

**Blohm+Voss Pipe Handling Equipment**  
**Manual Tongs models types BV & WRT**  
Technical Documentation  
Original Instructions



Manual PN 70370-S-D Rev. 009, February 2012

**Blohm + Voss Oil Tools**



# GENERAL INFORMATION

## Warnings and Note

**WARNING:** A “WARNING” INDICATES A DEFINITE RISK OF EQUIPMENT DAMAGE OR DANGER TO PERSONNEL. FAILURE TO OBSERVE AND FOLLOW PROPER PROCEDURES COULD RESULT IN SERIOUS OR FATAL INJURY TO PERSONNEL, SIGNIFICANT PROPERTY LOSS, OR SIGNIFICANT EQUIPMENT DAMAGE.

NOTE: A “note” indicates that additional information is provided about the current topics.

**WARNING:** THIS TECHNICAL DOCUMENTATION CONTAINS INSTRUCTIONS ON SAFETY, INSTALLATION, OPERATION AND MAINTENANCE FOR THE BLOHM + VOSS OIL TOOLS TOOL. IT MUST BE STUDIED BEFORE WORKING WITH THE TOOL.

## Improper / Unsafe Use

The tool must only be used for the designated purpose. When using the tool, the rated load must never be exceeded.

## Intended use of this manual

This manual is intended for use by field service, engineering, installation, operation, and repair personnel. Every effort has been made to ensure the accuracy of the information contained herein. Blohm + Voss Oil Tools, will not be held liable for errors in this material, or for consequences arising from misuse of this material. Anyone using service procedures or tools, whether or not recommended by Blohm + Voss Oil Tools, must be thoroughly satisfied that neither personal safety nor equipment safety will be jeopardized.

## Intellectual property

All rights retained. No part of this document may be reproduced in any form (print, photocopy, microfilm or any other procedure) or be processed using an electronic system without written approval of Blohm + Voss Oil Tools.

All information contained in this manual is based upon the latest product information available at any time of printing.

Dependent on ongoing technical improvements (ISO 9001) “Blohm + Voss Oil Tools” reserves the right to change the design and specifications without announcement.

The values specified in this manual represent the nominal values of a unit produced in series. Slight deviations in the case of the individual devices are possible.

NOTE: In the event of problems that cannot be solved with the aid of this manual, please contact one of the addresses listed below.

## CE Marking

The tool complies with the Machinery Directive 98/37/EC and 2006/42/EC

For machines containing any hydraulic or pneumatic powered parts, the Directive 94/9/EC “Equipment and protective systems in potentially explosive atmospheres” applies. The marking is as follows: CE Ex II 2G T5 (hydraulic tools) or CE Ex II 2G T6 (pneumatic tools).

## Limited Warranty

The warranty provided will be void if the tool is either:

1. Repaired or serviced by a service facility which was not authorised by Blohm + Voss Oil Tools.
2. Replacement parts not manufactured by Blohm+Voss Oil Tools are used.
3. Modifications were made to the tool which were not approved by Blohm+Voss Oil Tools.

## Manufacturer & Agents World wide

Blohm + Voss Oil Tools  
Hermann-Blohm-Straße 2  
20457 Hamburg  
Germany

Phone: +49 40/3119-1826/1162  
Fax: +49 40/3119-8194  
oiltools@blohmvooss.com  
www.blohmvooss-oiltools.com

Blohm + Voss Oil Tools, LLC  
7670 Woodway, Suite 266  
Houston,  
Texas 77063  
United States of America

Phone: +1-713-952 0266  
Fax: +1-713-952 2807  
bvot@blohmvooss.com  
www.blohmvooss-oiltools.com

Premier Sea & Land Pte. Ltd.  
1, Scotts Road  
#19-12 Shaw Centre  
Singapore 228208  
Republic of Singapore

Phone: +65-6734-7177  
Fax: +65-6734-9115  
enquiries@mtqpremier.com.sg

## General safety issues

**WARNING:** ONE SHOULD AVOID CREATING IGNITION SOURCES, LIKE HEAT, AS A RESULT OF THE USE OF THE TOOL WITH OTHER TOOLS OR EQUIPMENT.

**WARNING:** DO NOT USE THE TOOL FOR ANY OTHER PURPOSE THAN GIVEN IN THIS DOCUMENT WITHIN ITS SPECIFICATION.

**WARNING:** FAILURE TO CONDUCT ROUTINE MAINTENANCE COULD RESULT IN EQUIPMENT DAMAGE OR INJURY TO PERSONNEL.

**WARNING:** WEAR PERSONAL PROTECTION EQUIPMENT WHILE WORKING WITH THE EQUIPMENT.

**WARNING:** IF ANY SAFETY ELEMENTS (LIKE SAFETY ROPES, SAFETY SHEETS, PLATES OR WASHERS) WERE DISASSEMBLED DUE TO MAINTENANCE WORK, DO NOT RE-USE THEM. ALWAYS REPLACE THEM WITH NEW SAFETY ELEMENTS.

**WARNING:** ALL WARNING PLATES, SIGNS AND LABELS ATTACHED TO THE EQUIPMENT MUST BE OBSERVED. THE WARNING PLATES, SIGNS AND LABELS MUST BE PRESENT ON THE TOOL. DO NOT REMOVE THE LABELS. IF THEY ARE MISSING, REPLACING IS MANDATORY.

**WARNING:** ANY MODIFICATION TO THE TOOL CARRIED OUT WITHOUT THE APPROVAL OF BLOHM + VOSS OIL TOOLS WILL VOID ANY WARRANTY.

**WARNING:** USING THE TOOL WITH DAMAGED OR WORN PARTS CAN CREATE SERIOUS INCIDENTS.

**WARNING:** IT IS NOT ALLOWED TO USE ANY COMPONENTS WHICH ARE OF "NON-B+V" ORIGINE, OR USE "NON-OEM" PARTS WHICH ARE NOT APPROVED BY B+V. IT WILL VOID ANY WARRANTY AND MAY EFFECT THE CORRECT FUNCTIONING OF THE TOOL AND ITS SAFETY FEATURES.

**WARNING:** THE COMPANY OPERATING THE TOOL IS RESPONSIBLE FOR EVALUATING SAFE AND PROPER USE OF THE TOOL IN A HAZARD ANALYSIS.

**WARNING:** THE OPERATING COMPANY IS OBLIGATED TO ISSUE WORKING INSTRUCTIONS FOR SAFE USE AND SUPERVISE OBSERVANCE OF THESE WORKING INSTRUCTIONS.

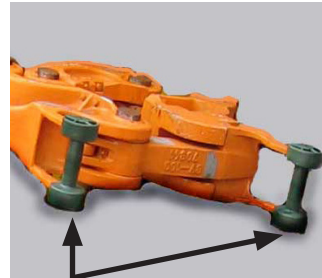
**WARNING:** EVERY EMPLOYEE, WHICH OPERATES, SERVICES, INSPECTS OR OTHERWISE INVOLVED WITH THE USE OF THE TOOL IN OTHER AREAS HAS TO ENSURE, THAT THESE ACTIONS ARE DONE BY TRAINED AND BY AN BLOHM + VOSS OIL TOOLS AUTHORIZED PERSONNEL, AND SHOULD COMPLETE REGULAR COURSES OF TRAINING, TO ENSURE PROPER USE AS WELL AS SAFE OPERATION, CORRECT MAINTAINANCE AND INSPECTION.

**WARNING:** IF NECESSARY, A REASONABLE, ADDITIONAL SUPERVISOR SHOULD BE APPOINTED DURING OPERATION.

**WARNING:** STAY AWAY FROM THE TOOL DURING OPERATION. IN CASE IT IS REMOTE OPERATED IT MAY MAKE MOVEMENTS WITHOUT WARNING.

## Safe handling

**WARNING HANDLES/GRIP POINTS ARE MARKED BY GREEN PAINT. DURING OPERATIONS THESE GRIPS ARE THE ONLY PLACES THE TOOL VAN BE HANDLED SAFELY. IN ALL NON-GREEN MARKED PLACES THERE IS THE RISK FOR INJURY. AUTOMATIC / REMOTE OPERATED TOOLS MAY NOT HAVE ANY GREEN PAINTED GRIP-POINTS. IN THIS CASE IT IS NOT ALLOWED TO TOUCH THE ELEVATOR WHILE OPERATING.**



Safe gripping points



Warning sign PN 671638  
General warning



Warning sign PN 671642  
Pay attention: Apply grease at least once a day.



Warning sign PN 611524  
Danger: Do not touch.



Warning sign PN 671640-1  
Pay attention: Do not place your hands between moving parts.



Warning sign PN 671641  
Pay attention: Risk of crushing.

# EC-DECLARATION OF CONFORMITY

We,

Blohm + Voss Oil Tools  
Hermann-Blohm-Strasse 2  
20457 Hamburg  
Phone:+49(0)40 3119-1139  
Fax:+49(0)40 3119-3305

declare that the product

Manual Tongs models types BV & WRT PN 70370-S and further

which is the subject of this declaration, is in conformity with the following standard(s) or normative documents

98/37/EC:	Machinery Directive
2006/42/EC:	Machinery Directive from 31 December 2009.
DIN EN ISO 12100 :	Safety of machinery, part 1 and 2
DIN EN ISO 14121-1:	Safety of machinery, Risk assessment
Directive 94/9/EC:	Devices and protection systems for intended use in explosive areas
DIN EN 13463-1:2009-07:	Non-electrical equipment for use in potentially explosive atmospheres

Marking:   II 2G T6

# Table of contents

<b>GENERAL INFORMATION</b>	<b>2</b>	Wear	26
Warnings and Note	2	Measuring of wear	26
Intended use of this manual	2	Maximum allowable wear	26
Intellectual property	2	Deterioration of Equipment	26
Improper / Unsafe Use	2	Continuation Wear	28
Manufacturer & Agents World wide	2	Inspection categories acc. to API RP 8B	29
CE Marking	2	Frequency	29
Limited Warranty	2	Periodic inspection	29
General safety issues	3	Non-periodic inspection	29
Safe handling	3	Inspection	29
<b>EC-DECLARATION OF CONFORMITY</b>	<b>4</b>	Critical Load Inspection	30
<b>1. DESCRIPTION</b>	<b>8</b>	Dismantling Inspection	30
General	8	Inspection check lists	31
Intend of use	8	Check List Category I (Ongoing observation)	32
<b>Design Specification</b>	<b>8</b>	Check List Category II (Daily)	32
Improper / Unsafe Use	8	Check List Category III (every 6 months)	33
Limited Warranty	8	Check List Category IV (every year)	33
Identification	8	Preventive Maintenance	34
Temperatur* If not otherwise stated in the databook.	8	Proper Repairs	34
Main Assembly	9	Beyond Repair	34
B+V Lever	10	Critical Areas	34
Maximum Torque Rating	11	<b>5. DRAWINGS AND SPARE PARTS</b>	<b>36</b>
Detailed torque capacity*	12	Safety parts	36
<b>2. COMMISSIONING</b>	<b>16</b>	U-Clamp	36
Commissioning B+V Tongs and WRT	16	Manual Tong Type BV-25	37
Scope of supply	16	Manual Tong Type BV-35 (replacement parts only)	38
Check and Lubrication	16	Manual Tong Type BV-37 (replacement parts only)	40
Function Test	16	Manual Tong Type BV-55 (replacement parts only)	42
<b>2. INSTALLATION</b>	<b>18</b>	Manual Tong Type BV-55c	44
Lifting and transport	18	Parts list casing head assemblies BV-55c	46
General	18	Manual Tong Type BV-57 (replacement parts only)	48
Installation of BV-100 H and BV-100c H	19	Manual Tong Type BV-65	50
Installation Checklist	20	Gripping points	52
<b>3. OPERATION</b>	<b>22</b>	Manual Tong Type BV-65	52
Force	22	Manual Tong Type BV-65 H	55
Changing parts	22	Manual Tong Type BV-80	56
<b>4. MAINTENANCE AND INSPECTION</b>	<b>24</b>	Manual Tong Type BV-100	58
General	24	Manual Tong Type BV-100 H	60
Before every trip	24	Manual Tong Type BV-100c	61
Daily Lubrication	24	Parts list BV-100c	62
Daily Inspection	24	Manual Tong Type BV-100c H	63
Weekly Inspection	24	Tong Type BV-100 Extended	64
Locking of screws	25	100,000 ft/lbs torque rating	64
Grease quality	25	Tong Type BV-100c Extended	64
Grease quality	25	100,000 ft/lbs torque rating	64
Greasing Points	25	Manual Tong Type WRT-35	65
		Gripping points	66
		Manual Tong Type WRT-35	66
		Manual Tong Type WRT-55	67
		Gripping points	68
		Manual Tong Type WRT-55	68
		Manual Tong Type WRT-55C	70
		Gripping points	71

TABLE OF CONTENTS		
DESCRIPTION	Manual Tong Type WRT-55C	71
	Manual Tong Type WRT-135	72
	Manual Tong Type WRT-135	73
	Manual Tong Type WRT 160	74
	Overview Lug Jaw Assemblies	76
	B + V Tong Range Overview BV-55C	77
COMMISSIONING		
INSTALLATION		
OPERATION		
MAINTENANCE & INSPECTION		
SIZE COMPONENTS		
DRAWINGS		

# DESCRIPTION

DESCRIPTION

# 1. DESCRIPTION

## General

The Blohm + Voss Manual Tongs are designed for making-up and breaking-out connections of tubulars, ranging from light weight tubing/casing to drill pipe and drill collars. The use of multiple latch steps and interchangeable hinge and lug jaw assemblies extends the range of the tongs.

