



RELEASING & CIRCULATING OVERSHOT

INTRODUCTION

The Pioneer range of releasing and circulating overshots provide the simple and effective answer to external engagement, packing-off and pulling of fish.

Manufactured from high quality alloy steels, these tools are designed to give maximum grip and strength while operating under the most arduous and rugged conditions.

Backed up by an extensive range of standard and customised accessories, Pioneer offers the complete package for your fishing needs.

Pioneer has comprehensive experience in the design and manufacture of various types of oil related tools. If your requirements are not contained within this catalogue, contact us. Our sales and design team are anxious to demonstrate our range of products and versatility, by solving your tooling problems.

“QUALITY & DELIVERY IS OUR PRIORITY”

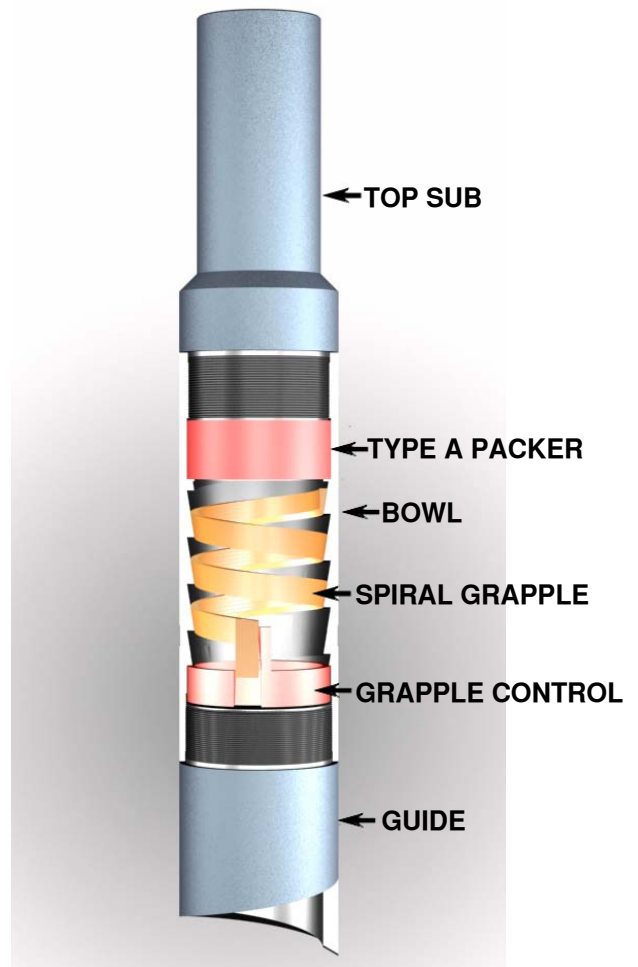
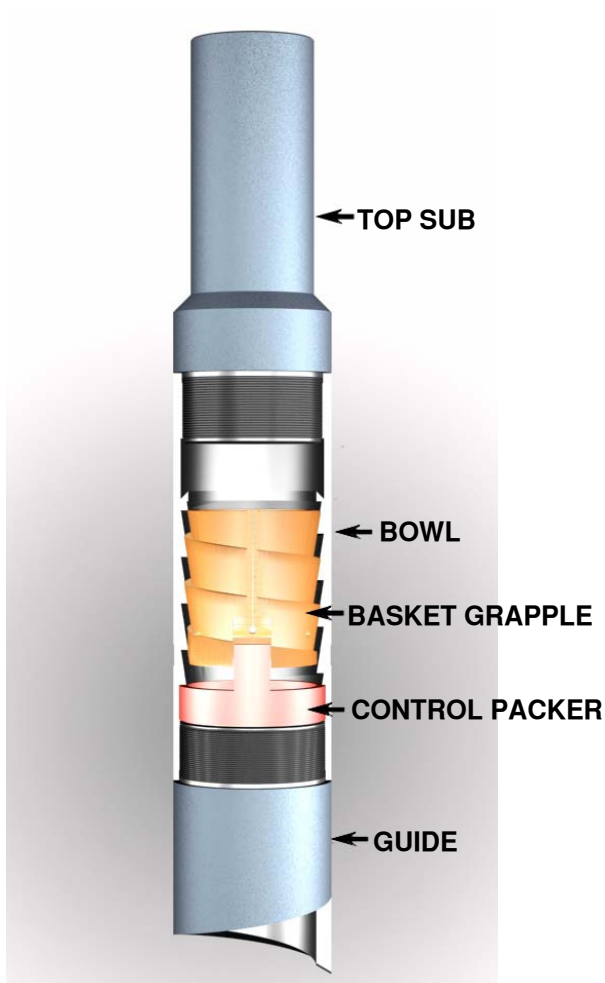
RELEASING & CIRCULATING OVERSHOT



