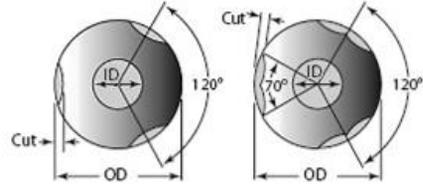
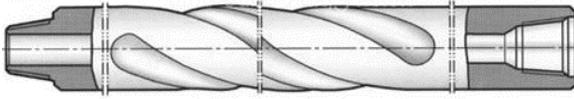
## Spiral Grooved Drill Collar Specifications

NUMBERED CONNECTIONS	STYLE	OTHER
NC 26	2¾ IF	-
NC 31	2¾ IF	-
NC 38	3½ IF	-
NC 40	4 FH	-
NC 46	4 IF	4½ XH
NC 50	4½ IF	5 XH

# Alloy Steel Drill Collar

## Spiral Grooving

Spiral grooved Drill Collars are suitable for more extreme drilling conditions. Besides reducing contact with the well wall, the spiral grooves also allow mud to circulate freely and prevents sticking that occurs due to differential pressure.



## Surface Engineering Process

OSS is an ARNCO certified applicator for 100XT, 150XT, 300XT and 350XT for hardbanding solutions. These are applied using a metal arc, inert gas shielded consumable electrode process. Granular tungsten carbide particles are fed automatically into the molten weld pool to obtain a uniform distribution and maximize wear resistance.

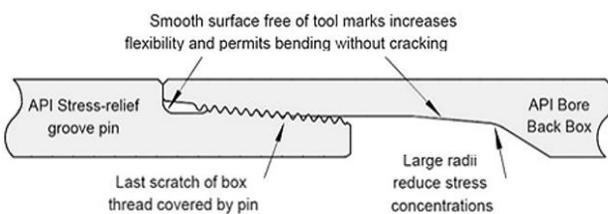


Precisely controlled pre-heat and post-heat conditions ensure that only fully-metallurgical bonded hardbanding overlays of optimum integrity are applied. The deposit is made flush to + 1/32 above the O.D. of the collar.

Our research & development partners employ Plasma Transferred Arc (PTA) welding and Laser Cladding technologies to provide even more wear resistance for your specific requirements.

## Stress Relief Features

Stress Relief Features reduce the cyclic fatigue caused by bending during directional drilling. A.P.I. stress relief grooves on the pin and the bore back feature on the box mitigate stress concentration caused by unengaged threads in the connection, as shown below:



## Stress Relief Grooves for Connections

Connection	Length of Shoulder Face to Box Member Groove, Tol. +0, -1/8 (L <sub>X</sub> )	Diameter of Pin Member Groove Tol. +0, -1/32 (D <sub>RG</sub> )
NC44	4-1/8"	4-3/16"
NC46 (4 IF)	4-1/8"	4-21/64"
NC50 (4 1/2 IF)	4-1/8"	4-3/4"
NC56	4-5/8"	5-19/64"
NC61	5-1/8"	5-55/64"
NC70	5-5/8"	6-47/64"
NC77	6-1/8"	7-27/64"
4 1/2 FH	3-5/8"	4-15/64"
5 1/2 REG	4-3/8"	4-55/64"
6 5/8 REG	4-5/8"	5-27/64"
7 5/8 REG	4-7/8"	6-13/32"

# Alloy Steel Drill Collar

## Slip and Elevator Grooves

Slip and Elevator Grooves can be used as a lifting sub and a safety slip. This reduces drill collar handling time when tripping out.

### Slip and Elevator Groove Specifications

Groove Dimensions Based on Drill Collar O.D.					
Drill Collar O.D. Ranges	Elev. Groove Depth A*	R	C**	Slip Groove Depth B*	D**
4 - 4 <sup>5</sup> / <sub>8</sub>	7/32	1/8	4°	3/16	3-1/2°
4 <sup>3</sup> / <sub>4</sub> - 5 <sup>5</sup> / <sub>8</sub>	1/4	1/8	5°	3/16	3-1/2°
5 <sup>3</sup> / <sub>4</sub> - 6 <sup>5</sup> / <sub>8</sub>	5/16	1/8	6°	1/4	5°
6 <sup>3</sup> / <sub>4</sub> - 8 <sup>5</sup> / <sub>8</sub>	3/8	3/16	7-1/2°	1/4	5°
8 <sup>3</sup> / <sub>4</sub> & larger	7/16	1/4	9°	1/4	5°

\* A and B dimensions are from nominal O.D. of a new drill collar

\*\* Angle C and D are approximate reference dimensions

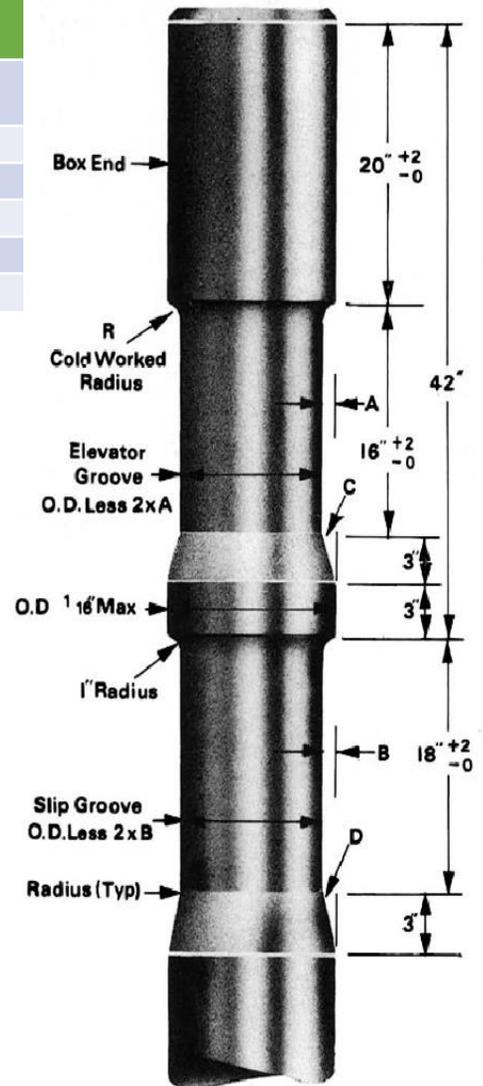
\*\*\* These dimensions are not to be construed as A.P.I. Standard

## Ordering Information

OSS Drill Collars are available in lengths of 5, 10, 15, 20, 30 and 31 feet and in nominal sizes ranging from 3½" to 14", while other sizes are available on request.

When enquiring, please specify:

1. Type of collars (slick or spiral grooved)
2. O.D. and I.D.
3. Length
4. Connection size and type
5. Stress relief features
6. Other special features i.e.; hard-banding (band location and width), slip and/or elevator grooves
7. Type of thread protectors



# Alloy Steel Integrated Blade Stabilizer

OSS alloy stabilizers are manufactured from AISI 4145 H Modified Steel, fully heat treated to 285-341 Brinell hardness and 40 ft. lbs. min. izod impact strength. The blades are spiral milled in either left hand or right hand in three main configurations:

Wide open	150° to 210°
Open	over 210° to 270°
Tight	over 270° to 360°

The spiral blades are machined to provide maximum mud circulation.