Tongs can be assembled for either making-up or breaking-out by removing the hanger and turning the complete tong over. The BV-100 H and BV-100C H are the hydraulic versions of the BV-100 and BV-100C manual tong. A hydraulic cylinder is attached to the lever and to the long jaw to open and close the tong. The tong is designed to be pulled by a torque cylinder attached to the pivoting bearing at the end of lever. Technical Data is comparable with the BV-100 and BV-100C manual tong.

## Intend of use

The B+V Manual Tongs are designed for making up and breaking out tubular connections according to its API 7k load rating and is designed for horizontal use only. The applied forces at the tong lever has to be monitored and the load rating has never to be exceeded.

## Design Specification

Material and manufacturing standard in acc. to API 7k.

## Improper / Unsafe Use

The Tongs must only be used for their designated purpose. When using the Tongs, the specified torque must never be exceeded (depending on the rating).

## Limited Warrenty

The warrenty provided will be void if the Tong either:

1. repaired or serviced by a service facility which was not authorised by Blohm+Voss Oil Tools.
2. replacement parts not manufactured by Blohm+Voss Oil Tools are used

## Identification

The identification area clearly identifies the Elevator area (manufacturer, type, material, part number, serial number, date of manufacture). It is important to keep this information ready for the purpose of servicing and repair work.

## Temperatur

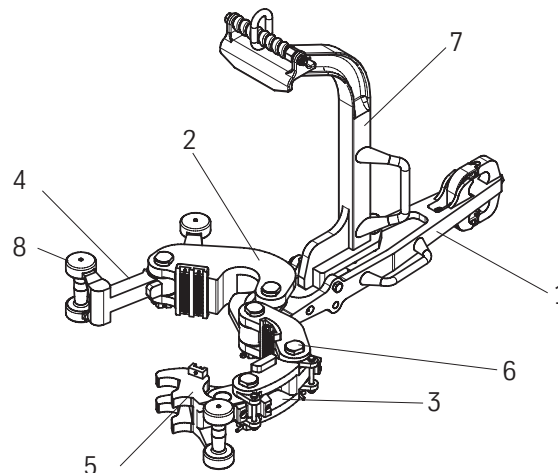
Temperature working range ambient

- 20° C to + 60° C \*  
- 4° F to 176° F \*

\* If not otherwise stated in the databook



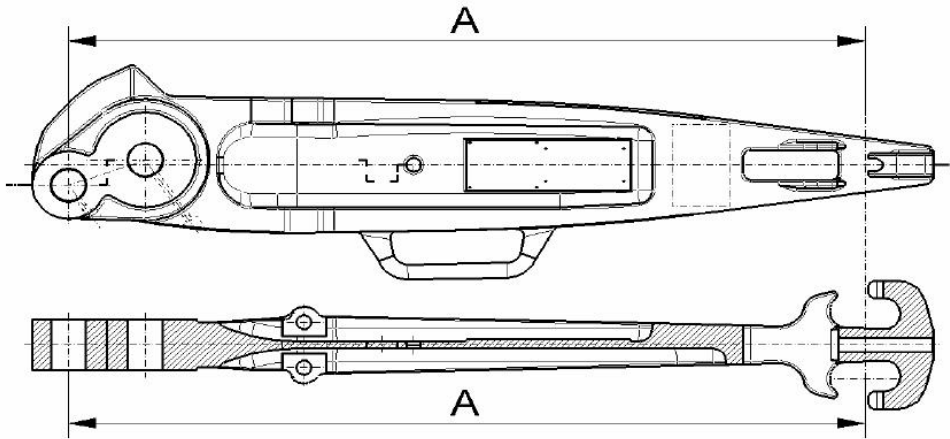
Tong Type	Range	Part No.	Remark
BV – 25	to cover pipes from 2.3/8" to 10.3/4"	70300-S	Standard lever & hanger
BV – 35	to cover pipes from 2.3/8" to 10.3/4"	70400-S	Replaced by WRT-35
BV – 37	to cover pipes from 2.3/8" to 10.3/4"	70200-S	Replaced by WRT-35
BV – 55	to cover pipes from 13.3/8" to 36"	70600-S	Replaced by WRT-55
BV – 57	to cover pipes from 2.7/8" to 13.3/8"	70000-S	Replaced by WRT-55
BV – 65	to cover pipes from 3.1/2" to 21.1/2"	70700-S	Long lever, long hanger
BV – 65	to cover pipes from 3.1/2" to 21.1/2"	70701-S	Short lever, standard hanger
BV – 65	to cover pipes from 3.1/2" to 21.1/2"	70702-S	Long lever, standard hanger
BV – 65	to cover pipes from 3.1/2" to 21.1/2"	70703-S	Short lever, long hanger
BV – 65 H	to cover pipes from 3.1/2" to 21.1/2"	70700-H	
BV – 80	to cover pipes from 3.1/2" to 13.3/8"	70100-S	Long lever, long hanger
BV – 80	to cover pipes from 3.1/2" to 13.3/8"	70101-S	Short lever, standard hanger
BV – 100	to cover pipes from 4" to 21"	70800-S	Long lever, long hanger
BV – 100	to cover pipes from 4" to 21"	70801-S	Long lever, standard hanger
BV – 100 H	to cover pipes from 4" to 21"	71890-H	
BV – 55c	to cover pipes from 13.3/8" to 36"	71600	Standard lever, less casing head
BV – 55c	to cover pipes from 13.3/8" to 36"	71600	Short lever, less casing head
BV – 100c	to cover pipes from 23.4" to 42"		
BV – 100c H	BV-100C H Tong less Casing Head	71800-S-H	
BV – 100c H	Casing Head for pipe OD from 23.4" to 24.4"	71810-S-H	
BV – 100c H	Casing Head for pipe OD from 25.3" to 26.3"	71812-S-H	
BV – 100c H	Casing Head for pipe OD from 27.4" to 28.4"	71814-S-H	
BV – 100c H	Casing Head for pipe OD from 29.5" to 30.6"	71816-S-H	
BV – 100c H	Casing Head for pipe OD from 35.5" to 36,7"	71822-S-H	
BV – 100c H	Casing Head for pipe OD from 40" to 42"	71824-S-H	
WRT-35	to cover pipes from 2 3/8" to 11"	800100-S	Long lever, standard hanger
WRT-35	to cover pipes from 2 3/8" to 11"	800101-S	Short lever, standard hanger
WRT-55	to cover pipes from 3 1/2" to 14 3/8"	800200-S	Long lever, standard hanger
WRT-55	to cover pipes from 3 1/2" to 14 3/8"	800201-S	Short lever, standard hanger
WRT-135	to cover pipes from 7.1/2" to 12"	800500-S	Long lever, standard hanger
WRT-160	to cover pipes from 7.1/2" to 12"	800500-S-160	Long lever, standard hanger



## Main Assembly

1. Lever
2. Long Jaw
3. Short Jaw
4. Latch
5. Lug Jaw
6. Bolt
7. Hanger
8. Safety Handle

## B+V Lever



DESCRIPTION

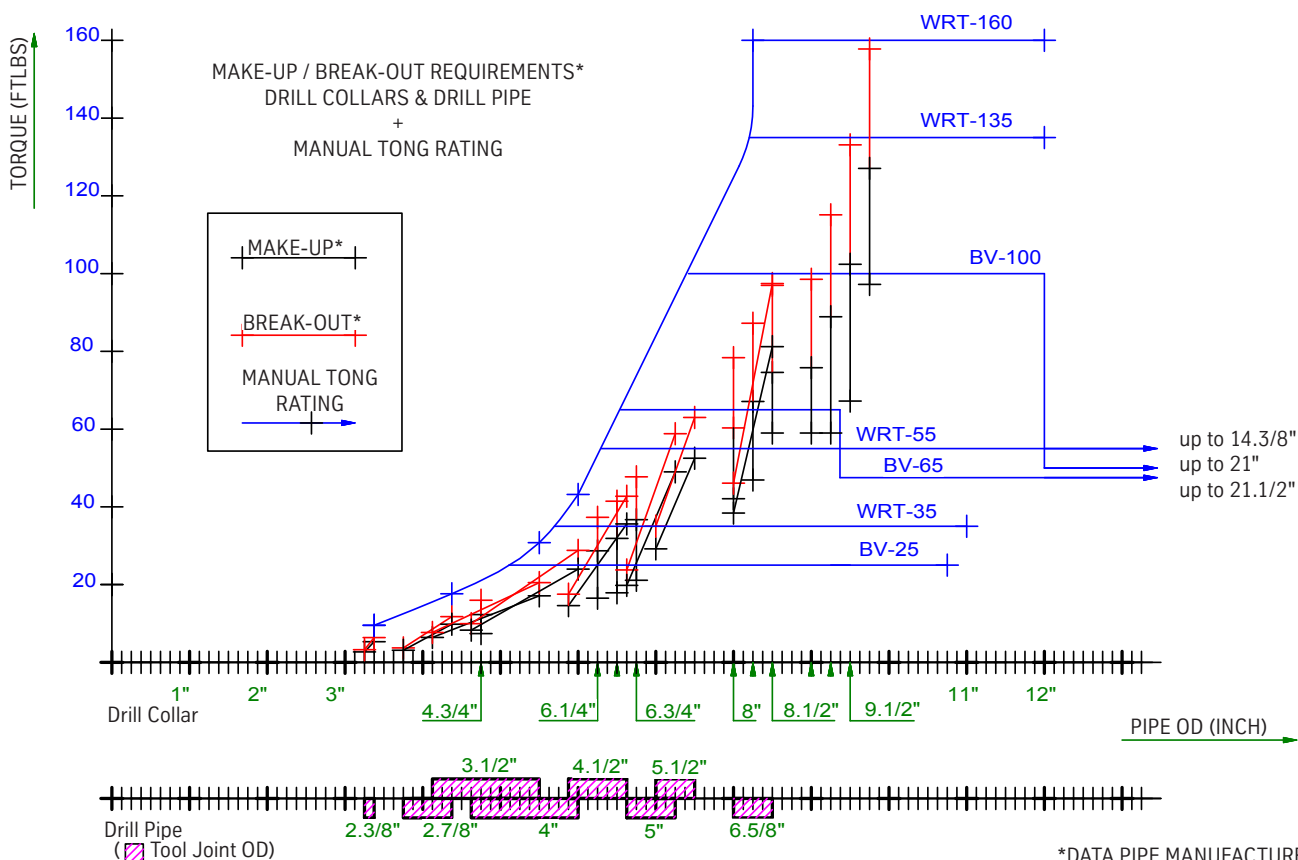
Lever	Long P/N	mm / inch "A"	Short P/N	mm / inch "A"
BV-25	70310	702/27,5"	n.a.	n.a.
BV-35	70410	968/38"	70491	730/28,5"
BV-55	70610	1170/46"	70691	1015/40"
BV-55C	70610	1170/46"	70691	1015/40"
BV-65	70710	1170/46"	70712	847/33,5"
BV-80	70110	1369/54"	70171	1204/47,5"
BV-100	70810	1200/47,5"	n.a.	n.a.
BV-100C	70810	1200/47,5"	n.a.	n.a.
WRT-35	800101	920/36"	800102	700/27,5"
WRT-55	800201	1080/42,5"	800202	945/37"
WRT-55C	800201	1080/42,5"	800202	945/37"
WRT-135	800501	1185/44,5"	n.a.	n.a.

## Maximum Torque Rating

Depending on the lug jaw used:

Tong Type	Torque
BV – 25	Up to 25 000 FtLbs (33,900 kNm)
BV – 35	Up to 35 000 FtLbs (47,460 kNm)
BV – 37	Up to 35 000 FtLbs (47,460 kNm)
BV – 55	Up to 55 000 FtLbs (74,580 kNm)
BV – 55c	Up to 25 000 FtLbs (33,900 kNm)
BV – 57	Up to 55 000 FtLbs (74,580 kNm)
BV – 65	Up to 65 000 FtLbs (88,140 kNm)
BV – 65 H	Up to 65 000 FtLbs (88,140 kNm)
BV – 80	Up to 80 000 FtLbs (108,480 kNm)
BV – 100	Up to 100 000 FtLbs (135,600 kNm)
BV – 100 H	Up to 100.000 FtLbs (135.600 kNm)
BV –100c	Up to 100 000 FtLbs (135,600 kNm)
BV – 100c H	Up to 100.000 FtLbs (135.600 kNm)
WRT-35	Up to 35 000 FtLbs (47,460 kNm)
WRT-55	Up to 55 000 FtLbs (74,580 kNm)
WRT-135	Up to 135 000 FtLbs (183,060 kNm)
WRT-160	Up to 160 000 FtLbs (216,960 kNm)

\* see next page for detailed information



## Detailed torque capacity\*

<b>BV25</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
70300-S	2 3/8" - 10 3/4"	25 000	ft lbs
70370-S	2 3/8" - 3 3/4"	15 000	ft lbs
70372-S	2 7/8" - 4 1/2"	20 000	ft lbs
70374-S	4" - 5 3/4"	25 000	ft lbs
70376-S	5 1/2" - 7"	25 000	ft lbs
70380-S	7" - 8 5/8"	25 000	ft lbs
70390-S	9 5/8" - 10 3/4"	25 000	ft lbs

<b>BV-55</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
All part numbers	All ranges	25 000	ft lbs

<b>BV-55C</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
All part numbers	All ranges	25 000	ft lbs

<b>BV-65</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
70700-S	3 1/2" -21 1/2"	65 000	ft lbs
70701-S	3 1/2" -21 1/2"	65 000	ft lbs
70702-S	3 1/2" -21 1/2"	65 000	ft lbs
70703-S	3 1/2" -21 1/2"	65 000	ft lbs
70780-S	3 1/2" -8 1/4"	65 000	ft lbs
70782-S	8" -11 1/4"	65 000	ft lbs
70783-S	11 3/4" - 14 3/8"	50 000	ft lbs
70784-S	16" - 17"	50 000	ft lbs
70791-S	18 5/8" - 20"	50 000	ft lbs
70792-S	20" - 21 1/2"	50 000	ft lbs

