



# SJX

## Single Joint Elevator

### Operation Manual

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Revision History

<b>Rev</b>	<b>Date</b>	<b>Reason</b>
A	11/24/14	Issued for Use
B	4/18/15	Part List corrections, added wear data and weights.
C		

Description of Change

<b>Rev</b>	<b>Change</b>
B	Frame size from 7 to 10 inches was T504333, Item 2 was T50004940, Item 4 was T504953, and Item 9 was T979785-15. Added Figure 3 – ear wear data. Revised Table 2 & 4. Added Table 5 (renumbered rest).
C	

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# GENERAL

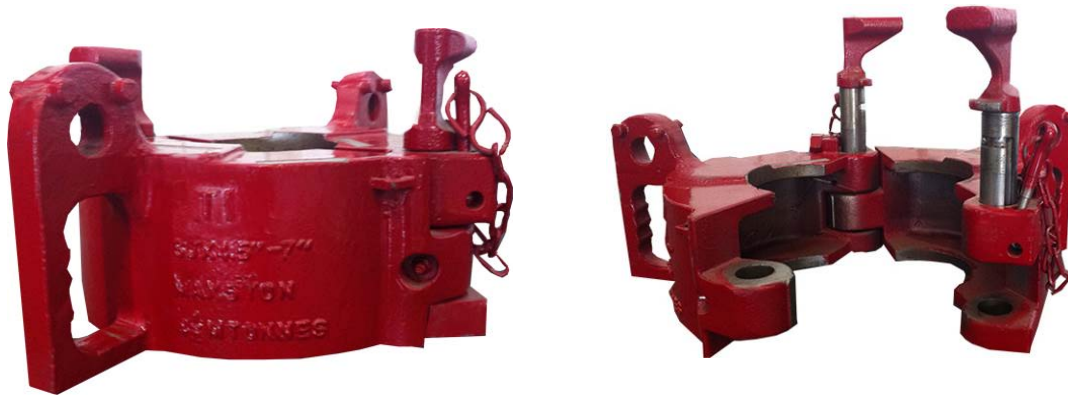


Figure 1 – SJX

The SJX elevator has two hinges that enable easy use with most Casing Running tools as it opens from either side. The SJX can also be used as a standalone elevator to hoist casing pipe. To prevent dropping lock key pins into the well, they are fastened into the elevator halves. Lock screws keep the lock key pins in the locked position during operation.

Lifting eyes are strategically placed to avoid picking up the tubular with the elevator inverted. Handles facilitate easy and ergonomic operator use. Handles casted with pins prevent shackle rotation that can result in wedging the elevator underneath the casing coupling during hoisting. The casted pins are a safety feature as they prevent possible pinching hazard for the operator during installation and use.

# CONVENTIONS

IMPORTANT SYMBOL IDENTIFICATION	
	<b>WARNING</b> to Operators / Users
	<b>CAUTION</b> to Operators / Users
	<b>NOTIFICATION</b> to Operators / Users

Table 1

## SAFETY

Texas International's equipment is used and installed in controlled rig environments involving hazardous operations and situations.

All personnel performing installation, operations, repair or maintenance on this elevator must have knowledge of rig procedure. All crew in the vicinity of operations should be trained on rig safety and tool operation.

## SPECIFICATIONS

Size Range	Part Number Frame PN + BC	Capacity (in tons)	Weight* (in lbs)
2-3/8" - 4-1/2"	T504929-XXX	5	38
4-1/2" - 7"	T504931-XXX		52
7-5/8" - 9-7/8"	T504933-XXX		68
10" - 14"	T504935-XXX		78

BC= Bore code shown as XXX above

\*Nominal

Table 2

## LOCK KEY PIN UPGRADE

Texas International offers a new securing mechanism, a coated lock screw, and a coated lock key pin. The new lock key pin and lock screw are coated to extend their life span. The tabbed washer prevents the nut from backing off. See Figure 2. This upgrade kit (part number (p/n) T50004947-1) is available for existing owners.



Figure 2 – SJK lock screw kit

## PREVENTIVE MAINTENANCE



This is a suggested PM schedule. The tool owner has the responsibility to adjust the program according to actual tool usage



When there is suspicion that the elevator has been **overloaded**, it should be pulled from operation for an Annual type PM

### Daily (PM1) – While in use

- Apply EP 4 grease to all greasing ports and hanging ears, if needed
- Pull up lock key pins, lock and unlock a total of 10 cycles to assure pins are fastened to the body and locking mechanism performs



If lock key pins can be removed from body, remove elevator from operation for repair

- Make sure pins do not wobble up and down when set in place
- Make sure lock screws are complete and prevent rotation of the pin
- Visually check set screws when removed for deformed tip with rolled metal
- Inspect elevator for damage and cracks

### Semi-Annual (PM2)

- Remove coating and debris from critical areas
- Perform MPI on critical areas as indicated on API specification 8C
- Repair cast as needed, recommend that they be done by manufacturer
- Verify bore dimension is within API specification
- Carry on daily PM

### Annual (PM3)

- Repeat daily and semiannual PMs
- Performance load test
- MPI critical areas 24 hours after load test
- Repair cast as needed - recommend repairs be done by TIOT



Proof of load test and MPI are required after remanufacture or a major weld repair in a critical area

# ELEVATOR WEAR LIMITS

The wear of the elevator bore affects its ability to support the required load. Elevators for which the bore measurements exceed the 'Maximum Allowable Wear' shown in table 3 shall either be remanufactured or scrapped.