**Integral ribs:** Milled from the steel body and have no welded or loose parts.

**Hard-facing ribs:** HF 1K, 2K, 3K, 5K & 6K provide tough hard-coating wear resistance over a large wall contact area, minimize torque and prevent unwanted reaming with optimum stabilization.

**Repair:** We provide complete repair service for threads and worn hard-facing ribs.

**Threads connections:** Made to API specification with stress relief grooves and bore backs. Thread roots are cold rolled before phosphate coating. Heavy duty rubber thread protectors are provided as standard.

Blade diameters are ground to a maximum of 1/32" under gauge on all hole sizes. Hardfacing is applied on the leading edge as an additional protection.



Near-Bit Stabilizer

Slip and Elevator Groove Specifications

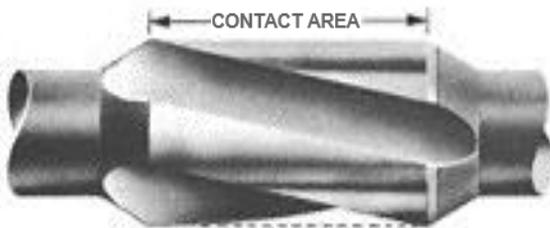
Hole Size		5¼"	7"	10"	13½"	18"	23"
		6⅞"	9⅞"	13"	17⅞"	22"	26"
Drill Collar Range		4⅛"	5¾"	7"	8"	8½"	8½"
		5½"	7¾"	9½"	10"	11"	11"
Nominal Stabilizer Body OD		4¾"	6½"	8"	9½"	9½"	9½"
Std Stabilizer Overall Length	Nearbit	68"	72"	75"	85"	95"	101"
	String	72"	76"	80"	90"	100"	106"
Pin Recuts Allowed to Meet DSI Specification		4	2	1	1	1	1
Extra Long Stab Overall Length	String	N/A	84"	100"	110"	120"	127"
Pin Recuts Allowed to Meet DSI Specification		N/A	4	4	4	4	4
Std Stab Fishing Neck Length		28"	28"	28"	28"	28"	28"
Extra Long Stabilizer Fishing Neck Length		N/A	28"	36"	36"	36"	36"
Crown Length (Min)		14"	18"	18"	20"	22"	22"
Blade Width		2"	2½"	3"	3½"	4"	4"
Std Stabilizer Tong Space	Nearbit	22"	20"	20"	23"	23"	23"
	String	22"	20"	20"	23"	23"	23"
Extra Long Stab Tong Space (Min)	String	N/A	27"	32"	35"	35"	35"

# Stabilizer Configurations

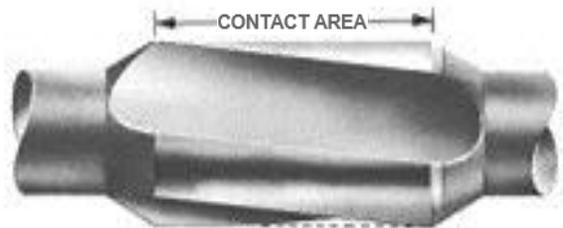
OSS Stabilization can be supplied to any of the configurations shown below, or to our customers' specific requirements.



360° SPIRAL



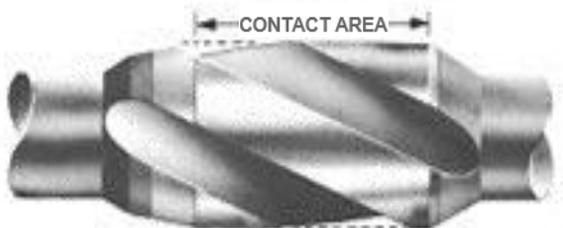
270° SPIRAL



210° SPIRAL



STANDARD WITH LEADING AND TRAILING ANGLES



STANDARD WITH LEADING ANGLE



MELON SHAPE



BARREL SHAPE

## Ordering Information

When enquiring, please specify:

1. Type of stabilizer (string or near-bit)
2. Drill collar size and inside diameter
3. Spiral type
4. Connection size and type
5. Type of hardfacing

# Stabilizer Mandrel and Sleeve

Used worldwide, OSS mandrels and sleeves have seen extensive service in B.H.A.s for drilling both straight holes and directionally drilled wells.

Our stabilizer mandrels are available in both near-bit or string configurations and are manufactured from a single piece of material (AISI 4145H Mod or non-magnetic grades) for optimum integral strength.

Engineered for easy make up using conventional plate type sleeve breakers and rig tongs, our mandrels eliminate the need for any fluid seals. The sleeves have also been designed as rig-replaceable units to help solve the problems of logistics when drilling in remote areas.

All connections are manufactured and gauged to A.P.I. Standards. There is sufficient fishing neck, tong neck and mandrel upset lengths to facilitate thread and shoulder repairs.

Field tests have shown that our mandrels and sleeves:

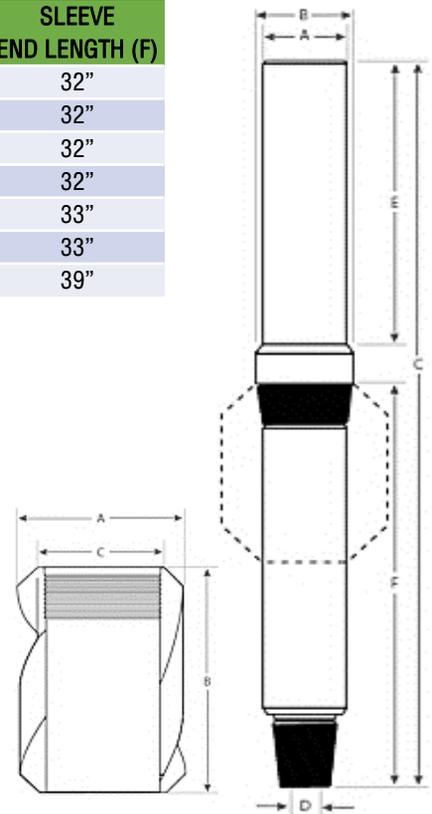
- **Reduce** fluctuation of W.O.B. caused by hang up
- **Reduce** drilling torque
- **Improve** directional control when used in a steerable system
- **Improve** rotating hour performance by 400%



Stabilizer Mandrel and Sleeve Specification

SERIES	DRILL COLLAR DIA (A)	UPSET DIA (B)	OVERALL LENGTH (C)	BORE (H)		FISHING NECK LENGTH (E)	SLEEVE END LENGTH (F)
				STRING	N/Bit		
41	4 1/8" - 4 3/4"	5 1/8"	62"	2"	1 1/2"	24"	32"
47	4 3/4" - 5"	5 3/4"	62"	2 1/4"	1 1/2"	24"	32"
62	6" - 7 1/4"	7 1/2"	66"	2-13/16"	2 1/4"	28"	32"
65	6" - 7 1/4"	7 3/4"	66"	2-13/16"	2 1/4"	28"	32"
77	7 3/4" - 8 1/4"	9 1/4"	68"	2-13/16"		28"	33"
85	8" - 9"	9 7/8"	68"	2-13/16"		28"	33"
96	9" - 10"	11"	74"	3"		28"	39"