<b>BV80</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
70100-S	3 1/2" - 11 3/4"	30 000	ft lbs
70101-S	3 1/2" - 11 3/4"	30 000	ft lbs
70180	3 1/2" - 4 1/2"	30 000	ft lbs
70181	4" - 5 1/4"	30 000	ft lbs
70182	5" - 6"	65 000	ft lbs
70183	6" - 7"	65 000	ft lbs
70184	7" - 9"	80 000	ft lbs
70185	9" - 10 3/4"	50 000	ft lbs
70186	10 3/4" - 11 3/4"	50 000	ft lbs
70187	13 3/8"	50 000	ft lbs

<b>BV-100</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
70800-S	4" - 21"	100 000	ft lbs
70801-S	4" - 21"	100 000	ft lbs
70880-S	4" - 8 1/2"	100 000	ft lbs
70882-S	8 1/2" - 12"	100 000	ft lbs
70883-S	12" - 15"	100 000	ft lbs
70884-S	15 3/4"	50 000	ft lbs
70885-S	16" - 17"	50 000	ft lbs
800430-S	18 5/8" - 21"	50 000	ft lbs

<b>BV-100c</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
71 810-S	23.4" - 24.4"	100.000	ft-lbs
71 812-S	25.3" - 26.3"	100.000	ft-lbs
71 814-S	27.4" - 28.4"	100 000	ft-lbs
71 816-S	29.5" - 30.6"	100 000	ft-lbs
71 822-S	35.5" - 36.7"	100 000	ft-lbs
71 823-S	37" - 42"	100 000	ft-lbs

<b>WRT-35</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
800 100-S	2.3/8" - 11"	35 000	ft-lbs
800 101-S	2.3/8" - 11"	35 000	ft-lbs
800 105-S	2.3/8" - 7.5/8"	35 000	ft-lbs
	7.5/8" - 11"	35 000	ft-lbs
800 107	7.5/8" - 11"	35 000	ft-lbs

<b>WRT-55</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
800 200-S	3.1/2" - 14.3/8"	55 000	ft-lbs
800 201-S	3.1/2" - 14.3/8"	55 000	ft-lbs
800 210-S	3.1/2" - 8.1/4"	55 000	ft-lbs
800 220-S	8" - 11.1/2"	55 000	ft-lbs
800 230-S	11.1/2" - 14.3/8"	55 000	ft-lbs
800 207	11.1/2" - 14.3/8"	55 000	ft-lbs

<b>WRT-55c</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
800 240	13" - 31"	25 000	ft-lbs
800 250-S	13" - 14.1/2"	25 000	ft-lbs
800 255-S	16" - 17.1/2"	25 000	ft-lbs
800 260-S	17.3/4" - 18.7/8"	25 000	ft-lbs
800 265-S	18.1/4" - 19.5/8"	25 000	ft-lbs
800 270-S	19.1/2" - 21.1/2"	25 000	ft-lbs
800 275-S	20.3/4" - 22.1/4"	25 000	ft-lbs
800 280-S	24" - 25.1/2"	25 000	ft-lbs
800 290-S	30" - 31"	25 000	ft-lbs

<b>WRT-135</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
800 500-S	7.1/2" - 12"	135 000	ft lbs
800 510-S	7.1/2" - 8.1/2"	135 000	ft lbs
	9.1/2" - 10.3/4"	135 000	ft lbs
800 520-S	8.1/2" - 9.7/8"	135 000	ft lbs
	10.3/4" - 12"	135 000	ft lbs

<b>WRT-160</b>	<b>Range</b>	<b>Maximum Torque</b>	<b>Unit</b>
800 500-S	7.1/2" - 12"	160 000	ft lbs
800 510-S	7.1/2" - 8.1/2"	160 000	ft lbs
	9.1/2" - 10.3/4"	135 000	ft lbs
800 520-S	8.1/2" - 9.7/8"	160 000	ft lbs
	10.3/4" - 12"	160 000	ft lbs



# COMMISSIONING

## 2. COMMISSIONING

### Commissioning B+V Tongs and WRT

Blohm + Voss strongly recommends to accomplish the Tongs commissioning with the Blohm + Voss Commissioning.

Read manual before first use !

---

OK  Check crew is aware of all danger regarding handling the B + V tool.

---

OK  Go through manual with crew.

---

Prior to use of the Blohm + Voss Manual Tongs following checks must be carried out :

#### Scope of supply

---

OK  Cross check all delivered parts.

#### Check and Lubrication

---

OK  Check tong is properly balanced

---

OK  Apply grease to all greasing points until grease is visibly coming out of the bores.

---

OK  Check if tong is installed as outlined in manual.

#### Function Test

---

OK  Check for suitable Force at tong lever is supplied.

---

OK  Check tong is gripping properly at the pipe.

---

OK  Check tong can be removed from pipe.

---

OK  Check all safety / lock wire is present.

---



# INSTALLATION

## 2. INSTALLATION

### Lifting and transport

**WARNING:** LIFT THE TONG WITH THE TONG HANGER (B) ONLY.

**WARNING:** WEAR YOUR PERSONAL PROTECTION EQUIPMENT AT ALL TIMES.

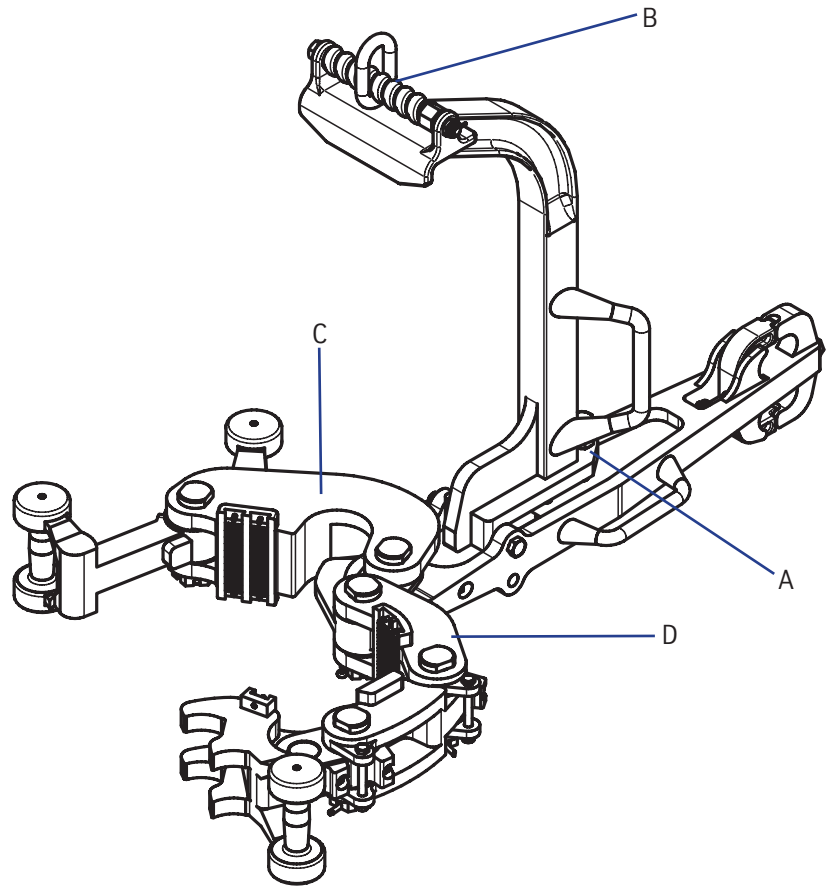
### General

To install the BV and WRT manual tongs, the tong support line should be connected to the suspension ring. Install the right lug and/or hinge jaw, to cover the size range of the pipe to be connected. Ensure that the tong is capable of handling the torque required.

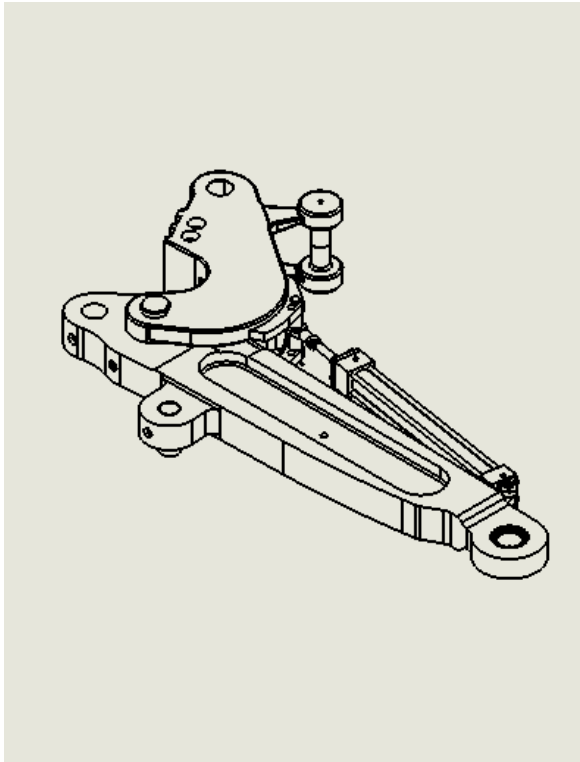
For easy tong operation, freely suspend the tong by the tong support line as close to the well center as conveniently possible. This reduces the arc of swing and the distance that the tong must travel to the well center.

With lug jaw open and free from pipe, balance the tong. Carry this out from lever to latch and from side to side by adjusting the hanger adjustment bolt (A) and/or balancing screw (B). For best operation the long jaw (C) should be about 1" lower than the short jaw (D).

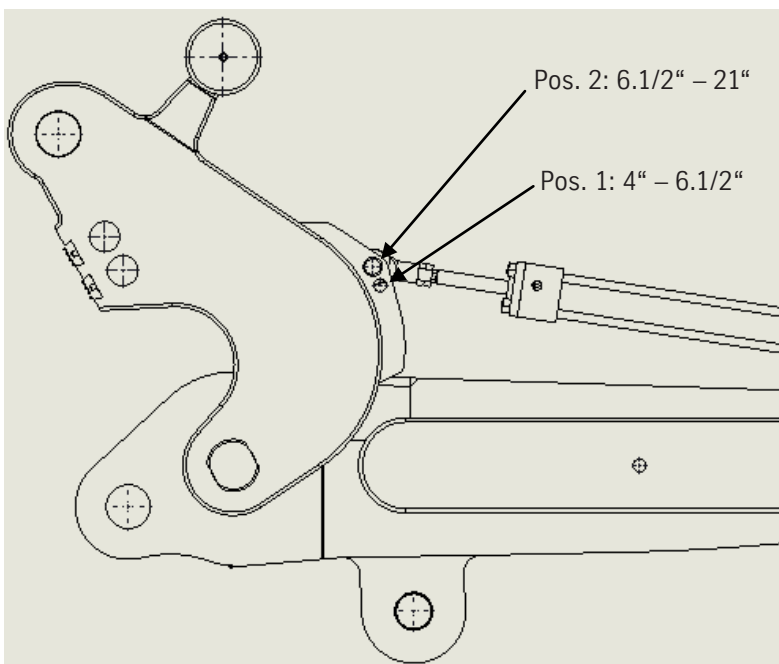
The pull line must then be connected to the end of the lever. A back up line, sized to safely withstand the tong maximum rating, should in all cases be connected to secure safe operation. The pull line must be in a perpendicular position relative to the tong-handle.



## Installation of BV-100 H and BV-100c H



To install the BV-100 H and BV-100C H Tong, the tong support eye on the left side of the lever is to be connected to the suspension structure. Connect the torque cylinder to the pivoting bearing at the end of the lever. Install the right lug and/or hinge jaw and make sure that the Cylinder Mounting Pin is put in the right position to cover the size range of the pipe to be connected. For pipe with a diameter from 4" to 21" the BV-100 H Long Jaw (P/N 800403-H) is to be used. Pipe which incorporates a diameters from 4" to 6.1/2" are to be handled with the Cylinder Mounting Pin at position 1, pipes with a diameter from 6.1/2" to 21" are to be handled with the Cylinder Mounting Pin in position 2. Pipe from a diameter of 23.4" to 42" can be handled using the BV-100C H Long Jaw (P/N 71998-H), which is equipped with just one bore. Ensure that the tong is capable of handling the required torque. The torque cylinder connected to the end of the lever must be in a perpendicular position relative to the lever.



**WARNING: IT IS MANDATORY THAT THE PRE-CLAMPING CYLINDER IS IN FLOATING POSITION WHEN MAKING UP OR BRAKING OUT. FAILURE IN DOING SO MAY RESULT IN DAMAGE TO THE EQUIPMENT.**

## Installation Checklist

Basically the tong has to be installed as shown in the manual.

---

OK  Check for suitable Force at tong lever is supplied.

---

OK  Check tong can be removed from pipe.

---

OK  Check loose service tools are removed from the elevator.

---

# OPERATIONS

## 3. OPERATION

### Force

Apply force to the torque line as much as possible near the amount of force needed to generate sufficient torque. The torque must be calculated by the formula  $M = F \times a$

F = Pull force

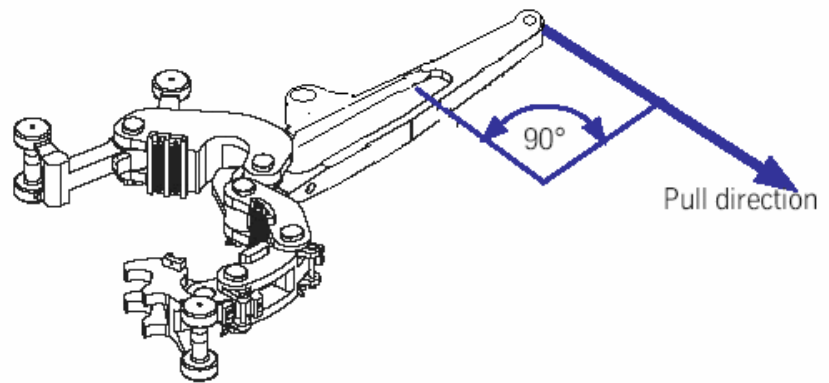
a = length from pipe center to the end of the lever

Do apply a steady pull till the coupling disconnects.