Tubular		
Tubular Size (in)	Bore Code	Maximum Allowable Wear (in)
2 3/8	158	2.512
2 7/8	160	3.013
3 1/2	162	3.639
4	164	4.139
4 1/2	129	4.659
4 3/4	130	4.913
5	131	5.168
5 1/2	132	5.676
5 3/4	133	5.931
6	134	6.185
6 5/8	135	6.821
7	136	7.203
7 5/8	137	7.838
8 5/8	139	8.856
9	140	9.238
9 5/8	141	9.873
9 7/8	649	10.128
10	831	10.255
10 1/8	846	10.382
10 3/4	142	11.018
11 3/4	143	12.036
13 3/8	144	13.664
13 5/8	596	13.918
14	690	14.300

Table 3

Model	SJX
Total Clearance (in)	
Lock Key Pin	0.020

Table 4

Lock Key Pin (in)	
Min Dia.	1.112
Lock Key Pin Hole (in)	
Max Dia.	1.123
Max Worn	1.130

Table 5

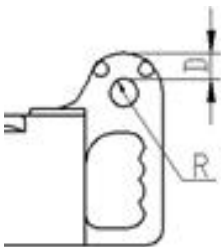


Figure 3

Minimum D dimension in Figure 3 is 0.75”.

## CRITICAL AREA MAP

Darken areas are defined as critical.

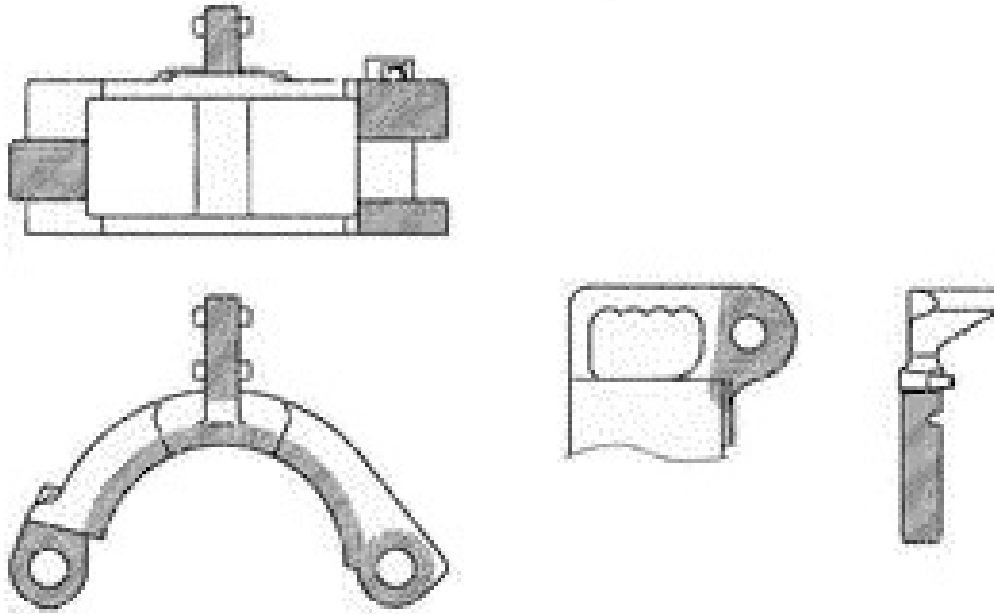


Figure 4

## TROUBLESHOOTING

Failure Mode	Possible Cause	Possible Solution
Deformed lock key pin holes	Overload	Scrap the tool Pull elevator from operation and carry on PM 3
	Wear	Verify pin clearance
Bent Pins	Overload	Perform PM 3
Elevator does not open	Corrosion	Pry open, clean and lubricate.
	Overload	Carry on PM 3 Scrap the tool
Elevator does not close	Oversized tubular	Select properly sized elevator

Table 6

## STORAGE AND TRANSPORTATION

- Unpainted surfaces should be coated with rust preventing agent
- Prevent excessive exposure to water and moisture



- Clean the tool after use – steam clean as needed; remove mud, debris and any other substances
- Transport the unit on a suitable container or pallet

