

INTRODUCTION

NAME: MANSYUR BIN WAHYUDDIN
POST: ASSISTANT SLICKLINE 3

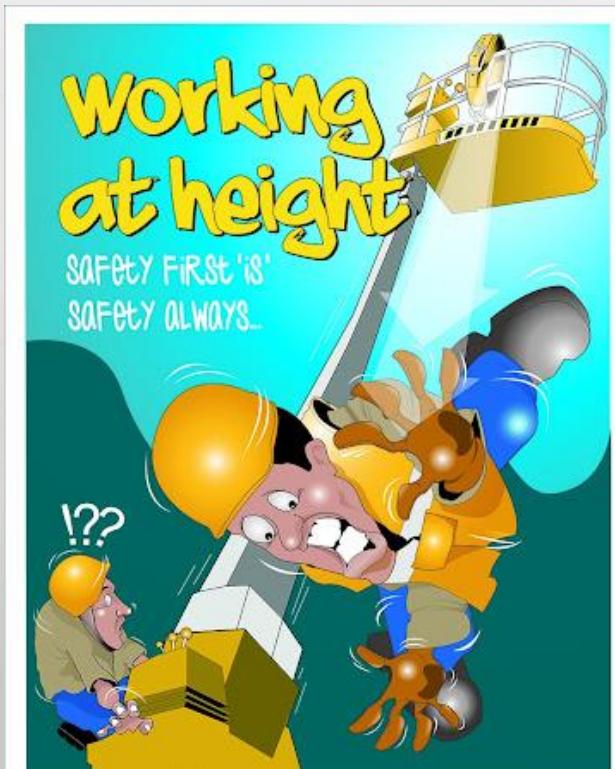
CONTENTS

SAFETY TOPIC

DOWNHOLE TOOLS (DHT)

WORKING AT HEIGHTS

- **WORKING AT HEIGHTS OF MORE THAN 1.8 METERS (6 FT)**
- **THE USE OF APPROVED FALL PREVENTION EQUIPMENT,**
- **FALL ARREST SYSTEMS SECURED TO AN APPROPRIATE ANCHORING POINT**



Working at Height

Protect yourself against a fall when working at height

- I inspect my fall protection equipment before use
- I secure tools and work materials to prevent dropped objects
- I tie off 100% to approved anchor points while outside a protected area

A circular icon containing a white silhouette of a construction worker standing on a white platform. The worker is holding a long pole or tool. The background of the icon is blue.

DHT – SHIFTING TOOLS

- **SLIDING SIDE DOOR**
- **OTIS 'B' SHIFTING TOOL**
- **OTIS 'BO' SELECTIVE SHIFTING TOOL**

CIRCULATION DEVICES

Alternative Names

- Sliding sleeve.
- SSD (SLIDING SIDE DOOR)

- SSD's are installed in the tubing during well completion to provide a means of communication between the tubing and annulus.

Functions:

- ❖ Circulation purposes between tubing and annulus.
- ❖ To allow oil and gas flowing from a desired production zone to the tubing string
- ❖ Injection water or gas flowing into reservoir for pressure maintenance or flooding.



CIRCULATION DEVICES

Standard, open down SSD

- **Otis type X0, Camco.**

Larger flow area, open down SSD

- **Otis type XD. (Used in heavy crude applications or high flow rate wells.)**

Open up SSD

- **Otis XA, Baker 'L'. (Designed for use in heavy mud / thick crude applications.)**