**WARNING: DO NOT APPLY MORE TORQUE THAN ALLOWED!**

When making connections, ensure to use a load cell or other means of load measurement to prevent the tong to be over pulled.

**WARNING: ALWAYS ENSURE THE LINE PULL IS 90° PERPERDICULAR TO THE DIRECTION OF THE LEVER.**



### Changing parts

When changing parts, follow below procedure.

**WARNING: WEAR PERSONAL PROTECTION EQUIPMENT LIKE SAFETY GLASSES AND GLOOVES AT ALL TIMES.**

1. Use if needed a drive to take out sticking parts.
2. Ensure all replacement parts are in good condition and correct size.
3. If in doubt about the condition of parts, like hinge pins, do not use them.

# MAINTENANCE & INSPECTION

MAINTENANCE  
& INSPECTION

## 4. MAINTENANCE AND INSPECTION

### General

If cracks, excessive wear etc. is recognised, contact Blohm + Voss Oil Tools or an authorised service company.

Weldings of the castings should be done only by Blohm + Voss Oil Tools or an authorised service company in according to Blohm+Voss welding procedure.

A regular preventative maintenance program should be established for all tongs. These written maintenance procedures should be given to the crew or maintenance personnel.

Before inspection all foreign material such as dirt, paint, grease oil, scale, etc. should be removed from the areas to be inspected by a suitable method.

### Before every trip

Before starting a trip, the manual tong should be examined for proper function of the latching mechanism (latch, latch spring). Hinge pin holes should be checked whether they have become oval due to over torque or wear. Special observation has to be made for the die contact area in lug- and hinge jaws (loose dies, die retainer pins).

### Daily Lubrication

Grease all Hinge Pins daily.

### Daily Inspection

Manual Tong Hinge Pins are designed to wear before the Jaw Bosses wear.

Hinge Pins should be checked daily.

Manual Tongs, Jaws, Levers, ect., will have a longer life if Hinge Pins are replaced when worn.

### Weekly Inspection

- Check Hinge Pins & Dies weekly.
- Hinge Pins should be tightened correctly. Tighten Hinge Pin; back off  $\frac{1}{4}$  turn.
- Manual tongs should not have excessive play between jaws, causing the latch lug jaw to misalign with the latch. This can cause the tongs to come off the pipe or not bite the pipe.

Check for the following:

- Loose Hinge Pin Nut
- Worn Hinge Pins
- Worn Jaw Bosses
- Wear on vertical spacing between Jaws.
- Dies and Keepers.



If Hinge Pins are bent, tongs have been over torqued and jaw bosses may also be elongated. Shop inspection should be immediately performed.

**WARNING: NEVER EXCEED TORQUE RATING.**

**WARNING: ALWAYS PULL AT 90 DEGREES.**

**WARNING: TONGS SHOULD HANG LEVEL**

## Locking of screws

All screws are normally secured by a mechanical bolt lock or with a safety wire. All other screws are secured by metal adhesive (Loctite).

## Grease quality

### Grease quality

In order to achieve efficient greasing even at different environmental temperatures, we recommend the following grease types should be used (obtainable from Blohm + Voss Oil Tools): Low-Viscosity grease Type AVIATICON Grease XRF NLGI 0

Alternatively; use EP gear lubricating grease for greasing "non-oil tight gear trains"

NESSOS SF0

NLGI 0

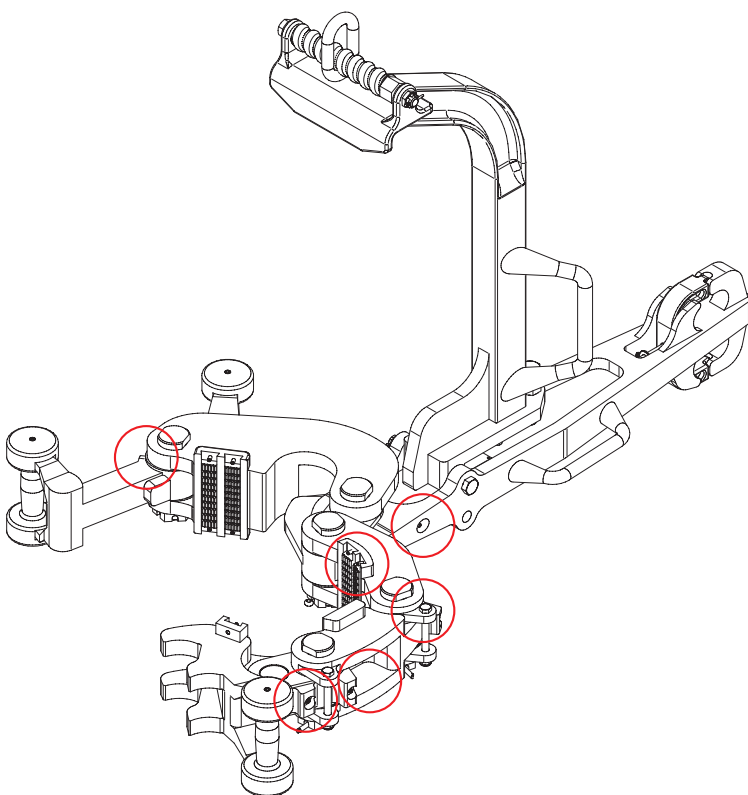
DIN 51 826 GPOF-25

DIN 51 502 GPOF-25

For higher ambient temperature up to 30° Celsius / 86° Fahrenheit we recommend to use NLGI 2.

## Greasing Points

At all greasing points for largest range, see image (typical).



Grease points

# Wear

## Measuring of wear

It is obvious that visual inspection cannot suffice for most tong checks. To measure hinge pin holes do not forget to use calipers and to read the results on a rule.

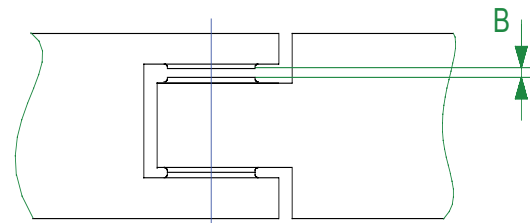
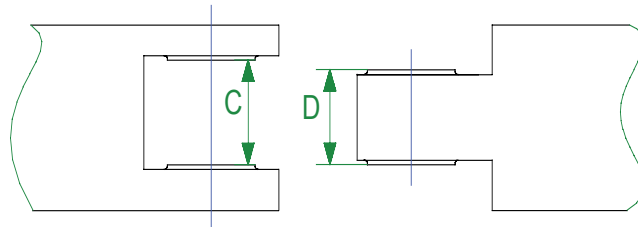
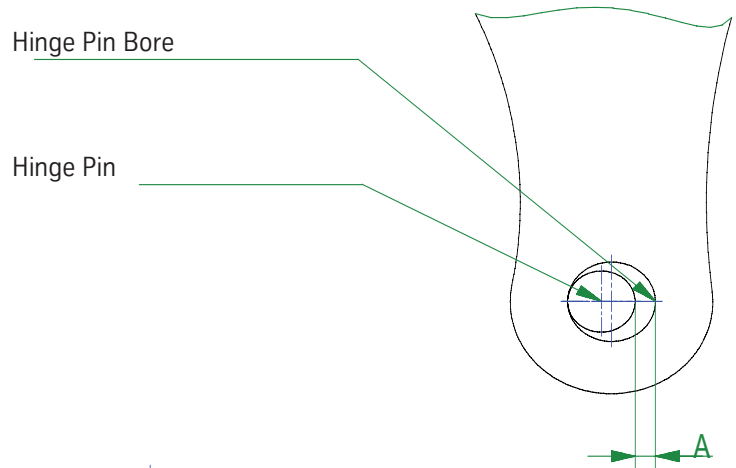
Normally, hinge pins, latch pins and socket holes are not measured for wear in the field. When it becomes apparent that the hinge or latch pins are loosening, the tong should be dismantled for general engineering check up.

## Maximum allowable wear

Next table shows the maximum allowable wear to maintain 100 % torque rating.

## Deterioration of Equipment

Normal wear in the course of use will eventually lead to taking the manual tong out of service and the replacement of worn components.



Wear dimensions, see table on next page

All dimensions in [mm]

Tong Type	Dimension A Maximum clearance WORN	NEW Diameter		Dimension B Maximum clearance WORN	Dimension C	Dimension D
		Hinge Pin	Bore for Pin			
<b>BV-25</b>	0,64			0,8		
<b>maximum</b>		31,7	31,812		58,9	58,5
<b>minimum</b>		31,661	31,75		58,7	58,3
<b>BV-35</b>	0,64			0,8		
<b>maximum</b>		38,05	38,162		63,8	63,5
<b>minimum</b>		38,011	38,1		63,6	63,3
<b>BV-37</b>	0,64			1,6		
<b>maximum</b>		38,05	38,162		76,8	75,8
<b>minimum</b>		38,011	38,1		76,6	75,6
<b>BV-55</b>	0,64			1,4		
<b>maximum</b>		44,4	44,512		76,6	75,8
<b>minimum</b>		44,361	44,45		76,4	75,6
<b>BV-55c</b>	0,64			1,4		
<b>maximum</b>		44,4	44,512		76,6	75,8
<b>minimum</b>		44,361	44,45		76,4	75,6
<b>BV-57</b>	0,89			1,6		
<b>maximum</b>		44,4	44,512		76,8	75,8
<b>minimum</b>		44,361	44,45		76,6	75,6
<b>BV-65</b>	0,89			1,2		
<b>maximum</b>		47,55	47,662		76,8	76,2
<b>minimum</b>		47,511	47,6		76,6	76,0
<b>BV-80</b>	0,89			1,6		
<b>maximum</b>		50,74	50,874		76,8	75,8
<b>minimum</b>		50,694	50,8		76,6	75,6
<b>BV-100</b>	1,14			1,2		
<b>maximum</b>		50,74	50,874		76,8	76,2
<b>minimum</b>		50,694	50,8		76,6	76,0
<b>BV-100c</b>	1,14			1,2		
<b>maximum</b>		50,74	50,874		76,8	76,2
<b>minimum</b>		50,694	50,8		76,6	76,0
<b>WRT-35</b>	0,65			1,2		
<b>maximum</b>		45,2	45,5		60,5	60,0
<b>minimum</b>		45,1	45,4		60,3	59,8
<b>WRT-55</b>	0,9			1,2		
<b>maximum</b>		47,4	47,7		70,5	70
<b>minimum</b>		47,3	47,6		70,3	69,8
<b>WRT-135</b>	1,2			1,2		
<b>maximum</b>		69,8	70,1		90,5	90
<b>minimum</b>		69,7	70,0		90,3	79,8

## Continuation Wear

All dimensions in [mm]						
Tong Type	Dimension A Maximum clearance WORN	NEW Diameter		Dimension B Maximum clearance WORN	Dimension C (new machined)	Dimension D
		Hinge Pin	Bore for Pin			
<b>BV65 H</b>	1,14			1,2		
<b>max</b>		50,74	50,874		76,8	76,2
<b>min</b>		50,694	50,8		76,6	76,0
<b>BV100 H</b>	1,14			1,2		
<b>max</b>		50,74	50,874		76,8	76,2
<b>min</b>		50,694	50,8		76,6	76,0
<b>BV100c H</b>	1,14			1,2		
<b>max</b>		50,74	50,874		76,8	76,2
<b>min</b>		50,694	50,8		76,6	76,0

## Inspection categories acc. to API RP 8B

### Category I

This category involves observing the equipment during operation for indications of inadequate performance. When in use, equipment shall be visually inspected on a daily basis for cracks, loose fits or connections, elongation of part, and other signs of wear, corrosion or overloading. Any parts found to show cracks, excessive wear, etc., shall be removed from service for further examination. The equipment shall be visually inspected by a person knowledgeable in that equipment and its function.

### Category II

This is Category I inspection plus further inspection for corrosion, deformation, loose or missing components, deterioration, proper lubrication, visible external cracks, and adjustment.

Category II may involve some disassembly to access specific components and to identify wear that exceeds the allowable tolerances.

### Category III

This is Category II inspection plus further inspection, which should include NDT of critical areas and may involve some disassembly to access specific components and to identify wear that exceeds the allowable tolerances.

Prior to inspection, all foreign material such as dirt, paint, grease, oil, scale, etc. shall be removed from the concerned parts by a suitable method (e.g. paint-stripping, steam-cleaning, grit-blasting).

### Category IV

This is Category III inspection plus further inspection for which the equipment is disassembled to the extent necessary to conduct NDT of all primary-load-carrying components.

Equipment shall be:

- disassembled in a suitable-equipped facility to the extent necessary to permit full inspection of all primary-load-carrying components and other components that are critical to the equipment.
- inspected for excessive wear, cracks, flaws and deformation.

Procedure:

- Corrections shall be made in accordance with the manufacturer's recommendations.
- Prior to inspection, all foreign material such as dirt, paint, grease, oil, scale, etc. shall be removed from the concerned parts by a suitable method (e.g. paint-stripping, steam-cleaning, grit-blasting)

## Frequency

### Periodic inspection

The recommended schedule for inspection of all kind of Elevators is as follows:

Ongoing	I
Daily:	II
6 Monthly:	III
1 Year:	IV

The recommended frequencies apply for equipment in use during the specified period.