HOLE SIZE (A)	DRILL COLLAR DIA	SERIES	SLEEVE LENGTH (B)	SLEEVE DIA (C)	REC. MAKE UP TORQUE Ft/Lbs
6" - 6 1/4"	4 1/8" - 4 3/4"	41	12"	5 1/8"	2000-2500
6 1/4" - 7 1/4"	4 3/4" - 5"	47	14"	5 3/4"	2000-2500
8" - 9 1/8"	6" - 6 3/4"	62	14"	7 1/4"	4500-5500
8 3/4" - 9 7/8"	6 3/4" - 7 1/4"	65	14"	7 1/4"	3500-4500
9 5/8" - 15"	7 3/4" - 8 1/4"	77	14"	9 1/4"	7000-8000
16" - 17 1/2"	7 3/4" - 8 1/4"	77	18"	11"	7000-8000
10 5/8" - 15"	8" - 9"	85	16"	10"	9000-10000
16" - 17 1/2"	8" - 9"	85	18"	11"	9000-10000
13" - 15"	9" - 10"	96	18"	11"	10000-12000
17" - 17 1/2"	9" - 10"	96	18"	11"	10000-12000
17 1/2" - 26"	9" - 10"	96	24"	11"	10000-12000



# Mud Motor Radial Bearing

OSS manufactures mud motor radial bearings from AISI 4145 H Modified Steel or AISI 4140, as per customers' specifications.

## Precise Machining

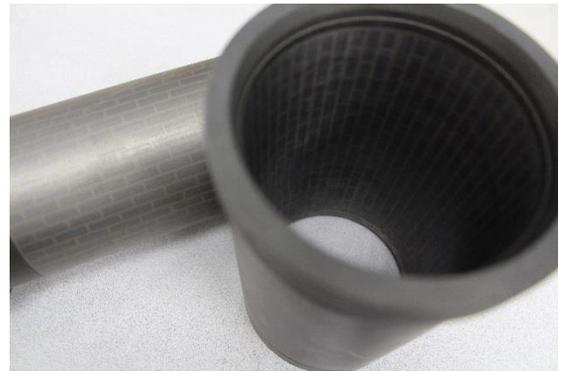
We are able to machine to all customers' specifications within tight tolerances for error-free assembly and integration.

## Increased Wear Resistance

Radial bearings support the radial and bending loads on the drive shaft. To this end, we have developed a proprietary hardfacing process – tungsten carbide inserts spray deposit – for maximum protection against radial wear.

## Improved Performance

Our radial bearings have been used in Saudi Arabia and Oman and averaging about 450-500 hours run time; this is 3-4 times longer than performance figures recorded by typical tungsten carbide cladded bearings.



Lower and Upper Radial Bearing

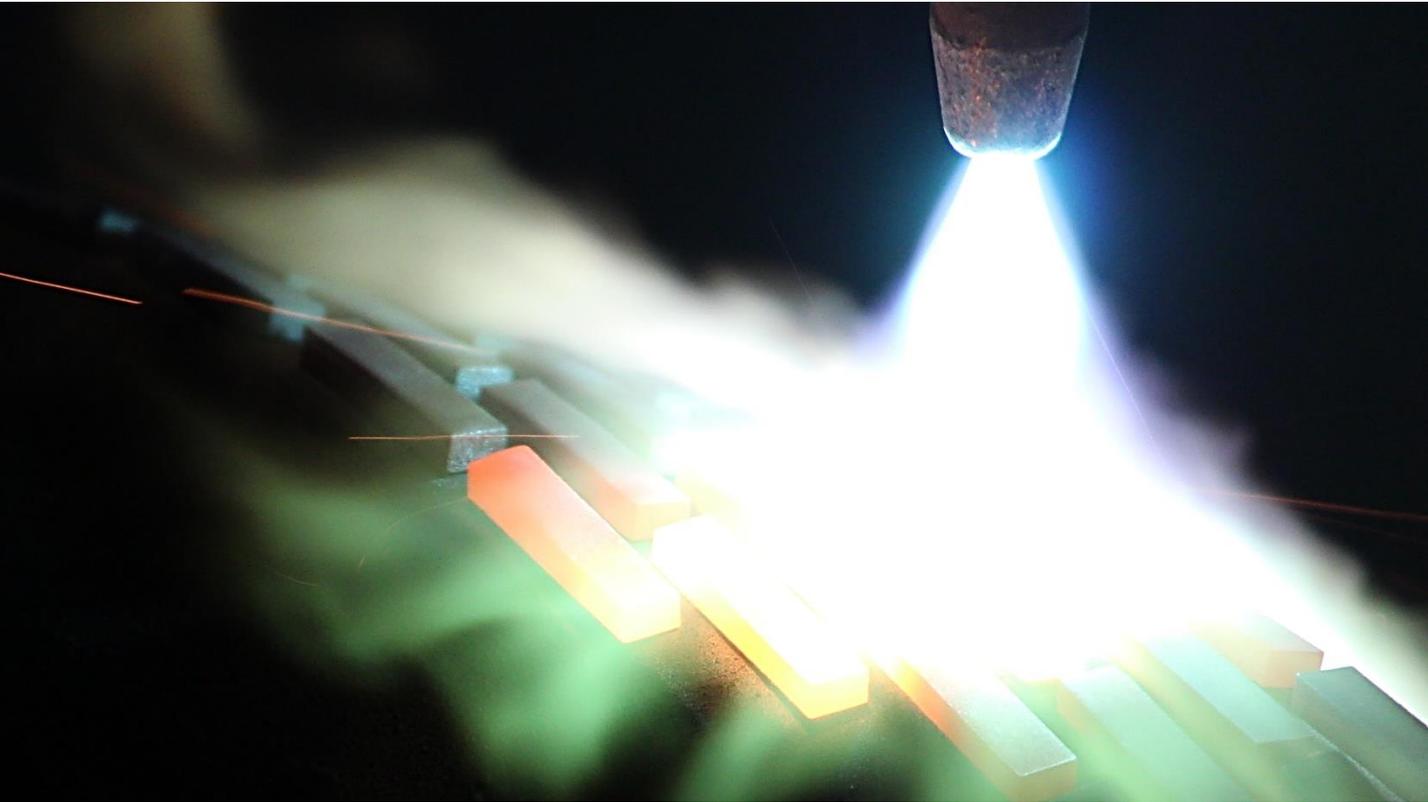
## Ordering Information

When enquiring, please specify:

1. Type of stabilizer (string or near-bit)
2. Drill collar size and inside diameter
3. Spiral type
4. Connection size and type
5. Type of hardfacing

# Hardfacing

Variations are eliminated through meticulous design and tightly controlled production techniques.



Powder Spray Deposit

# Stabilizer Hardfacing

OSS offers a complete range of hardfacing to suit all drilling conditions. Through continuous improvement, we have leveraged on our experience and technical know-how to develop expertise on wear resistance and characteristics, as well as matrix hardness. Extensive in-house research has resulted in our best-in-class application process; the increased reliability in bonding is proven by track records on the field.

## HF 1000



Crushed Tungsten Carbides are fused together within a tough polycrystalline matrix of nickel. The 3mm grain size ensures greater concentration of carbide which is ideal for soft formation drilling.

## HF 2000



In this hard-facing, trapezoidal tungsten carbide inserts are held in a sintered carbide nickel bronze matrix. This will give a greater depth of carbide coverage – ideal for high deviation drilling in abrasive formations.