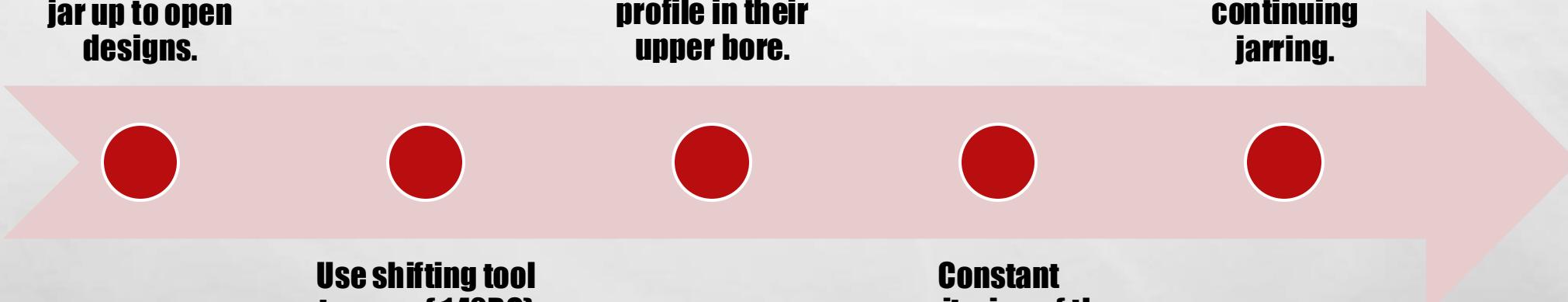
CIRCULATION DEVICES

- **Operation:**

SSD's are available from Otis in either jar down to open, or jar up to open designs.

installation of plugs, separation tools, and 'X' selective test tools at 'X' profile in their upper bore.

WAIT UNTIL THE PRESSURE HAS EQUALISED before continuing jarring.



Use shifting tool to open (142BO) and close (42BO)