The inspection frequencies are only recommendations. The schedule of inspection heavily depends on the following factors:

- environment
- load cycles
- regulatory requirements
- operating time
- testing

- repairs
- re manufacture

### Non-periodic inspection

A complete, on-job, shut-down inspection equivalent to the periodical Category III or Category IV should be made before (if anticipated) and after critical jobs (e.g., running heavy casing / drill strings, jarring, pulling on stuck pipes and/or operating at extreme low temperatures) <-20° C (<-4° F).

## Inspection

A thorough inspection should be carried out periodically (every 3 months) or as special circumstances may require. Before starting an inspection disconnect hydraulic/pneumatic system and remove all foreign materials (dirt, paint, grease Oil, scale, etc.) from surface by a suitable method. After a field inspection, it is advisable to record the extent of testing and testing results. Conduct the periodic or critical load inspection in the field by the crew with the supervisor.

If cracks, excessive wear etc. is recognized, contact Blohm + Voss Oil Tools or an authorized service company.

## Critical Load Inspection

Critical loads may occur. For example: impact loads such as jarring, pulling on stuck pipe, etc. If critical loads occurred unexpectedly, conduct the inspection immediately.

## Dismantling Inspection

Generally, when the equipment returns to base, warehouse, etc. Carry out the Tool inspection, immediately. Furthermore, control it prior to its being sent on the next job.

- The Tool should be dismantled and inspected in a suitably equipped facility for excessive wear, cracks, flaws or deformations.
- Corrections should be made in accordance with recommendations which can be obtained from Blohm + Voss Oil Tools.
- Weldings at the castings should be done only by Blohm + Voss Oil Tools or an authorized service company in according to Blohm + Voss welding procedure.
- When need is shown in a field inspection, dismantle the Tool and arrange an inspection in a suitably equipped facility.
- Springs should be carefully visually inspected for excessive wear and obvious weakness.

## Inspection check lists

CHECK LIST FRONT PAGE \_\_\_\_\_

TYPE OF EQUIPMENT \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

PART NUMBER \_\_\_\_\_

SUPERVISOR \_\_\_\_\_

DATE OF INSPECTION \_\_\_\_\_

INSPECTION CATEGORY \_\_\_\_\_

PLACE OF INSPECTION \_\_\_\_\_

## Check List Category I (Ongoing observation)

Observe during operation for inadequate performance

## Check List Category II (Daily)

### CHECK FOR THE FOLLOWING GENERAL ISSUES (but not limited to):

DESCRIPTION	CHECKED	SIGNATURE
1 Complete front page of check list for the records	OK	
2 Check for correct size of tong parts according to pipe size to be run	OK	
3 Check correct function tong latch	OK	
4 Check function of tong	OK	
5 Check state of lubrication	OK	
Remarks		

### CHECK FOR LOOSE ITEMS, ESPECIALLY FOR (but not limited to):

DESCRIPTION	CHECKED	SIGNATURE
1 Hinge pins, bolts and retainers	OK	
2 Fixation of parts, lugs, jaws etc	OK	
3 Screws, bolts, nuts, washers, retainers, springs and lock wire	OK	
4 Check completeness and condition of warning plates and labels	OK	
Remarks		

### CHECK FOR CRACKS, ELONGATION, DAMAGE AND CORROSION, ESPECIALLY FOR (but not limited to):

DESCRIPTION	CHECKED	SIGNATURE
1 Tong lugs, jaws, levers etc	OK	
2 Hing pins, bolts, nuts	OK	
3 Dies	OK	
Remarks		

-----  
SUPERVISOR

-----  
DATE



## Check List Category III (every 6 months)

**GENERAL**

DESCRIPTION	CHECKED	SIGNATURE
1 Carry out an Category II inspection	OK	
2 NDT (MPI) critical areas. Some disassembly may be needed to do so	OK	
3 Check parts for wear according to allowable tolerances.	OK	
Remarks		

## Check List Category IV (every year)

**GENERAL**

DESCRIPTION	CHECKED	SIGNATURE
1 Carry out an Category III inspection	OK	
2 NDT (MPI) critical areas and load bearing components. Strip tong to do so	OK	
Remarks		

-----  
SUPERVISOR

-----  
DATE

## Preventive Maintenance

A regular preventive maintenance program should be established for all tongs. Written maintenance procedures should be given to the crew or maintenance personal. Care should be taken by instruction plates and warning labels. They should not be missing, damaged or illegible.

## Proper Repairs

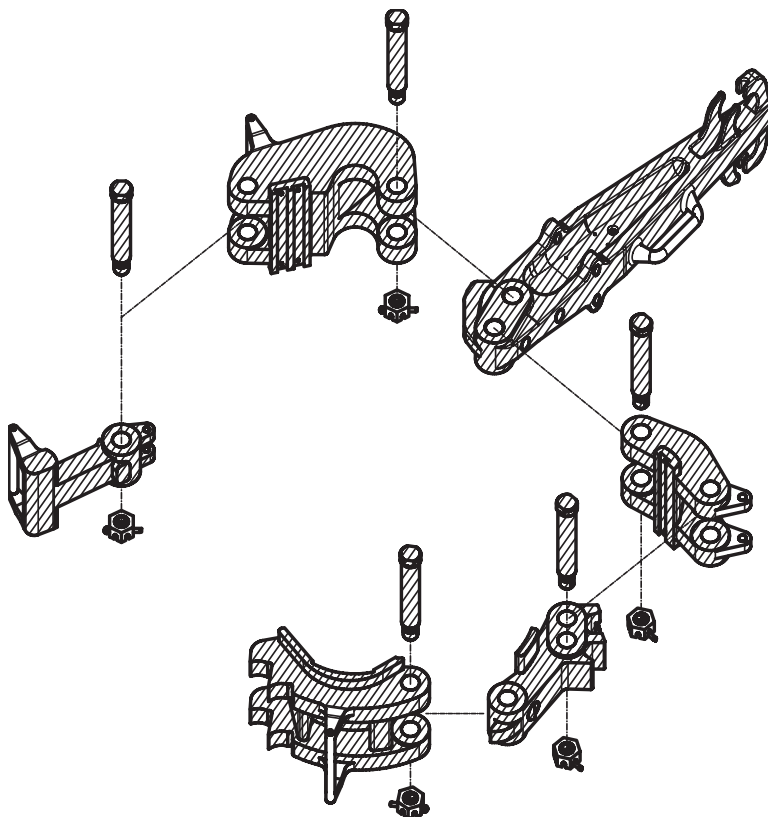
Repairs, which are not performed by Blohm + Voss Oil Tools, should be made in accordance with methods or procedures approved by Blohm + Voss Repair GmbH

Minor cracks or defects, which may be removed without reducing safety or operation of the tong, can be removed by grinding. Following the repair, the part should again be inspected by an appropriate method to insure, the defect has been completely removed.

## Beyond Repair

If the manual tong or parts of it are defective beyond repair, it should be taken out of service.

## Critical Areas



# DRAWINGS & SPARE PARTS

DRAWINGS

# 5. DRAWINGS AND SPARE PARTS

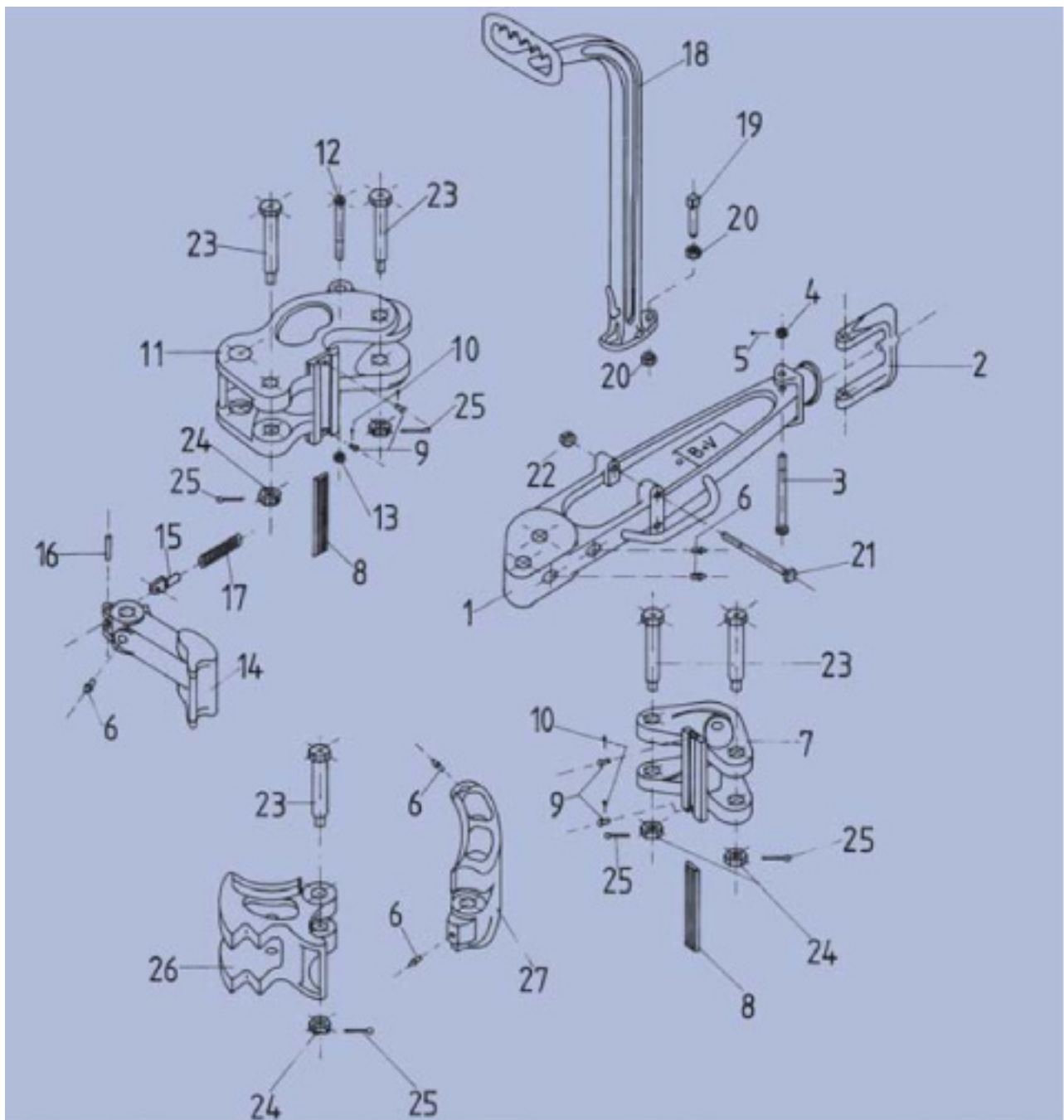
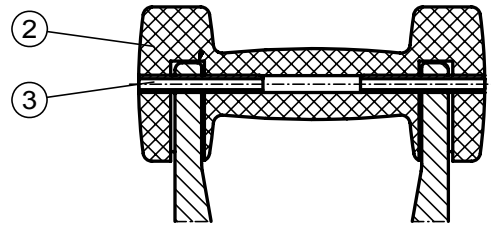
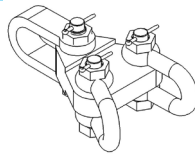
## Safety parts

All tongs contain safety handles which are not specified in the individual parts lists. See below image. These tong parts are identified by a "-S" behind the part number.

Position	Quantity	Part no.	Description
2	1	70751	Safety Handle
3	2	70752	Spring Type Pin

## U-Clamp

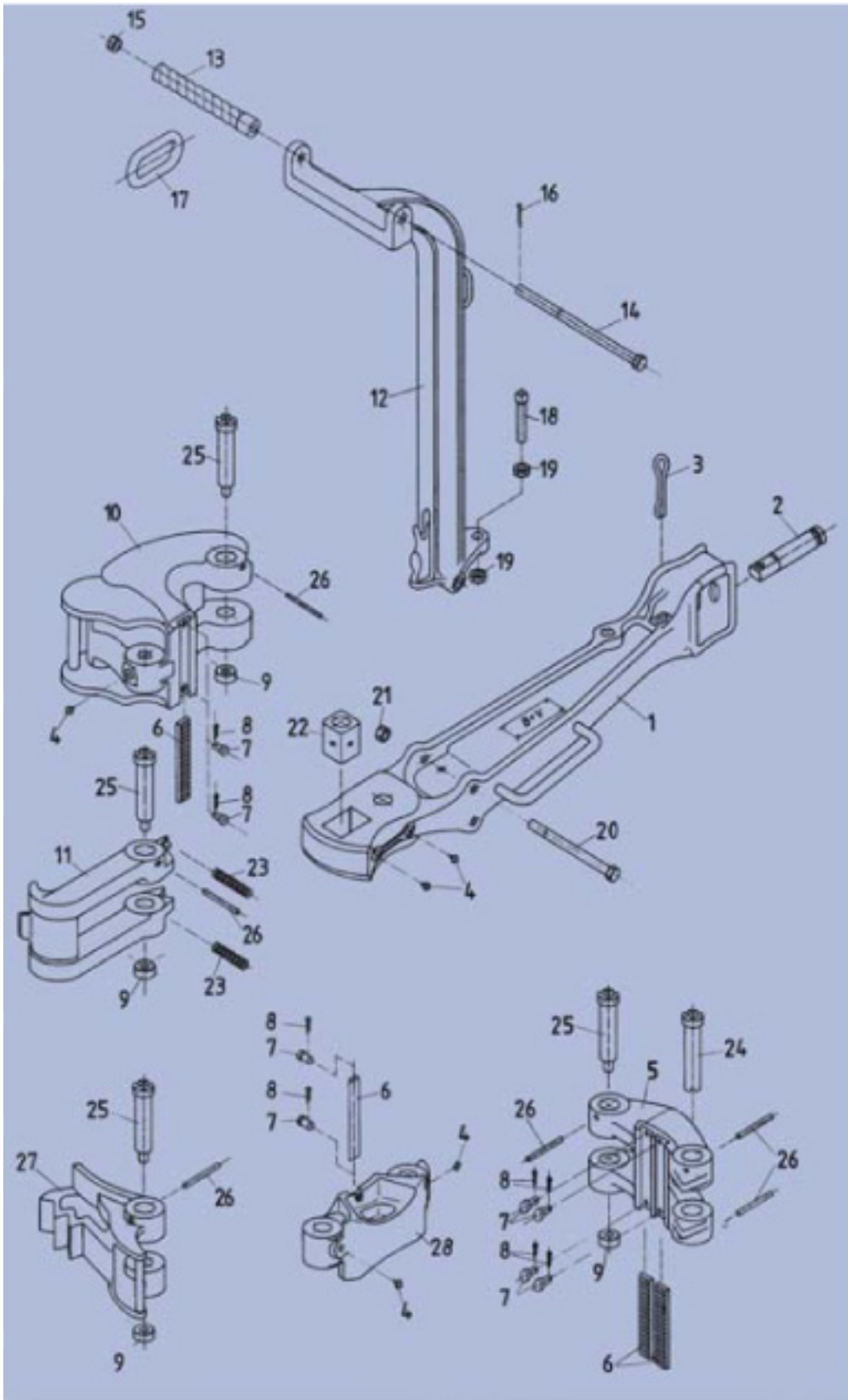
U-Clamp II p/n 70616 for BV 35/55/65/100