## HF 3000



Metal Powder spray is used to fuse the tungsten carbides. This spray deposit is ideal for abrasive formations. Recommended for non magnetic stabilizers.



HF 3K Stabilizer Blades

# Stabilizer Hardfacing

HF  
5000



**(Flexicoy Technodur):** Fused tungsten carbide in a nickel chrome boron matrix designed for oxy-acetylene torch application and available for components subject to high levels of wear. Flexicoy has pure nickel core surrounded by fused tungsten carbide and alloy elements for the matrix. This fused together when deposited to form a tough wear resistance surface.

HF  
6000

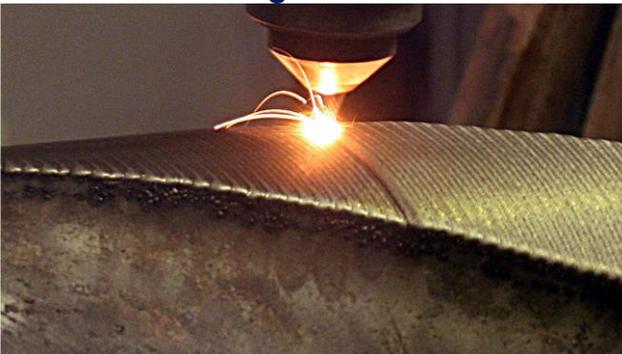


**(Flexicoy Technosphere with Diamond TCI):** Diamond inserts and tungsten carbide inserts are set in a powder spray deposit – ideal for very abrasive formations.



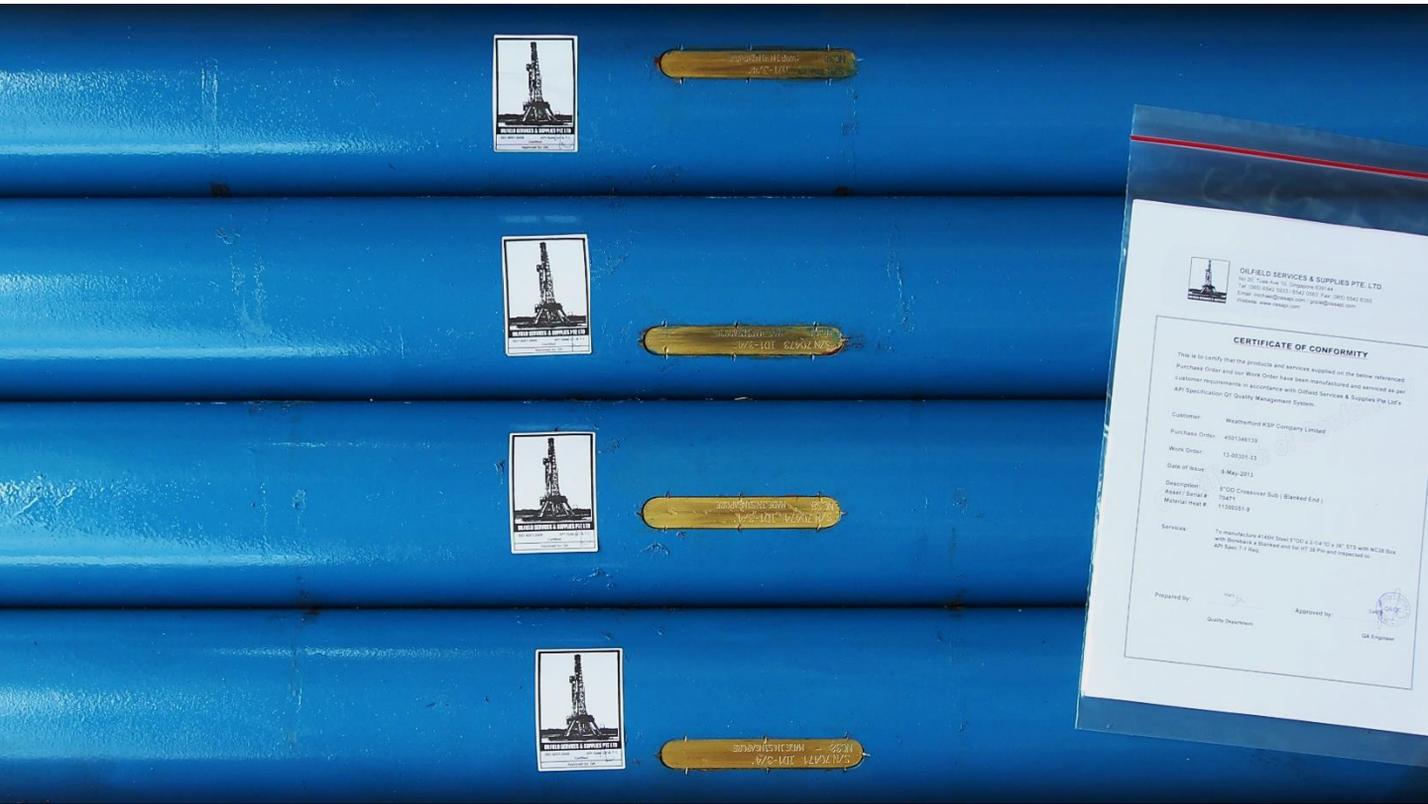
HF 6K Stabilizer Blades

## Laser Cladding



Laser cladding and coating yield high precision and homogeneity in depositing powder onto the base material. The coatings and overlays impart greatly improved performance of the desired characteristics such as: wear resistance, impact resistance, sliding wear, corrosion protection, friction modification and specific electrical properties.

We assure you that we will never compromise on quality.



Inspected Tools

# Rotary Crossover | Kelly Saver | Float | Bit Sub

OSS drill stem substitutes are manufactured from Alloy Steel AISI 4145 H Modified, in accordance to the requirements of A.P.I. Spec 7-1.

The subs can be manufactured in various O.D. sizes, complete with A.P.I. connections, to meet the needs of our customers.

The thread roots can be cold rolled and phosphate coated to minimize galling. Subs are manufactured with straight or reduced section as shown.

**Crossover Sub** – short subassembly used to adapt between different thread types or sizes.

**Kelly Saver Sub** – sacrificial sub used to absorb the connection wear and extend the life of the drill stem component.

**Float Sub** – used to house the float valve and to provide for fluid flow control at the bottom of the drill stem.

**Bit Sub** – used to connect the drill bit and drill collar.

## Ordering Information

When enquiring, please specify:

1. Use (e.g. DC/DC – DC/DP – Bit Sub etc)
2. O.D.(s) and I.D.(s)
3. Length
4. Size and type of connection
5. Other features (e.g. SRG, bore backs etc)

For reduced section substitutes, include:

1. O.D. of reduced section
2. Length of reduced section

For float substitutes include:

1. Float bore and style



Reduced Section



Straight



Saver



Float Sub



Crossover Sub



NM Saver Sub

# Lift Sub

OSS lift substitutes are manufactured from Alloy Steel AISI 4145 H Modified, in accordance to the requirements of A.P.I. Spec 7-1.