Constant monitoring of the surface pressure (lubricator gauge)

'B' SHIFTING TOOL

Known as B-Up/42-BO

- engage to open or close all the Otis SSD's.
- This tool has 2 pin connections to permit either opening or closing of the sleeve by inverting the tool.



keys facing **DOWN**



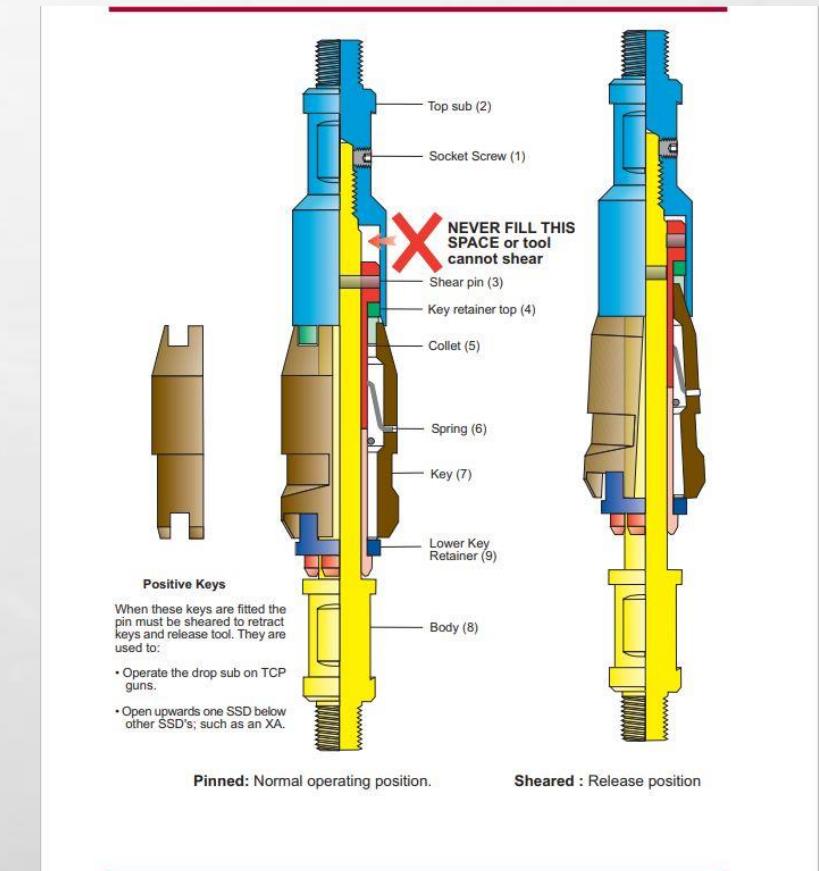
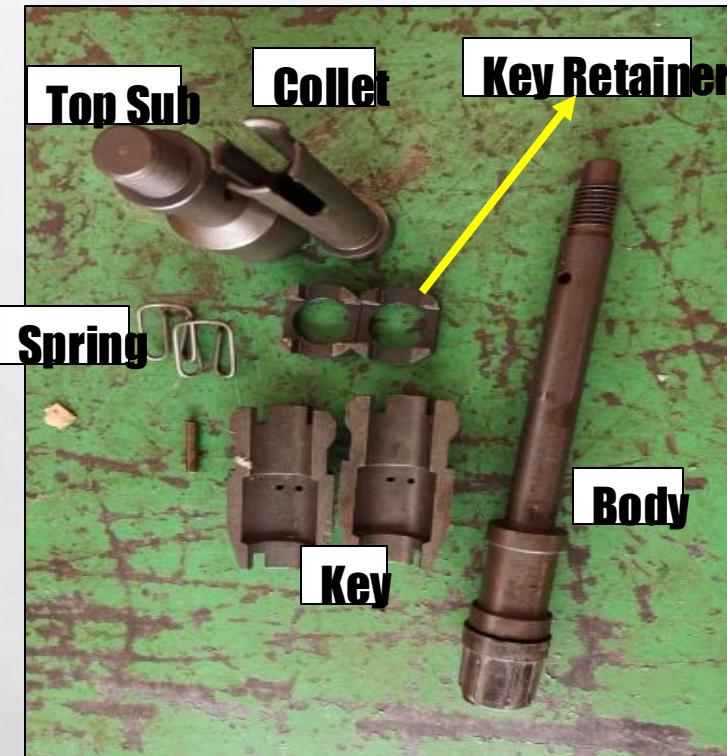
keys facing **UP**