GENERAL

This tool may be furnished with either of two catch mechanisms: a spiral grapple or a basket grapple, both of which operate in a common body. The body is an assembly of a top sub, bowl and guide, and determines the outside diameter of the tool.

Selection of the type of grapple is made by considering the clearance between the tool body and the hole, and the diameter of the fish. In general, a spiral grapple would be selected where the fish diameter is close to the hole diameter. Both types of grapple can pack-off and be used with circulating pumps to assist in pulling the fish.



BOWL

The bowl is a tubular section with a box thread at each end to receive the top sub and guide. The bore of the bowl has a strong left hand helical scroll of taper section, which operates both types of grapple. With the grapple in position and a fish engaged, an upward pull on the bowl moves the tapered section of the scroll up the mating taper of the grapple, causing the grapple to reduce in diameter. Since engagement is over the complete scroll length, the expansion forces created by gripping are transmitted evenly over the bowl. This allows tools to be manufactured which will operate with minimum body diameters without suffering damage to the bowl. A slot in the bore locates and operates the grapple controls.

RELEASING & CIRCULATING OVERSHOT

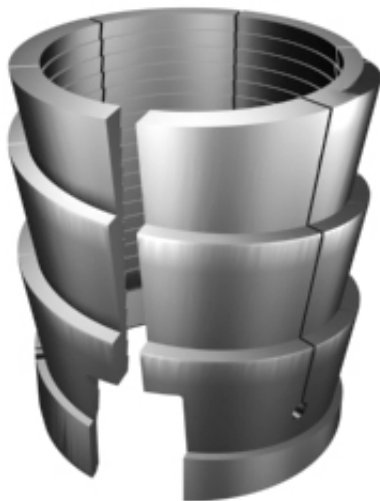
GRAPPLES

The **SPIRAL GRAPPLE** is similar to a left hand coil spring. Its outside diameter has a taper form which mates with the left hand scroll taper in the bowl. Left hand helical serrations in the bore provide the catch wickers and also enable the fish to be released from the overshot without reversing rotation.



Spiral Grapple

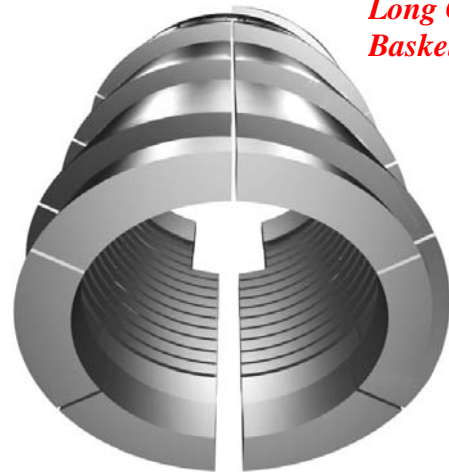
The **BASKET GRAPPLE**, available in three forms, is cylindrical with longitudinal slots through the wall and operates similar to a spring collet. The outside diameter has a left hand helical scroll of taper section which mates with the inside diameter of the bowl. Left hand helical serrations in the bore catch the fish. The left hand wickers permit the fish to be released without reversing rotation.