Lift subs enable the efficient and safe handling of BHA equipment, and can be supplied with an 18° tapered shoulder as shown, or alternatively with a square shoulder. (Dial Head)

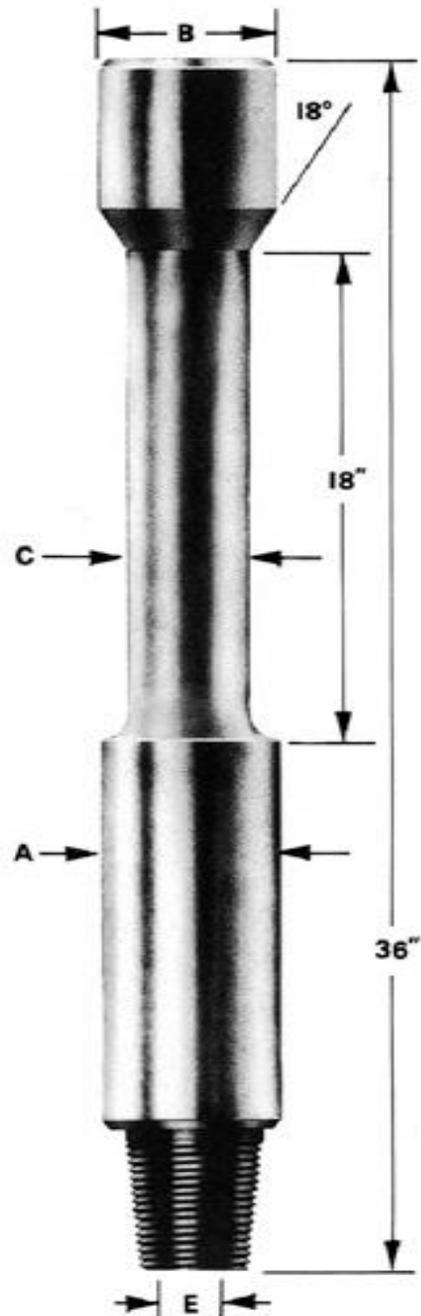
## Lift Sub Specification

DRILL COLLAR SIZE (A)	APPROX WEIGHT (LB)
3½	40
4⅝	50
4¾	84
5	88
6	150
6¼	168
6½	168
6¾	168
7	169
7¼	169
8	257
8¼	257
9½	320
9¾	320
11	368

## Ordering Information

When enquiring, please specify:

1. Drill collar O.D. (A)
2. Tool joint O.D. (B)
3. Drill pipe O.D. (C)
4. Drill collar connection size and type (D)
5. Bore (E)
6. Tapered or square shoulder

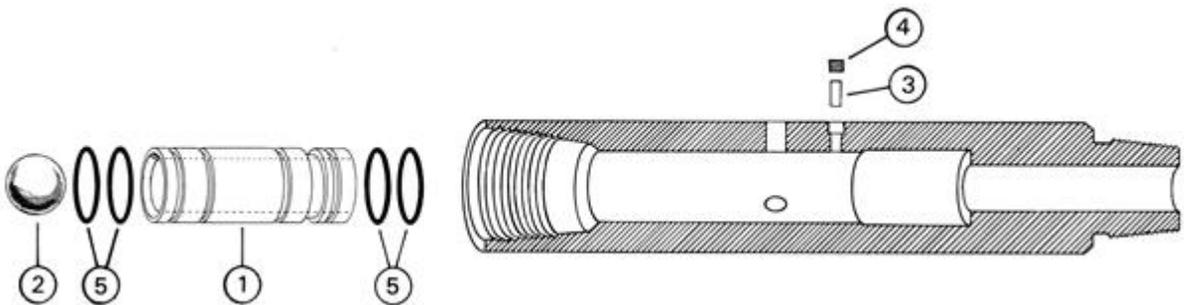
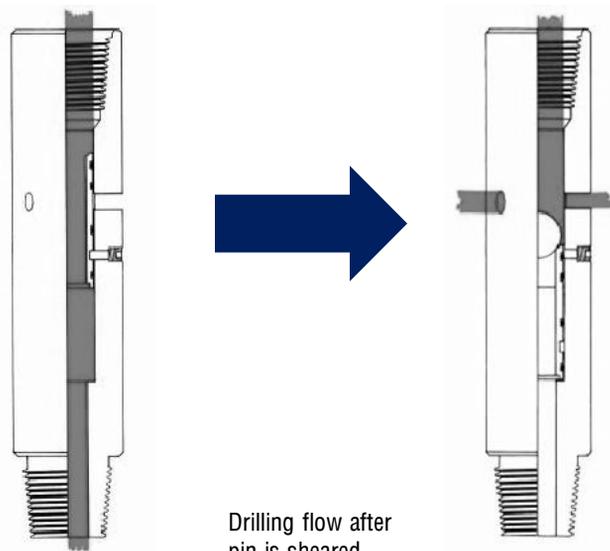


Tapered Lift Sub

# Circulating Sub

OSS circulating substitutes are manufactured from Alloy Steel AISI 4145 H Modified and are designed to achieve increased mud circulation by allowing a higher circulation rate to be established by routing fluid flow to the annulus. This sub typically runs above the bit or down-hole motor in the B.H.A.

When activated, a chrome steel ball is dropped from the surface and mud pumps are engaged. The application of 3000 psi fluid pressure causes a pin in the sub to shear, and the sleeve and pin drop to their secondary position which opens three sub ports and divert the flow to the annulus.



OSS redressing kit contains:

1. 1 Sleeve
2. 1 Ball
3. 1 Shear Pin
4. 1 Pressure Plug
5. 4 'O' Rings

## Ordering Information

OSS has a detailed set of redress procedures available.

When enquiring, please specify:

1. Drill collar size
2. Drill collar connection size and type
3. Minimum I.D. of drilling tools above the circulation sub

# Universal Bottom Hole Orientation Sub

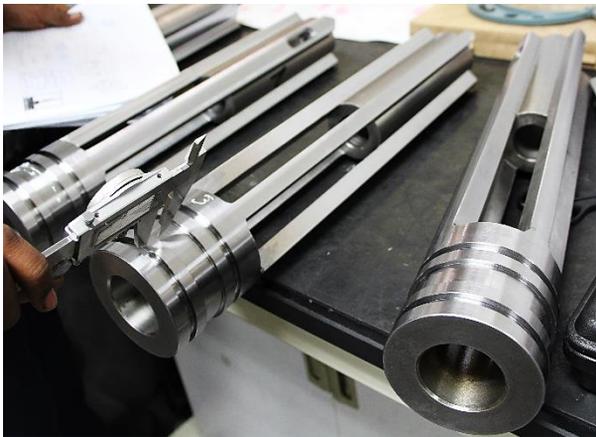
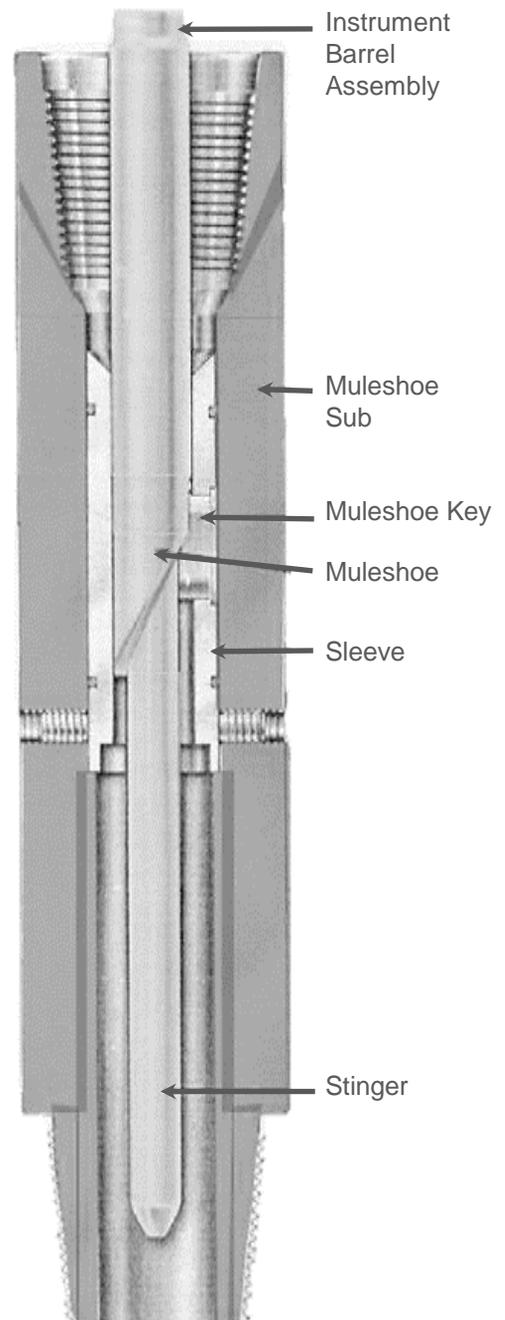
OSS universal bottom hole orientation (UBHO) sub, or mule shoe sub, is typically used in a directional drilling BHA.