- The tool is designed to release itself only after the sleeve reaches its fully open or closed position.

'B' SHIFTING TOOL

Consists of 8 parts:

- a. Top Sub
- b. Socket Screw
- c. Shear Pin
- d. Key Retainer Top
- e. Collet
- f. Spring
- g. Key
- h. Lower Key Retainer
- i. Body



Halliburton Otis® B Positioning (Shifting) Tool

Sliding Side-Door (ID)	Part Number	SAP Part Number	Connection	Fishing Neck	Keys Expanded (OD)	Tool (OD)
1.250 in.	42B0119	120057795	5/8 in. 16 UN	1.000 in.	1.488 in. / 1.392 in.	1.240 in.
1.375 in.	42B0180	101059077	5/8 in. 16 UN	1.000 in.	1.718 in. / 1.638 in.	1.366 in.
1.500 in.	42B0245	101059081	15/16 in. 10 UN	1.188 in.	1.629 in. / 1.665 in.	1.490 in.
1.625 in.	42B0121	120057796	15/16 in. 10 UN	1.188 in.	1.992 in. / 1.897 in.	1.615 in.
1.710 in.	42B0237	101059079	15/16 in. 10 UN	1.188 in.	2.156 in. / 2.110 in.	1.690 in.
1.781 in.	42B0117	101059064	15/16 in. 10 UN	1.375 in.	2.177 in. / 2.076 in.	1.750 in.
1.875 in.	42B0116	100008775	15/16 in. 10 UN	1.375 in.	2.210 in. / 2.108 in.	1.840 in.
2.000 in.	42B0159	101015719	15/16 in. 10 UN	1.375 in.	2.494 in. / 2.356 in.	1.840 in.
2.125 in.	42B0159	101015719	15/16 in. 10 UN	1.375 in.	2.494 in. / 2.356 in.	1.970 in.
2.188 in.	42B0118	100008776	15/16 in. 10 UN	1.750 in.	2.592 in.	2.156 in.
2.313 in.	42B0118	100008776	15/16 in. 10 UN	1.750 in.	2.592 in.	2.156 in.
2.562 in.	42B0178	101017053	15/16 in. 10 UN	1.750 in.	3.123 in. / 2.966 in.	2.530 in.
2.750 in.	42B0146	100009659	1 1/16 in. 10 UN	2.313 in.	3.156 in. / 3.015 in.	2.718 in.
2.813 in.	42B0146	100009659	1 1/16 in. 10 UN	2.313 in.	3.156 in. / 3.015 in.	2.718 in.
3.125 in.	42B0204	120057807	15/16 in. 10 UN	1.750 in.	3.604 in. / 3.486 in.	3.060 in.
3.250 in.	42B0208	101059078	1 1/16 in. 10 UN	2.313 in.	3.746 in. / 3.610 in.	3.200 in.
3.313 in.	42B0154	101010055	1 1/16 in. 10 UN	2.313 in.	3.734 in. / 3.616 in.	3.250 in.
3.437 in.	42B0242	101009406	1 1/16 in. 10 UN	2.313 in.	4.08 in. / 4.14 in.	3.410 in.
3.562 in.	42B0242	101009406	1 1/16 in. 10 UN	2.313 in.	4.08 in. / 4.14 in.	3.410 in.
3.688 in.	42B0238	101010057	1 1/16 in. 10 UN	3.125 in.	4.250 in. / 4.150 in.	3.670 in.
3.750 in.	42B0238	101010057	1 1/16 in. 10 UN	3.125 in.	4.250 in. / 4.150 in.	3.670 in.
3.813 in.	42B0238	101010057	1 1/16 in. 10 UN	3.125 in.	4.250 in. / 4.150 in.	3.670 in.
4.000 in.	42B0171	101059073	1 1/16 in. 10 UN	2.313 in.	4.504 in. / 4.360 in.	3.850 in.

'B' SHIFTING TOOL

Operation

1. Connect tool to the toolstrings. Key facing DOWN/UP

3. Jar against the sleeve in the desired direction. If moving the sleeve up, jars cannot be closed to hit a lick
- Run into the SSD from below, adjusting speed to give the desired impact.

5. Continue jarring to fully open the SSD. The tool will automatically release when the raised portion of the keys is 'squeezed' by the ID of the polished bore.

7. Pull out of the hole and VISUALLY CHECK THE TOOL HAS NOT SHEARED. If sheared, repin & rerun. The sleeve may not full close/open



2. Run into the SSD and locate.



4. Observe the lubricator gauge pressure CAREFULLY. Stop when the pressure changes and WAIT until the pressure is equalised. The pressure should be fully equalised through the 4 small ports in the sleeve prior to the main flow ports being opened (or close)



6. The tool should be passed completely through the SSD 3 times to check the SSD is fully open (or closed).



'BO' SELECTIVE SHIFTING TOOL

Known as B-Down/142-BO

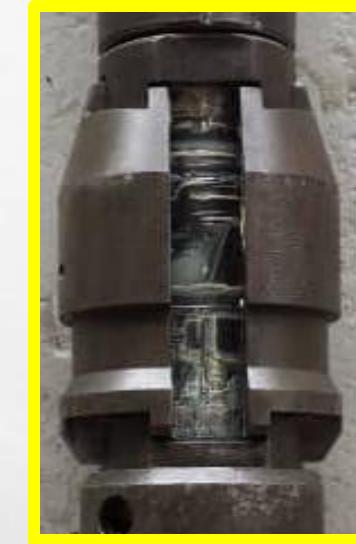
- To 'selectively' open X0 and XD SSD's by passing through the upper sleeve.
- It will only shift sleeves downwards, and should never be inverted (hence only one pin end) as it could get stuck below a tight sleeve.
- These tools are designed for tubing strings with multiple sliding side-door devices of the same size.
- This tool does not have a shear pin and automatically release itself.