## Manual Tong Type BV-25

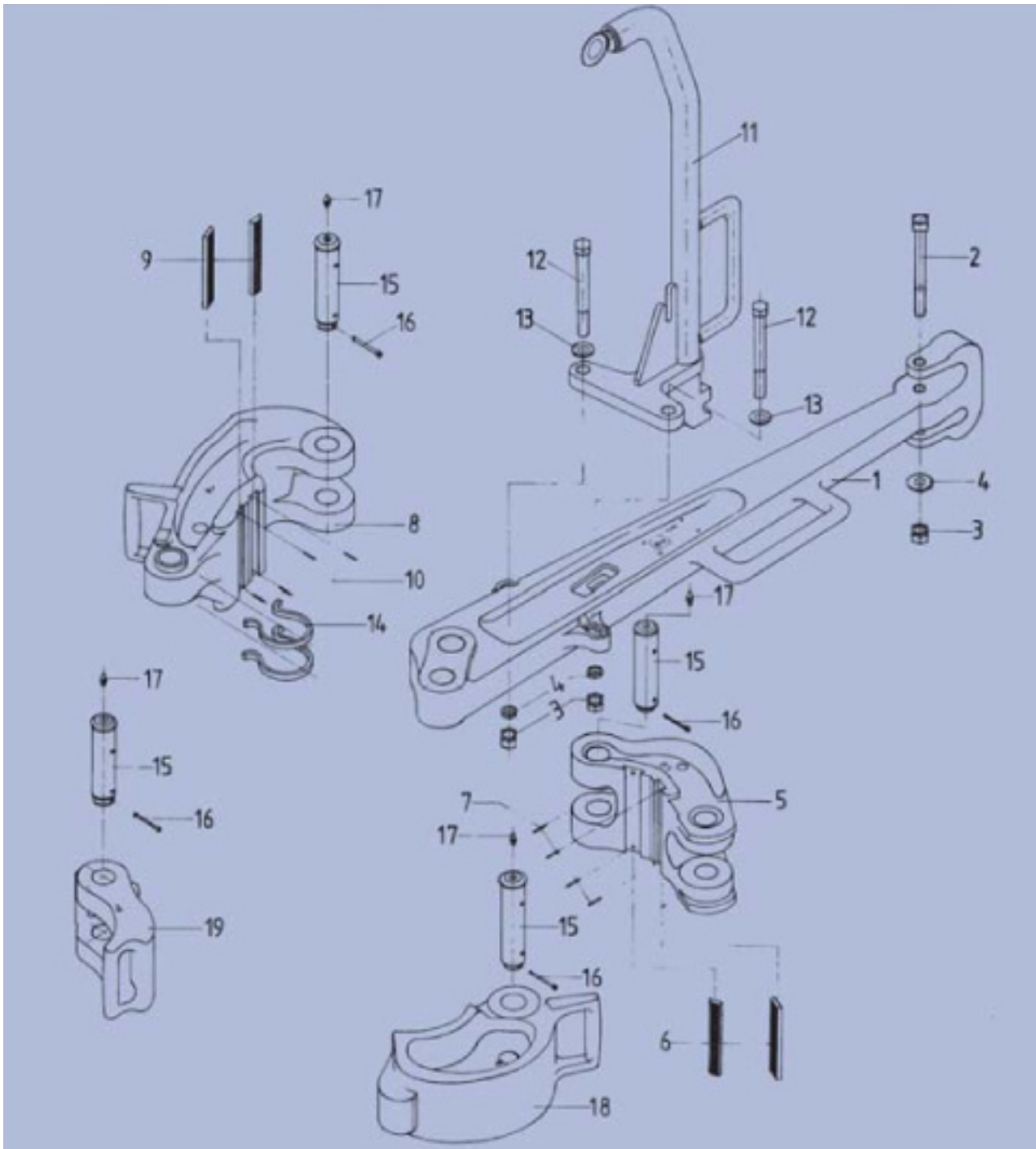
Position	Quantity	Part no.	Description	Position	Quantity	Part no.	Description
		<b>70300-S</b>	<b>Tong Complete with Standard Lever &amp; Hanger</b>	6	1	70064	Grease Fitting
	1	<b>70310</b>	<b>Lever Assembly</b>		<b>1</b>	<b>70372-S</b>	<b>Lug Jaw (Assembly) 2.7/8" - 4.1/2"</b>
1	1	70311	Lever	26	1	70373	Lug Jaw
2	1	70312	Tong Line Retainer	8	1	70322	Die
	1	70313	Tong Line Retainer Bolt Ass.	3	2	70323	Die Retainer Pin
3	1	70314	Tong Line Retainer Bolt	10	2	70324	Cotter Pin
4	1	70315	Tong Line Retainer Bolt Nut	6	1	70064	Grease Fitting
5	1	70340-1	Cotter Pin	26	1	70374-S	Lug Jaw (Assembly) 4" - 5.3/4"
6	2	70064	Grease Fitting	6	1	70064	Grease Fitting
	<b>1</b>	<b>70320</b>	<b>Short Jaw Assembly</b>	26	1	70376-S	Lug Jaw (Assembly) 5.1/2" - 7"
7	1	70321	Short Jaw	6	1	70064	Grease Fitting
8	1	70322	Die		<b>1</b>	<b>70380-S</b>	<b>Hinge &amp; Lug Jaw (Assembly) 7" - 8.5/8"</b>
9	2	70323	Die Retainer Pin	26	1	70381-S	Lug Jaw 7" - 8.5/8"
10	2	70324	Cotter Pin	27	1	70382	Hinge Jaw 7" - 8.5/8"
	<b>1</b>	<b>70330-S</b>	<b>Long Jaw Assembly</b>		<b>1</b>	<b>70360</b>	<b>Hinge Pin Assembly</b>
11	1	70331	Long Jaw	6	2	70064	Grease Fitting
8	1	70322	Die		<b>1</b>	<b>70390-S</b>	<b>Hinge &amp; Lug Jaw (Assembly) 9.5/8" - 10.3/4"</b>
9	2	70323	Die Retainer Pin	26	1	70391-S	Lug Jaw 9.5/8" - 10.3/4"
10	2	70324	Cotter Pin	27	1	70392	Hinge Jaw 9.5/8" - 10.3/4"
12	1	70325	Long Jaw Bolt		<b>1</b>	<b>70360</b>	<b>Hinge Pin Assembly</b>
13	1	70326	Long Jaw Nut	6	2	70064	Grease Fitting
	<b>1</b>	<b>70340-S</b>	<b>Latch Assembly</b>				
14	1	70341	Latch				
15	1	70342	Latch Spring Plunger				
16	1	70343	Latch Spring Plunger Pin				
17	1	70364	Latch Spring				
6	1	70064	Grease Fitting				
	<b>1</b>	<b>70350</b>	<b>Hanger Assembly</b>				
18	1	70351	Hanger				
19	1	70352	Hanger Set Screw				
20	2	70353	Hanger Jam Nut				
21	1	70355	Hanger Bolt				
22	1	70362	Hanger Bolt Nut				
	<b>4</b>	<b>70360</b>	<b>Hinge Pin Assembly</b>				
23	4	70361	Hinge Pin				
24	4	70362	Hinge Pin Nut				
25	4	70363	Cotter Pin				
	<b>1</b>	<b>70370-S</b>	<b>Lug Jaw Assembly 2.3/8" 3.3/4"</b>				
26	1	70371	Lug Jaw				
8	1	70322	Die				
9	2	70323	Die Retainer				
10	2	70324	Cotter Pin				

Manual Tong Type BV-35 (replacement parts only)



Position	Quantity	Part no.	Description	Position	Quantity	Part no.	Description
	<b>1</b>	<b>70410</b>	<b>Lever Assembly</b>	4	1	70064	Grease Fitting
<b>1</b>	<b>1</b>	<b>70411</b>	<b>Lever</b>		<b>1</b>	<b>70472-S</b>	<b>Latch Lug Jaw Assy. 2.7/8" - 4.1/4"</b>
2	1	70412	Tong Line Pin	27	1	70473	Latch Lug Jaw 2.7/8" - 4.1/4"
3	1	70613	Tong Line Pin Retainer	6	1	70322	Die
4	2	70064	Grease Fitting	7	2	70323	Die Retainer
	<b>1</b>	<b>70420</b>	<b>Short Jaw Assembly (7.5/8" - 10.3/4")</b>	8	2	70324	Cotter Pin
5	1	70421	Short Jaw	4	1	70064	Grease Fitting
6	2	70322	Die		<b>1</b>	<b>70474-S</b>	<b>Latch Lug Jaw Assy. 3.1/2" - 5.1/4"</b>
7	4	70323	Die Retainer Pin	27	1	70475	Latch Lug Jaw 3.1/2" - 5.1/4"
8	4	70324	Cotter Pin	6	1	70322	Die
9	1	70423	Hinge Pin Nut	7	2	70323	Die Retainer
	<b>1</b>	<b>70425</b>	<b>Short Jaw Assembly (2.3/8" - 7")</b>	8	2	70324	Cotter Pin
5	1	70426	Short Jaw	4	1	70064	Grease Fitting
6	2	70322	Die		<b>1</b>	<b>70476-S</b>	<b>Latch Lug Jaw Assy. 5.1/4" - 7"</b>
7	3	70323	Die Retainer Pin	27	1	70477	Latch Lug Jaw 5.1/4" - 7"
8	3	70324	Cotter Pin	6	1	70322	Die
9	1	70423	Hinge Pin Nut	7	2	70323	Die Retainer
	<b>1</b>	<b>70430-S</b>	<b>Long Jaw Assembly</b>	8	2	70324	Cotter Pin
10	1	70431	Long Jaw	4	1	70064	Grease Fitting
6	1	70322	Die		<b>1</b>	<b>70478-S</b>	<b>Latch Lug Jaw Assy. 4.1/2" - 6.1/2" (Opt.)</b>
7	2	70323	Die Retainer Pin	4	1	70064	Grease Fitting
8	2	70324	Cotter Pin		<b>1</b>	<b>70480-S</b>	<b>Hinge &amp; Latch Lug Jaw Assy. 7" - 8.5/8"</b>
9	1	70423	Hinge Pin Nut	27	1	70481-S	Latch Lug Jaw Assy. 7" - 8.5/8"
4	1	70064	Grease Fitting	9	1	70423	Hinge Pin Nut
	<b>1</b>	<b>70440-S</b>	<b>Latch Assembly</b>		<b>1</b>	<b>70482</b>	<b>Hinge Jaw Assy. 7" - 8.5/8"</b>
11	1	70441	Latch	28	1	70483	Hinge Jaw 7" - 8.5/8"
9	1	70423	Hinge Pin Nut	6	1	70322	Die
	<b>1</b>	<b>70450</b>	<b>Hanger Assembly</b>	7	2	70323	Die Retainer Pin
12	1	70451	Hanger	8	2	70324	Cotter Pin
13	1	70652	Balancing Screw	4	2	70064	Grease Fitting
	<b>1</b>	<b>70652-1</b>	<b>Balancing Screw Bolt Assy.</b>	25	1	70462	Hinge Pin (Threaded)
14	1	70652-2	Balancing Screw Bolt	26	1	70463	Dowel Pin
15	1	70652-3	Balancing Screw Bolt Nut		<b>1</b>	<b>70485-S</b>	<b>Hinge &amp; Latch Lug Jaw Assy. 9.5/8" - 10.3/4"</b>
16	1	70653	Cotter Pin	27	1	70486-S	Latch Lug Jaw 9.5/8" - 10.3/4"
17	1	70654	Suspension Ring	9	1	70428	Hinge Pin Nut
18	1	70655	Hanger Adjustment Screw		<b>1</b>	<b>70487</b>	<b>Hinge Jaw Assy. 9.5/8" - 10.3/4"</b>
19	1	70655-1	Hanger Jam Nut	28	1	70488	Hinge Jaw 9.5/8" - 10.3/4"
	<b>1</b>	<b>70455</b>	<b>Hanger Bolt Assembly</b>	6	1	70322	Die
20	1	70153	Hanger Bolt	7	2	70323	Die Retainer Pin
21	1	70113	Hanger Bolt Nut	8	2	70324	Cotter Pin
22	1	70460	Lever Hinge Pin	4	2	70064	Grease Fitting
23	2	70671	Latch Spring	25	1	70462	Hinge Pin (Threaded)
24	1	70461	Hinge Pin (Removable)	26	1	70463	Dowel Pin
25	3	70462	Hinge Pin (Threaded)		<b>1</b>	<b>70490</b>	<b>Short Lever Assy.</b>
26	7	70463	Dowel Pin		1	70491	Short Lever
	<b>1</b>	<b>70470-S</b>	<b>Latch Lug Jaw Assembly 2.3/8" - 3.668"</b>			70696	Hinge Pin Wrench
27	1	70471	Latch Lug Jaw 2.3/8" - 3.668"			70697	Tong Pull Back (Opt.)
6	1	70322	Die				
7	2	70323	Die Retainer				
8	2	70324	Cotter Pin				