This sub contains a landing sleeve, as shown on the right, for measurement-while-drilling tools and directional survey equipment, and is used to establish the “high side of the tool” and determine the tool face offset and orientation in the wellbore.

## Ordering Information

When enquiring, please specify:

1. Drill collar size
2. O.D. and I.D.
3. Length
4. Size and type of connection
5. Other features (e.g. SRG, bore backs etc)



Muleshoe Inspection



UBHO (Mule-shoe) Sub

# Threading, Rental and Trading

Grow your business with us.



Drill Pipe TS6 Connection Repair

# Connection Cutting and Repair

Apart from cutting A.P.I. connections, OSS is also licensed to cut the below premium thread connections:

## Premium Threads:

- TenarisHydril – DSTJ
- Grant Prideco – GPDS, HT, XT, XTF, TT
- Drillpipe Master – DS50
- TPS – TS6/8
- Benoit – BTS6

Premium connections are typically designed to have a stronger fatigue resistance and enhanced sealing properties without compromising the ease of make up and break out. These properties allow for higher forces and pressure ratings during drilling operations.

## Repair, Rechase and Reface

We repair and rethread so that your tool can be used multiple times. All thread connections cut by OSS are gauged to ensure optimal fit and conformance to all requirements and specifications.

We have the expertise in repairing:

- Non-Magnetic & Steel Collars & Pipes
- Non-Magnetic & Steel IB Stabilizers
- Non-Magnetic & Steel Screw-on-Sleeves
- Non-Magnetic & Steel Drill Stem Components
- Your Special Products

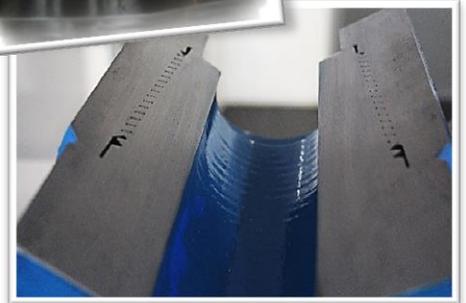
## Ordering Information

When enquiring, please specify:

1. Connection size and type



TPS Connection



DSTJ Connection



Connection Repair

# Rental and Trading

OSS provides exceptional value to our customers by having a wide array of rental and traded goods to meet operational demands.

We rent:

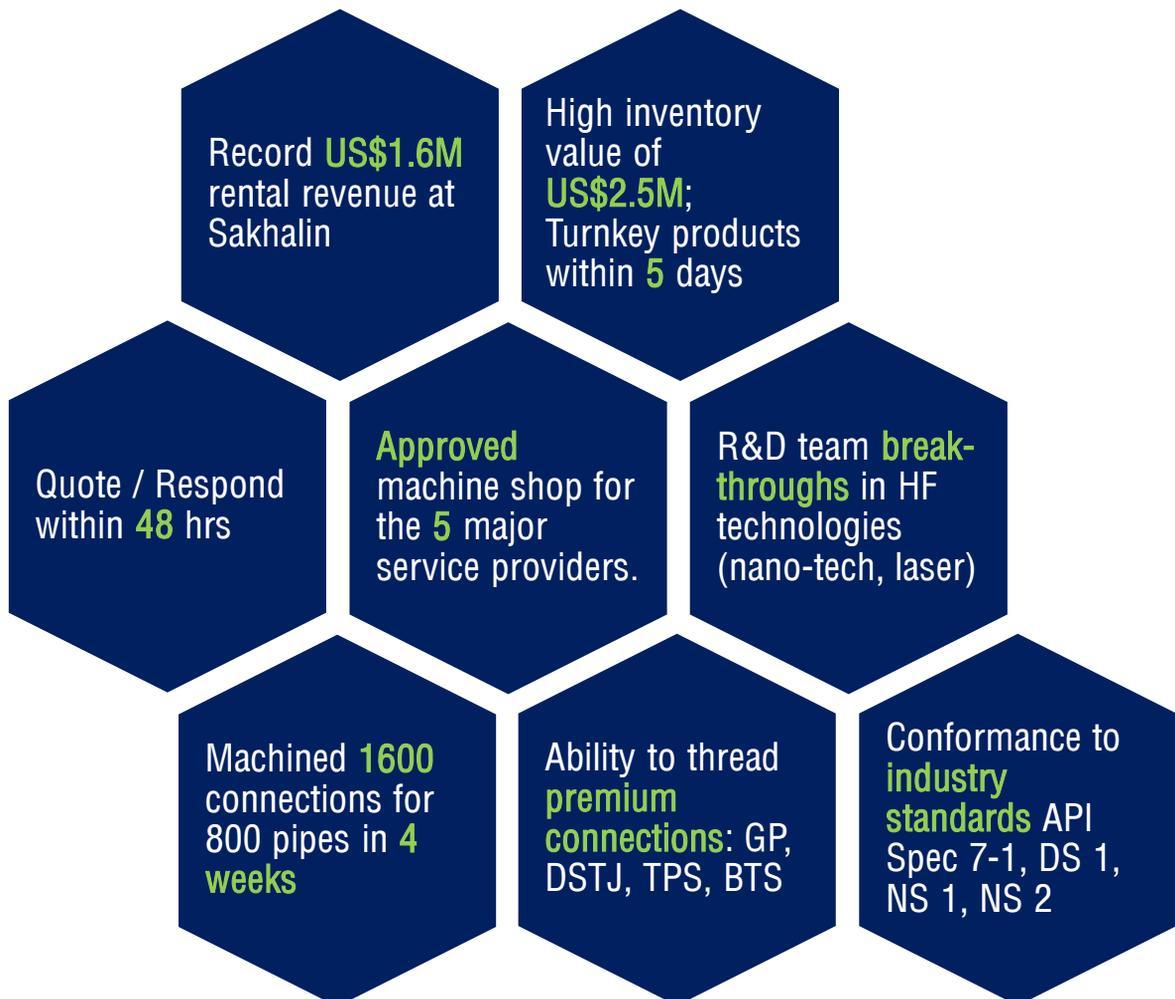
- Non-Magnetic & Steel Collars
- Non-Magnetic & Steel IB Stabilizers
- Non-Magnetic & Steel Screw-on-Sleeves
- Non-Magnetic & Steel Drill Stem Components

We trade:

- Cast Steel Lifting Bails
- Float Valves
- Mud Motors
- Break-out Machines
- Fishing Tools
- Drill pipes, and many others

The rental of such tools preserves capital, improves efficiencies and reduces equipment expenditure with no compromise on the quality of the tools.