'BO' SELECTIVE SHIFTING TOOL



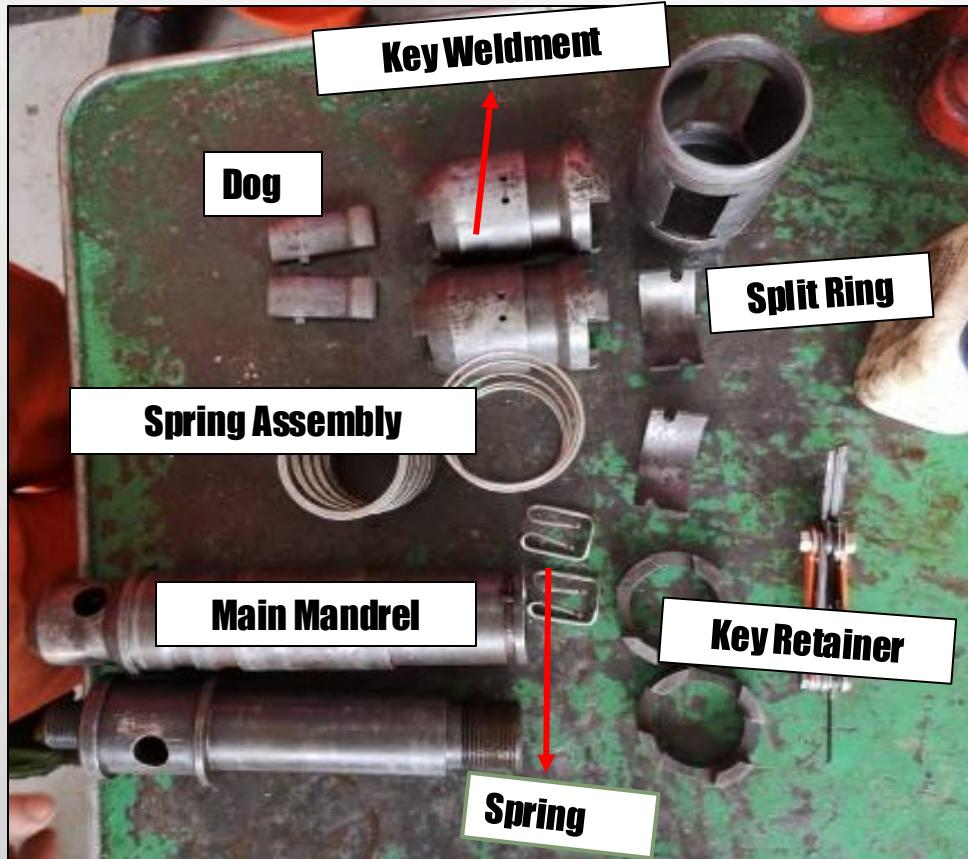
A: Selective: Shifting keys retracted to pass the upper SSD's locator dogs extended to locate the packing bore.



B: Non-Selective: Shifting keys extended to locate in the SSD.