Plain Basket Grapple

The **PLAIN BASKET GRAPPLE** is wickered through the entire bore. Any plain diameter fish, of correct size, can be engaged and will pass through the grapple. This type of basket grapple is standard and will be supplied unless an alternative is specified.

The **LONG CATCH STOP BASKET GRAPPLE** is designed to engage an upset or coupling. A shoulder in the upper bore stops the fish from passing through the grapple and ensures the correct position for optimum catch and pack-off.



Long Catch Stop Basket Grapple

The **SHORT CATCH STOP BASKET GRAPPLE** is designed to engage a dual diameter fish; e.g., a coupling with a stub end of tubular protruding above it. The bore and wickers are formed in two diameters. The smaller upper diameter engages the stub end of pipe and also acts as a stop against the coupling, ensuring the correct position to catch and pack off the coupling.

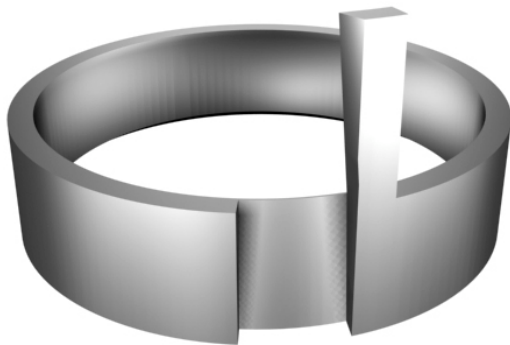
RELEASING & CIRCULATING OVERSHOT



GRAPPLE CONTROLS

Grapple Controls are required with each type of grapple, and act to key the grapple to the overshoot bowl, while allowing the grapple to move axially up and down to perform its catch function. A spiral grapple control is always fitted with a spiral grapple and one of three types of basket grapple control is fitted with a basket grapple.

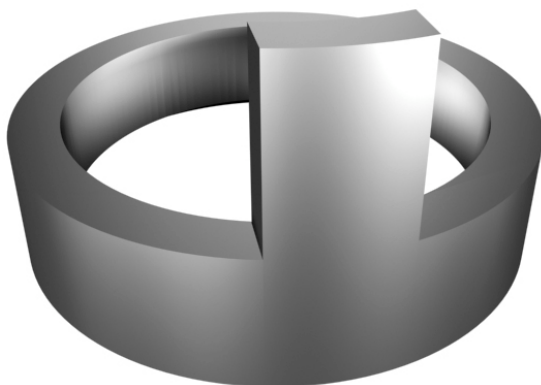
A **SPIRAL GRAPPLE CONTROL** acts solely as a control unit, and does not have either pack-off or mill tooth versions.



Spiral Grapple Control

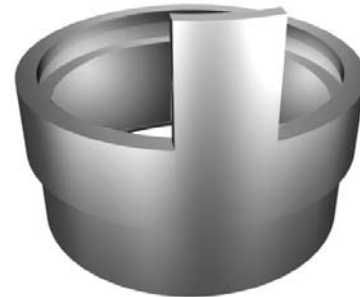
BASKET GRAPPLE CONTROLS can be supplied as plain, packer or mill packer.

A **BASKET GRAPPLE PLAIN CONTROL** acts solely as a control unit and is fitted when pack-off facilities are not required.



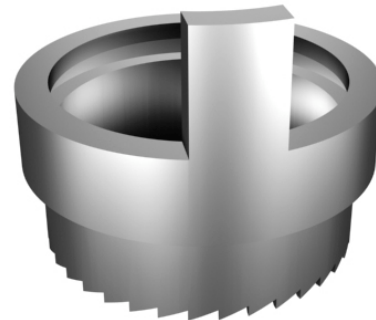
Basket Grapple Plain Control

A **BASKET GRAPPLE CONTROL PACKER** performs the dual function of control and pack-off.