Traded tools will be 100% inspected by OSS prior to delivery, to ensure compliance to all standards and requirements. These tools will be issued with our Certificate of Conformity for traceability.



# Integral Lifting Bail

OSS integral lifting bails are fitted to drill collars to protect threads during transit and storage, as well as to provide lifting points when the drill collars require picking up or laying down.

The thread and shoulders of the lifting bails are machined in accordance to A.P.I., requirements, and the normal lift capacity of the bails is 1½ times of the drill collar weight.

Integral Lifting Bail Specification

O.D. Range	Connection Size & Type	Box Protector	
		Wt. (lb)	Wt. (lb)
3½ – 3¾	N.C. 23	6	6
	2¾ REG.		
	N.C. 26		
	2¾ I.F.		
4 – 4¾	2¾ PAC	9	8
	2¾ I.F.		
	2¾ X.H. N.C. 31		
4½ – 5¼	3½ REG.	12	10
	N.C. 35		
	3½ X.H. N.C. 38		
5 – 5¼	3½ I.F.	15	14
	N.C. 40		
5½ – 6¼	4 F.H.	21	19
	4½ REG.		
6¼ – 6¾	4½ F.H.	20	18
	4 I.F. N.C. 46		
6½ – 7½	4½ H-90	23	20
	5½ REG.		
	5½ H-90		
	N.C. 50		
7¼ – 8¼	4½ I.F.	33	30
	5½ F.H.		
	6¾ REG.		
8¼ – 9	6¾ H-90	32	32
	N.C. 61		
9 – 10	7¾ REG.	66	62
10 – 11	8¾ REG.	77	73



Integral Lifting Bails

## Ordering Information

When enquiring, please specify:

1. Connection size and type
2. Pin / box protectors needed

# Float Valve

OSS supplies a complete line of float valves, repair kits, and puller assemblies to accommodate a wide range of drilling environment and operating conditions. The float valves are made from low carbon steel suitable for most applications, include H<sub>2</sub>S conditions.

These float valves also provide added blowout protection at the bottom of the drill-string, prevent flow-back during addition of joints, as well as keep cuttings out of the drill pipe and prevent bit plugging during connection making.

Typically, the only service required is replacement of the valve seal, which can be accomplished in seconds without any special tools.

OSS supplied float valves are easily installed by lubricating the side seals and sliding them into the cavity of the float sub or drill collar.

## Model "F" Plunger Type

Plunger type valve offers positive and instant shut-off. In normal drilling operations this model offers economy and durability. The piston type stops flow-back when making connections and keeps cuttings out of the drill string

## Model "G" Flapper – Full Flow

Flapper style valve features an investment cast flapper. It's quick opening for full flow through the valve. Designed for highly abrasive drilling fluids.

## Model "FX" Plunger Type

Suitable for well bores with high bottom hole temperatures, hydrogen sulphide, carbon dioxide or highly abrasive hematite mud.

## Model "GA" Flapper – Full Flow w/Carbide

Identical to the "G" except for a carbide orifice in the flapper. Allows differential pressure readings at surface.



Model "F" Plunger

Model "G" Flapper



Metal Repair Kit



Rubber Repair Kit

## Ordering Information

When enquiring, please specify:

1. Type of float valve
2. Metal / rubber repair kits if needed

# Mud Motor

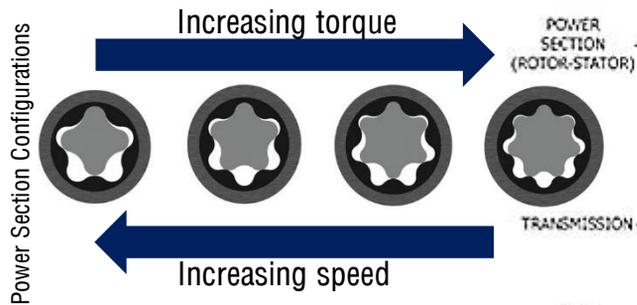
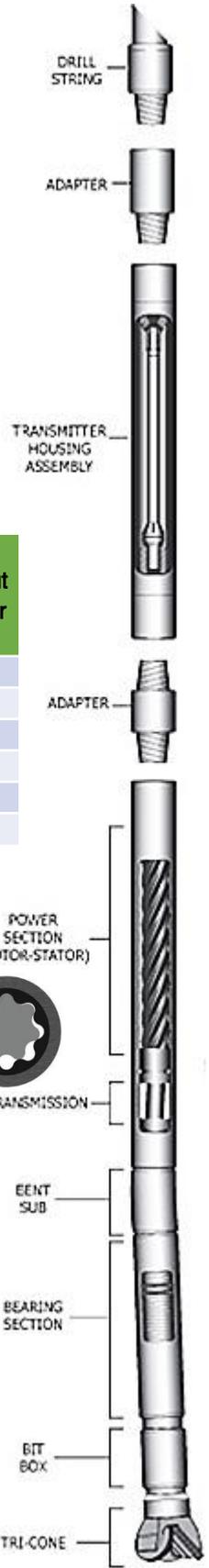
OSS offers a range of downhole mud motors from 1.¼" OD to 11.¼"OD in diameter for use in a wide variety of situations.

The mud motors have 7.0MPa and 14.0MPa bit nozzle differential pressure. The adjustable bend housing has a 0° to 3° bend angle, and is adjustable on the rig. Motors have a hollow cavity with a nozzle and a stator which can accommodate different drilling muds, from conventional temperatures of 120°C to high temperatures of 180°C.

Solid and bored rotors are precision machined and polished to achieve a smooth and accurate finish. Each rotor is then carbide-coated to resist corrosion and wear – this improves tool life significantly when compared to conventional chrome plating.