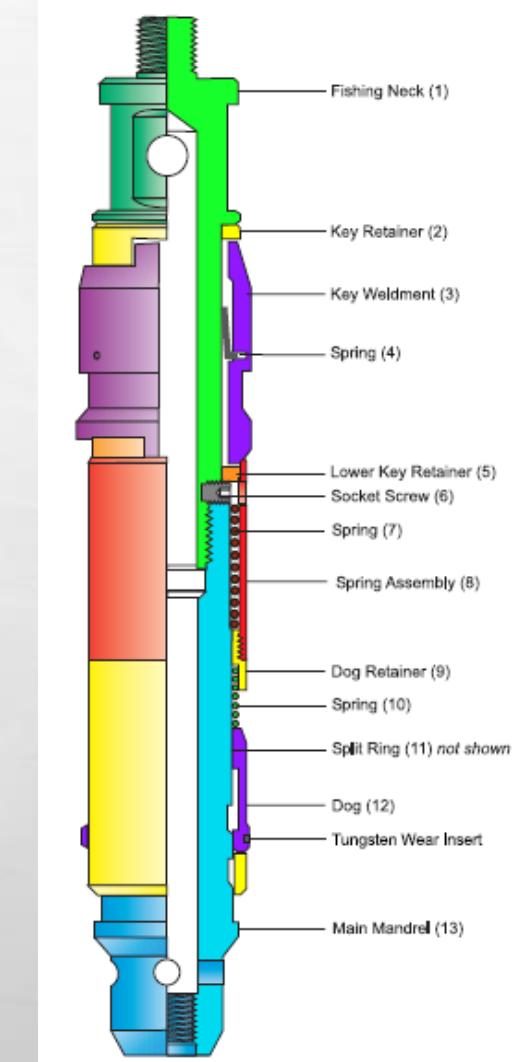


'BO' SELECTIVE SHIFTING TOOL



Consists of **12** parts:

- 1) Fishing neck
- 2) Key Retainer
- 3) Key Weldment
- 4) Spring
- 5) Lower Key Retainer
- 6) Socket Screw
- 7) Spring
- 8) Spring Assembly
- 9) Dog Retainer
- 10) Spring
- 11) Split Ring
- 12) Dog
- 13) Main Mandrel



'BO' SELECTIVE SHIFTING TOOL

Operation

The tool is run in
SELECTIVE to
below the SSD to
be shifted.

3. Sit down in
the SSD and jar
down. OBSERVE
EQUALISATION
PROCEDURES -
AS FOR THE 'B'
SHIFTING TOOL.

5. Check by
passing 3 times
through the SSD.
6. Pull out of the
well.

2. Pull upwards
through the SSD
to trip to NON-
SELECTIVE.

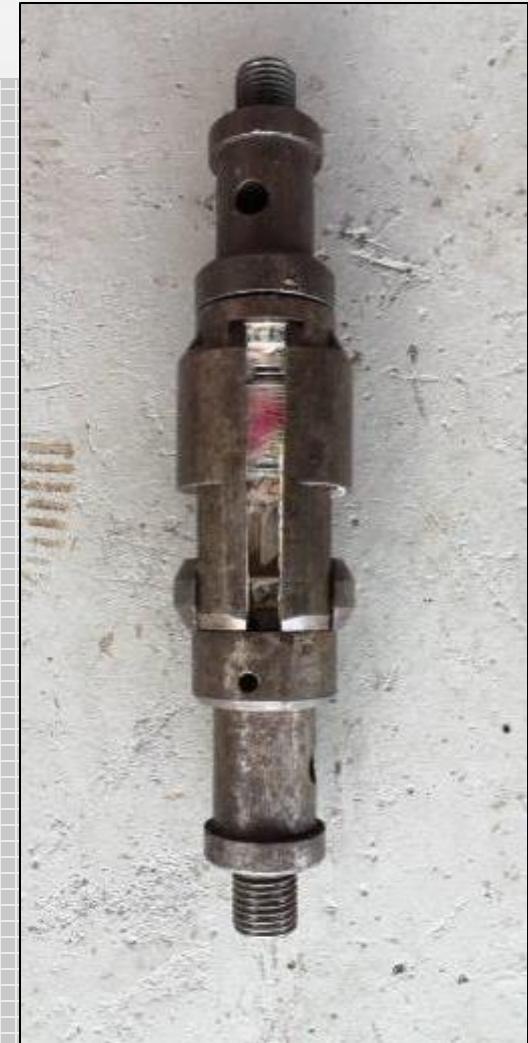
4. When the SSD
has moved fully,
the tool will
automatically
pass through
the SSD.