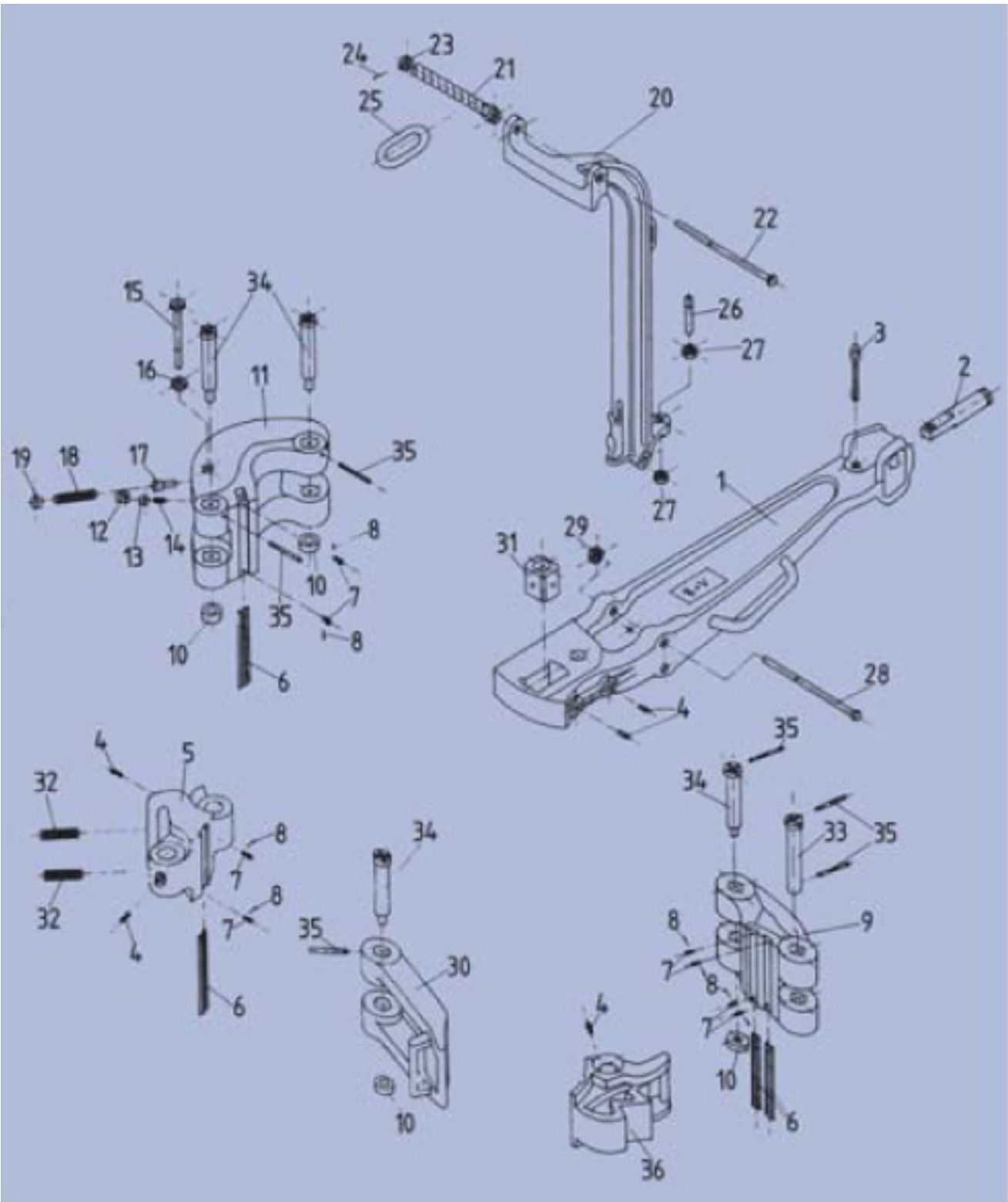
Manual Tong Type BV-37 (replacement parts only)





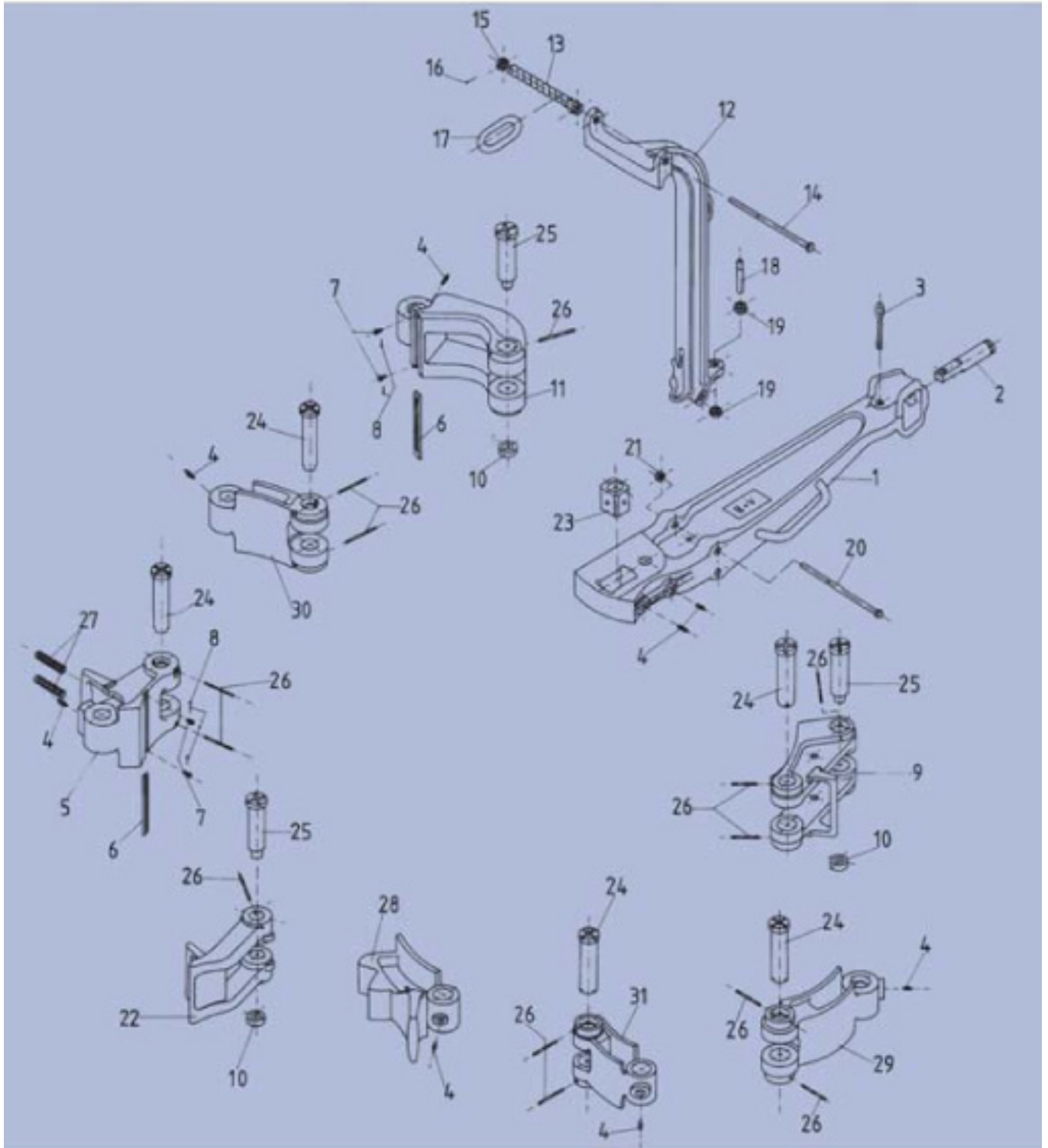
Position	Quantity	Part no.	Description
	<b>1</b>	<b>70210</b>	<b>Lever Assembly</b>
1	1	70211	Lever (standard)
2	1	70112	Lever End Bolt
3	1	70113-1	Lever End Bolt Nut
4	1	70114-1	Lever End Spring Washer
	<b>1</b>	<b>70220</b>	<b>Short Jaw Assembly</b>
5	1	70221	Short Jaw
6	2	70222	Die
7	4	70223	Die Retainer Pin
	<b>1</b>	<b>70230-S</b>	<b>Long Jaw Assembly</b>
8	1	70231	Long Jaw
9	2	70222	Die
10	4	70223	Die Retainer Pin
19	1	70240-S	Latch
	<b>1</b>	<b>70150</b>	<b>Hanger Assembly</b>
11	1	70151	Hanger
	<b>2</b>	<b>70152</b>	<b>Hanger Adjustment Bolt and Nut</b>
12	2	70153	Hanger Adjustment Bolt
3	2	70113-1	Hanger Adjustment Nut
4	2	70114	Hanger Spring Washer
13	2	70115	Hanger Adjustment Bolt Washer
14	2	70260	Latch Spring
	<b>4</b>	<b>70261</b>	<b>Hinge Pin Assembly</b>
15	4	70262	Hinge Pin
16	4	70263	Cotter Pin
17	4	70064	Grease Fitting
	<b>1</b>	<b>70270</b>	<b>Short Lever Assembly</b>
	1	70270	Short Lever
<b>18</b>	<b>1</b>	<b>70280-S</b>	<b>Lug Jaw (Assembly) 2.3/8" - 3.3/4"</b>
	<b>1</b>	<b>70281-S</b>	<b>Lug Jaw (Assembly) 3.1/2" - 4.5/8"</b>
	<b>1</b>	<b>70282-S</b>	<b>Lug Jaw (Assembly) 4.1/2" - 5.3/4"</b>
	<b>1</b>	<b>70283-S</b>	<b>Lug Jaw (Assembly) 5.1/2" - 7.1/4"</b>
	<b>1</b>	<b>70284-S</b>	<b>Lug Jaw (Assembly) 6.7/7" - 8.5/8"</b>
	<b>1</b>	<b>70285-S</b>	<b>Lug Jaw (Assembly) 9" - 10.3/4"</b>

Manual Tong Type BV-55 (replacement parts only)



Position	Quantity	Part no.	Description	Position	Quantity	Part no.	Description
	<b>1</b>	<b>70610</b>	<b>Lever Assembly</b>	33	1	70672	Hinge Pin (Removable)
1	1	70611	Lever	34	4	70673	Hinge Pin (Threaded)
2	1	70612	Tong Line Pin	35	6	70674	Dowel Pin
3	1	70613	Tong Line Pin Retainer	<b>36</b>	<b>1</b>	<b>70680-S</b>	<b>Latch Lug Jaw Assembly 3.1/2" - 5"</b>
4	2	70064	Grease Fitting		1	70064	Grease Fitting
	<b>1</b>	<b>70620-S</b>	<b>Latch Jaw Assembly</b>	<b>36</b>	<b>1</b>	<b>70681-S</b>	<b>Latch Lug Jaw Assy. 5" - "6.3/4"</b>
5	1	70621	Latch Jaw		1	70064	Grease Fitting
6	1	70622	Die	<b>36</b>	<b>1</b>	<b>70682-S</b>	<b>Latch Lug Jaw Assy. 6.3/4" - 9"</b>
7	2	70323	Die Retainer Pin		1	70064	Grease Fitting
8	2	70324	Cotter Pin	<b>36</b>	<b>1</b>	<b>70683-S</b>	<b>Latch Lug Jaw Assy. 9" - 10.3/4"</b>
4	2	70064	Grease Fitting		1	70064	Grease Fitting
	<b>1</b>	<b>70630</b>	<b>Short Jaw Assembly</b>		<b>1</b>	<b>70684-S</b>	<b>Latch Lug Jaw Assy. 11.3/4"</b>
9	1	70631	Short Jaw	36	1	70685	Latch Lug Jaw 11.3/4"
6	2	70622	Die	6	1	70622	Die
7	4	70323	Die Retainer Pin	7	2	70323	Die Retainer Pin
8	4	70324	Cotter Pin	8	2	70324	Cotter Pin
10	1	70625	Hinge Pin Nut	4	1	70064	Grease Fitting
	<b>1</b>	<b>70640-S</b>	<b>Long Jaw Assembly</b>		<b>1</b>	<b>70686-S</b>	<b>Latch Lug Jaw Assy. 12.3/4" - 13"</b>
11	1	70641	Long Jaw	36	1	70687	Latch Lug Jaw 12.3/4" - 13"
12	1	70642	Adjustable Stop	6	1	70622	Die
13	1	70642-1	Adjustable Stop Plunger	7	2	70323	Die Retainer Pin
14	1	70642-2	Adjustable Stop Spring	8	2	70324	Cotter Pin
15	1	70153	Adjustable Stop Bolt	4	1	70064	Grease Fitting
16	1	70113	Adjustable Stop Bolt Nut		<b>1</b>	<b>70688-S</b>	<b>Latch Lug Jaw Assy. 13.3/8"</b>
17	1	70643	Booster Plunger	36	1	70689	Latch Lug Jaw 13.3/8"
18	1	70643-1	Booster Plunger Spring	6	1	70622	Die
19	1	70643-2	Booster Spring Retainer Plug	7	2	70323	Die Retainer Pin
6	1	70622	Die	8	2	70324	Cotter Pin
7	2	70323	Die Retainer Pin	4	1	70064	Grease Fitting
8	2	70324	Cotter Pin	<b>36</b>	<b>1</b>	<b>70690-S</b>	<b>Latch Lug Jaw Assy. 4" - 5.1/2" (Opt.)</b>
10	2	70625	Hinge Pin Nut		1	70064	Grease Fitting
	<b>1</b>	<b>70775</b>	<b>Hanger Assembly</b>	<b>36</b>	<b>1</b>	<b>70693-S</b>	<b>Latch Lug Jaw Assy. 4.1/4" - 6.3/4" (Opt.)</b>
20	1	70774	Hanger		1	70064	Grease Fitting
21	1	70652	Balancing Screw		<b>1</b>	<b>70691</b>	<b>Short Lever Assy.</b>
	<b>1</b>	<b>70652-1</b>	<b>Balancing Screw Bolt Assy.</b>		1	70692	Short Lever
22	1	70652-2	Balancing Screw Bolt		<b>1</b>	<b>70693</b>	<b>Long Hanger Assembly</b>
23	1	70652-3	Balancing Screw Bolt Nut		1	70694	Long Hanger
24	1	70653	Cotter Pin			70696	Hinge Pin Wrench
25	1	70654	Suspension Ring			70697	Tong Pull Back (Opt.)
26	1	70655	Hanger Adjustment Screw				
27	2	70655-1	Hanger Jam Nut				
	<b>1</b>	<b>70655-2</b>	<b>Hanger Bolt Assembly</b>				
28	1	70655-3	Hanger Bolt				
29	1	70113	Hanger Bolt Nut				
	<b>1</b>	<b>70660-S</b>	<b>Latch Assembly</b>				
30	1	70661	Latch				
10	1	70625	Hinge Pin Nut				
31	1	70670	Lever Hinge Pin Block				
32	2	70671	Latch Spring				