Basket Grapple Control Packer

A **BASKET GRAPPLE MILL CONTROL PACKER** has mill teeth in addition to its control and pack-off facilities.



Basket Grapple Mill Control Packer

NOTE:- Control Packers are supplied complete with inner and outer seals.

GUIDES

Unless otherwise specified, the overshoot will be supplied with a standard cut lipped guide having the same outside diameter as the bowl.



Standard Guide

RELEASING & CIRCULATING OVERSHOT

PACK-OFF SYSTEMS

Two pack-off systems exist, and the type used depends on the grapple assembly selected i.e. spiral or basket.

A type 'A' Packer is always used with a spiral grapple assembly. This is a rubber bush which seals on the bore of the bowl with its outside diameter. The bore has a moulded lip which seals on the outside diameter of the fish and is energised by the circulating fluid. It is essential that the packer corresponds to the catch size when the pack-off system is to be utilised. Type 'A' Packers are easily replaced and it is advantageous to hold spares on site.

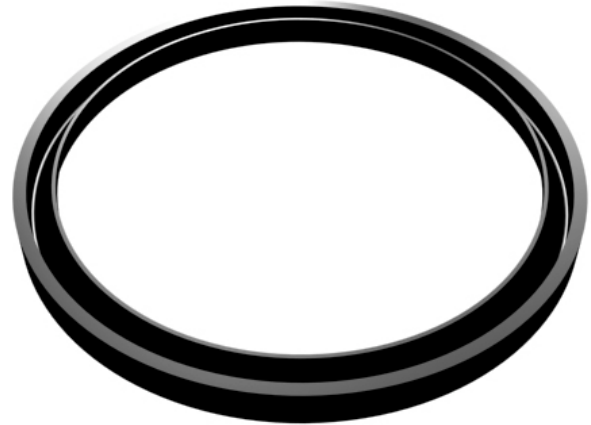


Type 'A' Packer

CONTROL PACKERS are fitted with a basket grapple assembly when pack-off is required, and consists of two independent seals. The inner seal is a chevron type, which when energised, seals the fish outside diameter and the control packer. The outer seal is an 'O' Ring which fits between the control packer and the bore of the bowl. The 'O' ring is slightly compressed by the pin end of the guide. Inner seals must be ordered and fitted to suit the required catch size.

Either a plain or a mill tooth packer may be fitted. The plain control packer is tapered to lead the fish through the seal and into the grapple. The mill tooth control packer has milling teeth on the taper to remove light rags and burrs prior to the fish passing through the seal and entering the grapple.

Inner and Outer seals are common to both types of control packer and are easily replaced on site. It is recommended that spare seals are kept with the overshot.



Control Packer Inner Seal

ADDITIONAL EQUIPMENT

Top Subs can be supplied with extra length fishing neck when technical reasons or operator preference dictate. These should be detailed at time of ordering, specifying the length required and size and type of connection.

Extension Subs may be required when the top of the fish is twisted or waisted some distance down from the break point. These enable the fish to pass completely through the overshot and into the extension, allowing the grapple and pack-off to engage on a good section of the outside diameter of the fish. The extension sub is fitted between the bowl and the top sub. When ordering, the length and outside diameter of the sub and assembly number of the overshot should be specified. Extension subs are available as standard in lengths of 36". However, lengths from 24" to 60" are available to special order.

RELEASING & CIRCULATING OVERSHOT



Extension Sub

An Oversize Guide may be required when the hole size is large enough to allow the overshoot to by-pass the fish. An oversize guide being larger than the overshoot body diameter, will locate the fish and lead it into the grapple. To order, specify the outside diameter required and the overshoot assembly number.

A Wall Hook Guide may be used when the fish is partially hidden in an undercut or recess in the hole, and cannot be encircled by a standard guide. A wall hook guide should be ordered by specifying the outside diameter and length required, and the overshoot assembly number.