## PARTS LIST

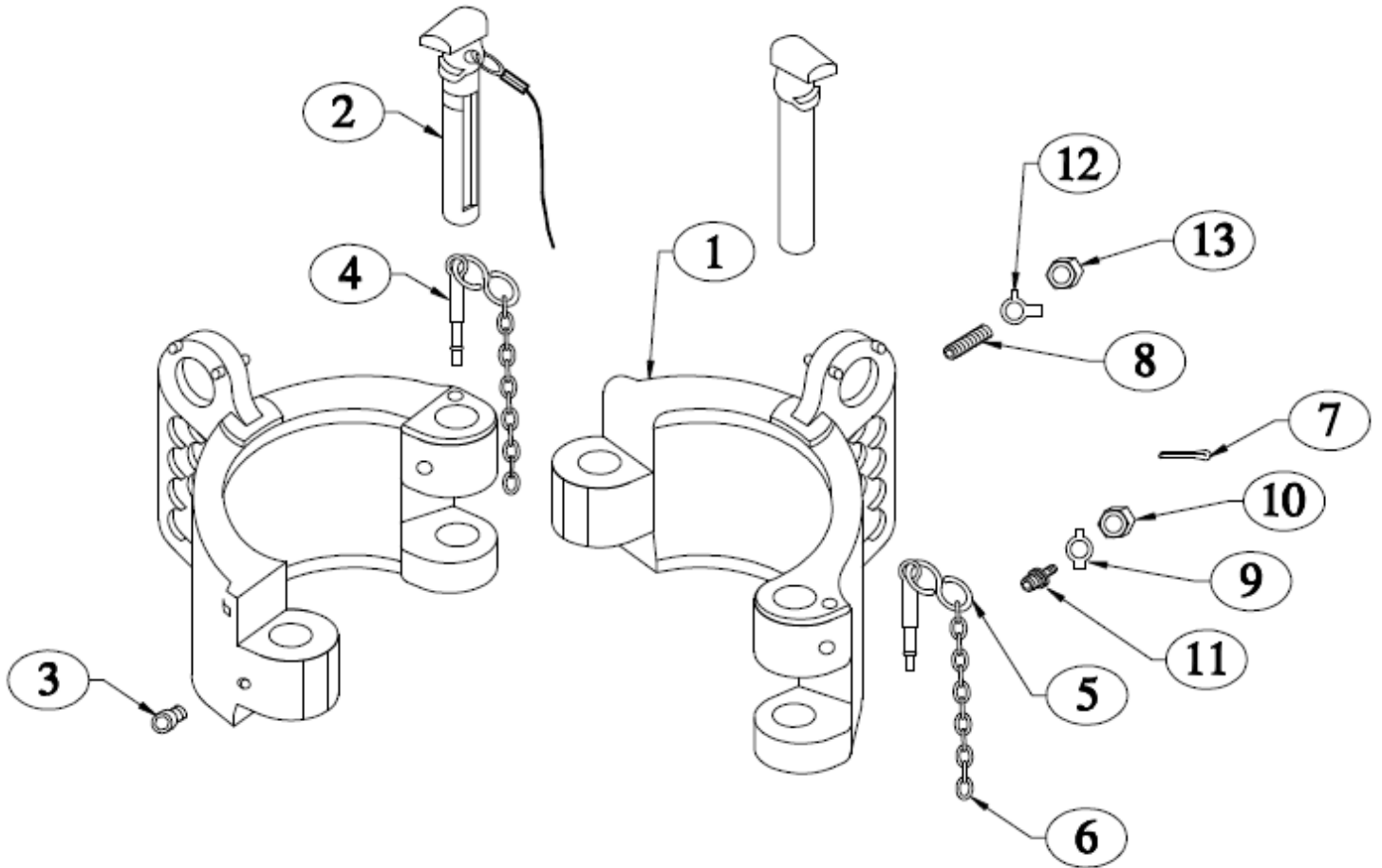




Figure 5

Parts List continued

Part List						
#	Frame PN 	Req 	T504929	T504931	T504933	T504935
	Range (in)		2 3/8 - 4-1/2	4-1/2 - 7	7 - 10	10 - 14
	Capacity / Max Operational Load (Ton)		5	5	5	5
Component						
1	Body	2	T504929-1	T504930-1	T504932-1	T504934-1
2	Lock Key Pin	2	T50004940-3			
3	Grease Fitting	2	53201			
4	Cotter Pin (Verification Pin)	2	T50004953			
5	S Chain Hook	2	T948051-2			
6	Chain	2	T59001008-4			
7	Cotter Pin (Fasten hook into body)	2	T51403-12			
8	Ball Nose Spring Plunger	2	T59000251-6			
9*	Washer	2	T979485-15			
10*	Nut	2	T944423-10			
11*	Lock Screw	2	T50004947			
12	Washer	2	T979785-16			
13	Nut	2	T50310			

\* Part of kit p/n T50004947-1

Table 7

Every Company has to have a Toolbox  
at Texas International Oilfield Tools.

*We provide the tools to fuel the  
world!*



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