## Downhole Mud Motor Specification

Tool Size OD (Ins)	Recommended Hole Size (Ins)	Thread Connection		Flow Rate (GPM)	Rotary Speed (RPM)	Output Torque (Ft-Lb)	Max Pressure Loss (PSI)	Max Torque (Ft-Lb)	Max Output Power (HP)
		Bypass Valve Box Up	Bit Sub Box Down						
3-¾"	4-¼" - 5-7/8"	2-7/8"Reg	2-7/8"Reg	60-140	143-429	319	616	423	35
4-¾"	6" - 7-7/8"	3-½"Reg	3-½"Reg	130-260	128-256	1313	819	1855	90
6-¾"	7-7/8" - 9.7/8"	4-½"Reg	4-½"Reg	120-240	163-325	797	616	997	62
8"	9-½" - 12-¼"	6-5/8"Reg	6-5/8"Reg	120-250	122-245	1007	616	1338	62
9"	12-¼" - 17-½"	6-5/8"Reg	6-5/8"Reg	330-650	66-132	5628	819	7823	197
11-¼"	17-½" - 26"	7-5/8"Reg	7-5/8"Reg	1000-1500	117-176	10915	742	17463	365



## Ordering Information

When enquiring, please specify:

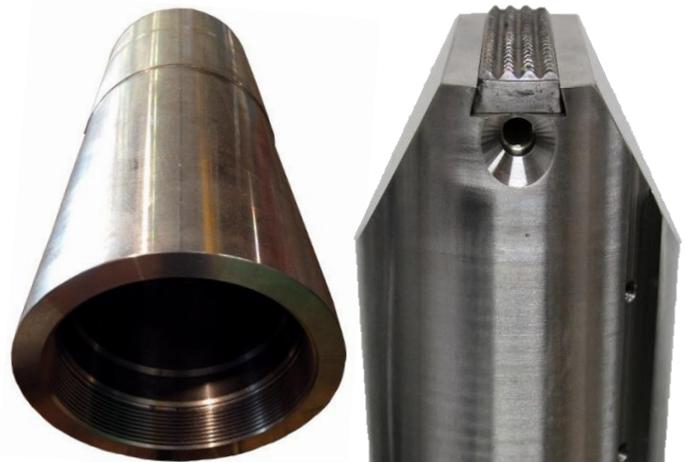
1. Size of mud motor
2. Power sector configuration
3. Operating temperature

# Break-Out Machine

OSS provides and services make-up and break-out machines for workshop make-up and break-out of up to 8-5/8" regular connections. The machine can be used for handling small diameter tools in extremely low torque applications or high torque requirements up to 190,000 foot pounds (260kNm) for larger tools.

Loading and unloading of the work piece is aided by built-in "rolling ball" type support jacks and a powered, movable tailstock. Both headstock and tailstock contain a chuck with six radially arranged hydraulic pistons which grip the work piece in synchrony.

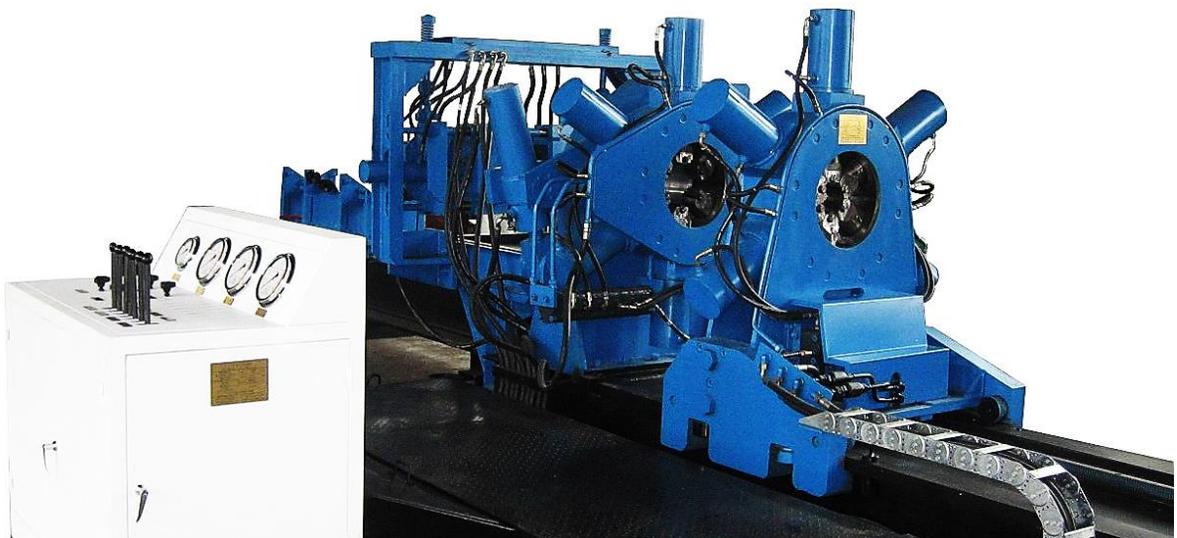
The clamp force increases proportionally with torque, which is applied by two hydraulic cylinders rotating in the same direction. The power torque can be set to automatically make-up or break-out, thus eliminating the tedium of manual repetition. The system is computerized; torque parameters can be set and raw chart copies of the operation can be generated.



Integrated Cylinder and Piston with Replaceable Tong Die



Screwing Tong Rotary Device



Break-Out Machine

# Break-Out Machine

## Break-Out Machine Dimension and Specification

<b>Hydraulic Console</b>	
Electric motor power	350V, 50Hz
Operating pressure	2000 psi
<b>Power Chuck (rotating and sliding chuck)</b>	
Suitable tube O.D.	3-1/2" – 15-3/4"
Break-out torque (max)	190,000 ft-lbf
Make-up torque range	4,000 ft-lbf to 150,000 ft-lbf
<b>Faster Screwing Tool</b>	
Suitable O.D.	2-3/8" – 15-3/4"
Screwing torque	2,950 ft lbf
<b>Draw Rotor Tool</b>	
Max. push	60,000 ft-lbf @ 24" max
Max. draw	40,000 ft-lbf
<b>Main Frame</b>	
Bed length	16 ft.
Capacity	20 tons

## Ordering Information

For further enquiries, please contact the OSS sales team: [sales@ossapi.com](mailto:sales@ossapi.com)

# Satellite Workshops

We can contribute to your success, by tailoring to your needs.



Precision Machining

# Location Capabilities

Location	Facility Size	Manufacturing	Machining Repairs	Hard-facing Repairs	Break-out Services
OSS Singapore	60,000 sq. ft. 5Ton Crane	✓	✓	✓	✓
OSS Tianjin	10,800 sq. ft. 5Ton Crane	✓	✓	✓	
OSS India (Mumbai)	6,000 sq. ft. 5Ton Crane	✓	✓	✓	
PT OSS (Jakarta)	12,000 sq. ft. 3Ton Crane	✓	✓	✓	
Olio Oilfield Services Sdn Bhd (Labuan)	16,500 sq. ft. 5Ton Crane		✓	✓	
OSS Thailand	20,000 sq.ft. 5Ton Crane	✓	✓		✓
SVP Songkhla	9000 sq. ft. 5Ton Crane		✓	✓	
SVP Sattahip	5000 sq. ft. 5Ton Crane	✓	✓	✓	✓

All satellite workshops, like OSS Singapore, will be audited and attain A.P.I. accreditations such as A.P.I. Spec Q1, Spec 7-1, along with ISO9001:2008 and A.P.I. Monogram licence.

The satellite workshops are strategically located to better service our customers' operations. Apart from reducing turnaround time, we are also able to provide substantial cost-savings due to improved inventory logistics and dedicated after-sales service to address any needs.

Our daily production is capable of running 2 shifts as we understand the time sensitivity and urgency of all our customers. In this regard, customers can be assured of timely deliveries and competitive pricing; these are strategic solutions that OSS can offer to our valued partners.



Tianjin



Songkhla



Labuan



# A One-Stop-Shop for your directional drilling equipment needs.



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