Oversize Guide

OPERATING THE OVERSHOT

Run the overshoot on the end of the fishing string. As the overshoot approaches the fish, ensure that the circulating pumps are off. A slow right hand rotation will hold the grapple in its open position while the overshoot is slowly lowered to encase the fish. Full engagement will be accomplished when the fish contacts the lower end of the top sub in a spiral or plain basket grapple assembly, or the stop ring of a long or short catch basket grapple assembly. Any wind up in the fishing string should be released **before** pulling to engage the grapple. An upward pull on the string will close the grapple and ensure the wickers take a secure grip of the fish. No rotation should be employed unless the strain is maintained on the string. If the fish cannot be pulled, the circulating pumps may be started and pressure gradually increased down through the fish assist the pull.

To release the fish, the full weight of the string should be bumped down. This will disengage the tapers locking the grapple. A slow right hand rotation will hold the grapple in its open position while the overshoot is slowly withdrawn.

Pioneer Overshots are designed as standard to engage and release on right hand rotation only, thus avoiding any problems of string break-out.

Left hand overshoots are available to special order.



Wall Hook Guide



RELEASING & CIRCULATING OVERSHOT

CARE AND MAINTENANCE

Pioneer products are manufactured from the finest quality materials to give long and useful service. To obtain this service however, it is essential that tools are dismantled, thoroughly cleaned and inspected after use. Any damaged or excessively worn parts should be replaced. (Pioneer operates a complete spare parts service). If the tool is being returned to a warehouse or storage yard, internal parts should be well lubricated on assembly. Due to the detrimental effect of lubricants on rubber, it is recommended that seals be omitted for long term storage. These may be kept in sealed plastic bags inside the guide. A thread protector should be fitted to the top sub box connection and the outside painted or inhibited.

SELECTION

The numbering system used by Pioneer has been devised to enable the OD of each overshot and its component parts to be readily identified. The assembly numbers for Full Strength versions are the decimal equivalent of the OD and where a Slim Hole assembly is available, this is identified by the next consecutive number. The part number of each component identifies it to its assembly. Examples are as follows :-

7.7/8" OD Full Strength - Assembly No. 0787
7.7/8" OD Slim Hole - Assembly No. 0788
Spiral Grapple for 7.7/8" F.S. - Part No. 0787-4.

TO ORDER A STANDARD ASSEMBLY

Specify:

1. The O.D., type and assembly number from the tables.
2. Type of grapple catch size required.
3. Type of grapple control required.
4. Top Sub connection required.
5. Any additional equipment required, e.g. oversize guide, wall hook guide, extension sub, etc.

REPLACEMENT PARTS

Pioneer recommend that the following replacement parts be shipped with each overshot assembly :-

SPIRAL ASSEMBLIES

Two grapples and three packers for each catch size plus one grapple control.

BASKET ASSEMBLIES

Two grapples and two control packers for each catch size plus two inner and outer seals for control packers.

SPECIAL ORDERS

Pioneer will be pleased to quote for the design and manufacture of overshots to customers' specific requirements. Simply contact our sales office for further information.

Information on other styles of overshot available on request.

As the policy of Pioneer Oil Tools Limited is one of continual product improvement and rationalisation we reserve the right to change designs or specifications or discontinue models at any time without prior notice.

NOTES ON TABLES

1. Abbreviations

- F.S. Full Strength. Designed and manufactured to resist tensile, torsion and impact strains.
- S.F.S. Semi-Full Strength. Designed and manufactured to resist tensile and torsion strains.
- S.H. Slim Hole. Designed and manufactured to resist constant tensile strain only.
- X.S.H. Extra Slim Hole. Designed and manufactured to be used only for lifting

2. Yield loads given in Strength tables (pages 13 & 14 are theoretical and operators should apply a Factor of Safety in line with their normal working practices.