Halliburton Otis® BO Downshift Selective Positioning Tool

Sliding Side Door ID	Part Number	SAP Part Number	Connection	Fishing Neck	Keys Expanded (OD)	Tool (OD)
1.500 in.	142B06	101038100	15/16 in. 10 UN	1.187 in.	1.694 in.	1.410 in.
1.875 in.	142B04	100008500	15/16 in. 10 UN	1.375 in.	2.161 in.	1.843 in.
2.188 in.	142B015	101323317	15/16 in. 10 UN	1.750 in.	2.592 in.	2.171 in.
2.313 in.	142B03	100008499	15/16 in. 10 UN	1.750 in.	2.592 in.	2.280 in.
2.562 in.	142B014	101038097	15/16 in. 10 UN	1.750 in.	2.966 in.	2.500 in.
2.750 in.	142B01	100008498	1 1/16 in. 10 UN	2.313 in.	3.076 in.	2.720 in.
2.813 in.	142B016	101038098	1 1/16 in. 10 UN	2.313 in.	3.015 in.	2.780 in.
3.313 in.	142B011	101038095	1 1/16 in. 10 UN	2.313 in.	3.616 in.	3.250 in.
3.437 in.	142B012	101038096	1 1/16 in. 10 UN	2.313 in.	4.080 in.	3.410 in.
3.688 in.	142B010	101038094	1 1/16 in. 10 UN	2.313 in.	4.080 in.	3.620 in.
3.813 in.	142B02	101038099	1 1/16 in. 10 UN	2.313 in.	4.158 in.	3.750 in.
4.562 in.	142B09	101038101	1 1/16 in. 10 UN	3.125 in.	4.928 in.	4.500 in.

“X” SHIFTING TOOL

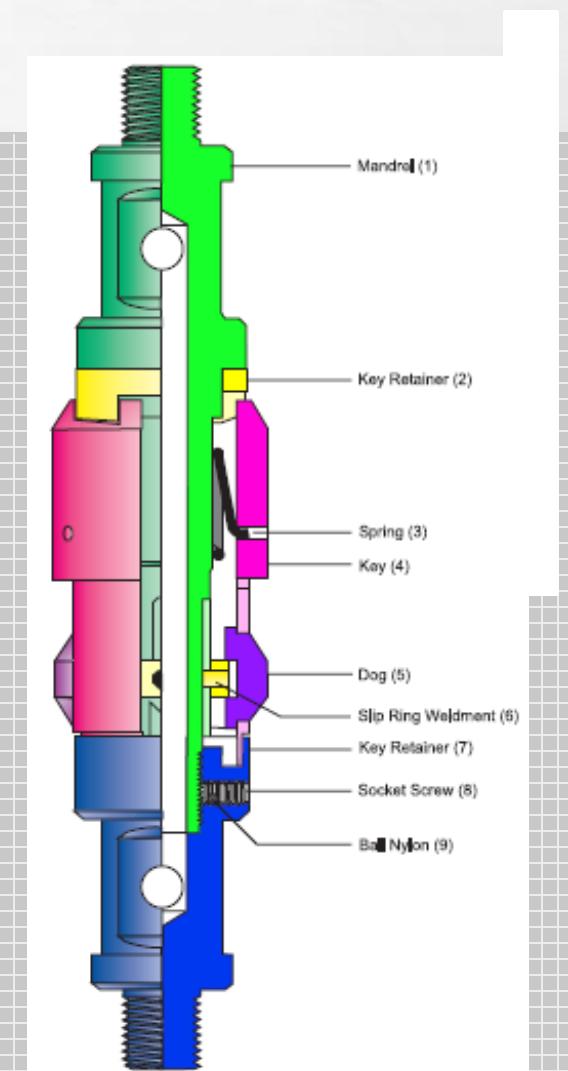
- To locate and either open or close a typical Halliburton style sliding side door (XA / X0 SSD).
- It is changed from the selective to the nonselective position by the up-down movement of the shifting tool through the sleeve.
- The chosen sliding sleeve can be shifted to open or closed position without shifting the other sleeves.
- The chosen sliding sleeve can be shifted to open or closed position without shifting the other sleeves.
- The dogs can be moved to a position close to the 90-degree shoulder of the key by picking up the tool string, and lowering it again to cycle the tool into a non-latching position.



“X” SHIFTING TOOL (CONT.)

Consists of **9** parts:

- a. **Mandrel**
- b. **Key Retainer**
- c. **Spring**
- d. **Key**
- e. **Dog**
- f. **Slip Ring Weldment**
- g. **Key Retainer**
- h. **Socket Screw**
- i. **Ball Nylon**



**Source: Parveen
Slickline Tools**

SSD I.D. (in)	F/N O.D. (in)	Connection	Part No. 'B'	Part No. 'BO'	Part No. 'X'
1.375	1.000	5/8 - 11 UNC	175-137	289-137	288-137
1.500	1.187	15/16 - 10 UN	175-150	289-150	288-150
1.625	1.187	15/16 - 10 UN	175-162	289-162	288-162
1.710	1.187	15/16 - 10 UN	175-171	289-171	288-171
1.781	1.375	15/16 - 10 UN	175-178	289-178	288-178
1.875	1.375	15/16 - 10 UN	175-187	289-187	288-187
2.125	1.375	15/16 - 10 UN	175-212	289-212	288-212
2.188	1.750	15/16 - 10 UN	175-218	289-218	288-218
2.313	1.750	15/16 - 10 UN	175-231	289-231	288-231
2.562	1.750	15/16 - 10 UN	175-256	289-256	288-256
2.750	2.313	1-1/16 - 10 UN	175-275	289-275	288-275
2.813	2.313	1-1/16 - 10 UN	175-281	289-281	288-281
3.125	1.750	15/16 - 10 UN	175-312	289-312	288-312
3.313	2.313	1-1/16 - 10 UN	175-313	289-313	288-313
3.437	2.313	1-1/16 - 10 UN	175-343	289-343	288-343
3.688	3.125	1-1/16 - 10 UN	175-368	289-368	288-368



DIMENSION BID. THE BEST !!!

“

Don't let the noise of others' opinions drown out your own inner voice

”

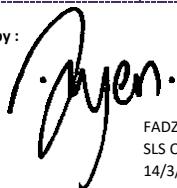
Thank You

EMO SLS - INTERNAL TRAINING ATTENDANCE

Date/Time : 27 March 2025/1330hrs

Timestamp	Name of Trainer/Presenter	Topic	Your Full Name	Position
3/27/2025 13:23:17	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Fadzlin Mohamad Ibrahim	Operation Support
3/27/2025 14:52:11	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	DENNOVAN CHRIST ANAK DESMOND	SLS Trainee Assistant
3/27/2025 14:52:26	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Loo Jing Jing	Operation Support
3/27/2025 14:52:29	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	MD IFWAT AFIQ BIN SAMSULLIZAM	SLS Trainee Assistant
3/27/2025 14:52:30	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Ammirol Ahmad	SLS Operator
3/27/2025 14:52:40	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Larry David Gau	SLS Trainee Assistant
3/27/2025 14:52:41	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	MOHAMAD AIKHAL AIMAN BIN MAT YUNUS	SLS Trainee Assistant
3/27/2025 14:53:02	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Roynaidie bin embon @ embun	Operation Support
3/27/2025 14:53:04	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Muhd nur selamat bin tamril	SLS Trainee Assistant
3/27/2025 14:53:08	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Muuriyati Qodhah Bin Sopian	SLS Trainee Assistant
3/27/2025 14:54:31	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Muhammad Aizuddin Mustaffa	SLS Assistant
3/27/2025 14:54:45	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Roy Jackson	SLS Operator
3/27/2025 14:54:46	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Mansyur Wahyuddin	SLS Assistant
3/27/2025 15:05:38	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Hillary Ranggie Anak Nelson	SLS Assistant
3/27/2025 15:08:49	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	MUHAMMAD AQISH BIN ZAINUDIN	SLS Assistant
3/27/2025 15:35:28	Aizuddin & Mansyur	Safety – Line of fire & Hydraulic Mast 40ft / Safety – Working at height & Shifting Tool	Iman Asshafi Bin Rozali	SLS Trainee Assistant

Recorded by :



Name : FADZLIN MOHAMAD IBRAHIM
 Position : SLS OPERATION EXECUTIVE
 Date : 14/3/2025