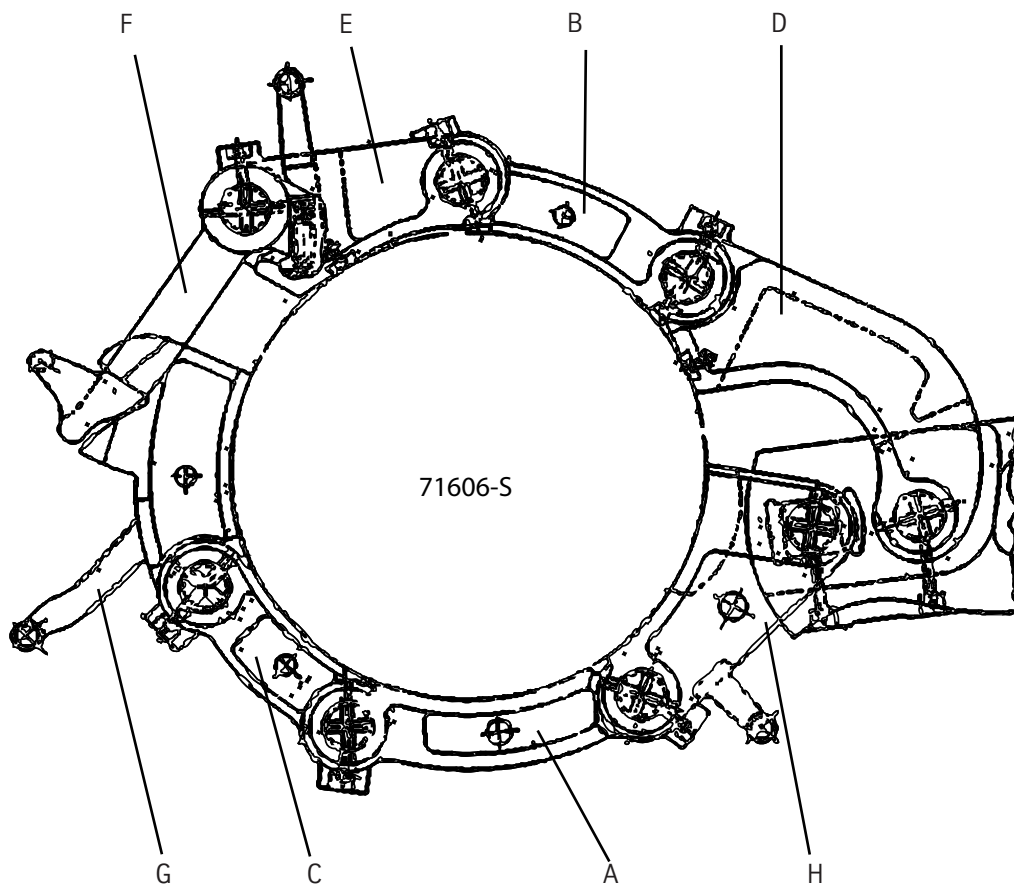
Manual Tong Type BV-55c

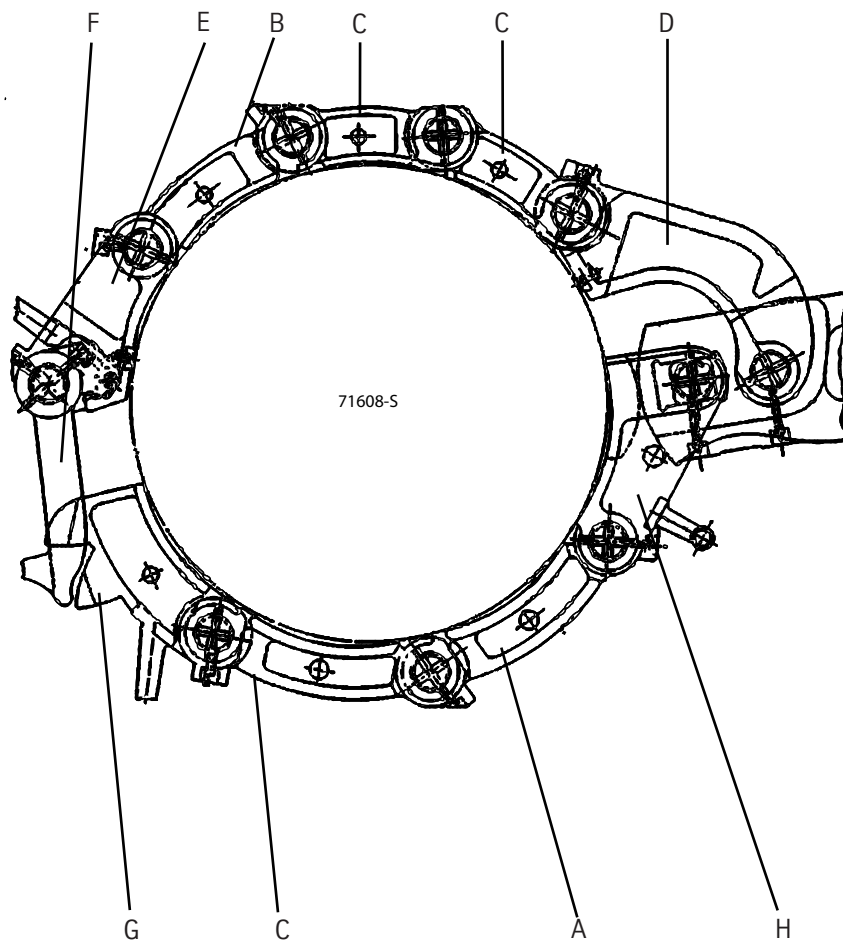
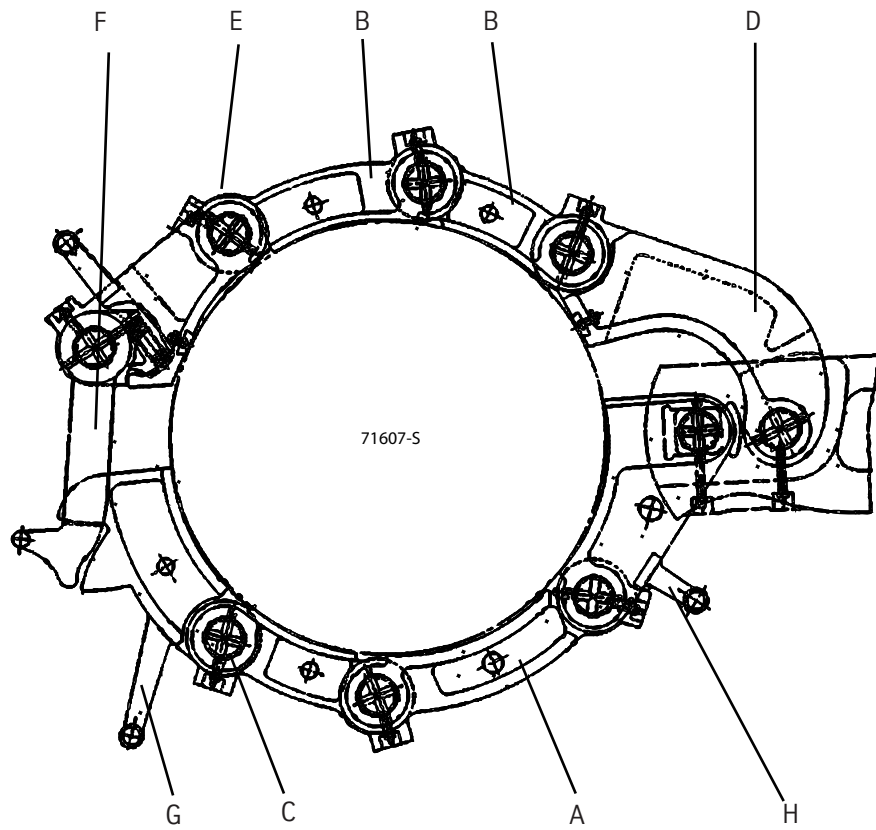


Position	Quantity	Part no.	Description	Position	Quantity	Part no.	Description
		<b>71600</b>	<b>Tong Ass'y Standard Lever less Casing head</b>	10	1	70625	Hinge Pin Nut
		<b>71601</b>	<b>Tong Ass'y Short Lever Less Casing Head</b>	23		70670	Lever Hinge Pin Block
	<b>1</b>	<b>70610</b>	<b>Lever Assembly (Standard)</b>	27		70671	Latch Spring
1	1	70611	Lever (Standard)	24		70672	Hinge Pin (Removable)
	<b>1</b>	<b>70691</b>	<b>Lever Assembly (Short)</b>	25		70673	Hinge Pin (Threaded)
1	1	70692	Lever (Short)	26		70674	Dowel Pin
2	1	70612	Tong Line Pin			<b>71680-S</b>	<b>Lug Jaw Assembly "G"</b>
3	1	70613	Tong Line Pin Retainer	<b>28</b>	<b>1</b>	<b>71680</b>	<b>Lug Jaw (Assembly)</b>
4	2	70064	Grease Fitting	4	1	70064	Grease Fitting
	<b>1</b>	<b>70775</b>	<b>Hanger Assembly</b>		<b>1</b>	<b>71630-S</b>	<b>Short Jaw Assembly "H"</b>
12	1	70774	Hanger	<b>9</b>	<b>1</b>	<b>71630</b>	<b>Short Jaw (Assembly)</b>
13	1	70652	Balancing Screw	10	1	70625	Hinge Pin Nut
14	1	70652-2	Balancing Screw Bolt	<b>29</b>	<b>1</b>	<b>71685</b>	<b>Hinge Jaw (Assembly) "A"</b>
15	1	70652-3	Balancing Screw Bolt Nut	<b>4</b>	<b>1</b>	<b>70064</b>	<b>Grease Fitting</b>
16	1	752339	Cotter Pin	<b>30</b>	<b>1</b>	<b>71686</b>	<b>Hinge Jaw (Assembly) "B"</b>
17	1	70654	Suspension Ring	4	1	70064	Grease Fitting
18	1	70655	Hanger Adjustment Screw	<b>31</b>	<b>1</b>	<b>71687</b>	<b>Hinge Jaw (Assembly) "C"</b>
19	2	70655-1	Hanger Jam Nut	4	1	70064	Grease Fitting
20	1	70655-3	Hanger Bolt			70696	Hinge Pin Wrench
21	1	70113	Hanger Bolt Nut			70697	Tong Pull Back (Opt.)
		<b>71605-S</b>	<b>Casing Head Ass'y 13.3/8" - 14.1/2"</b>				
		<b>71606-S</b>	<b>Casing Head Ass'y 13.3/8" - 16" + 17.1/2" - 19"</b>				
		<b>71607-S</b>	<b>Casing Head Ass'y 13.3/8" - 19" + 20" - 21.1/2"</b>				
		<b>71608-S</b>	<b>Casing Head Ass'y 13.3/8" - 25.1/2"</b>				
	<b>1</b>	<b>71640</b>	<b>Long Jaw Assembly "D"</b>				
11	1	71641	Long Jaw				
6	1	70622	Die				
7	2	70323	Die Retainer Pin				
8	2	70324	Cotter Pin				
10	1	70625	Hinge Pin Nut				
4	1	70064	Grease Fitting				
	<b>1</b>	<b>71620-S</b>	<b>Latch Jaw Assembly "E"</b>				
5	1	71621	Latch Jaw				
6	1	70622	Die				
7	2	70323	Die Retainer Pin				
8	2	70324	Cotter Pin				
4	1	70064	Grease Fitting				
	<b>1</b>	<b>70660-S</b>	<b>Latch Assembly "F"</b>				
22	1	70661	Latch				

## Parts list casing head assemblies BV-55c

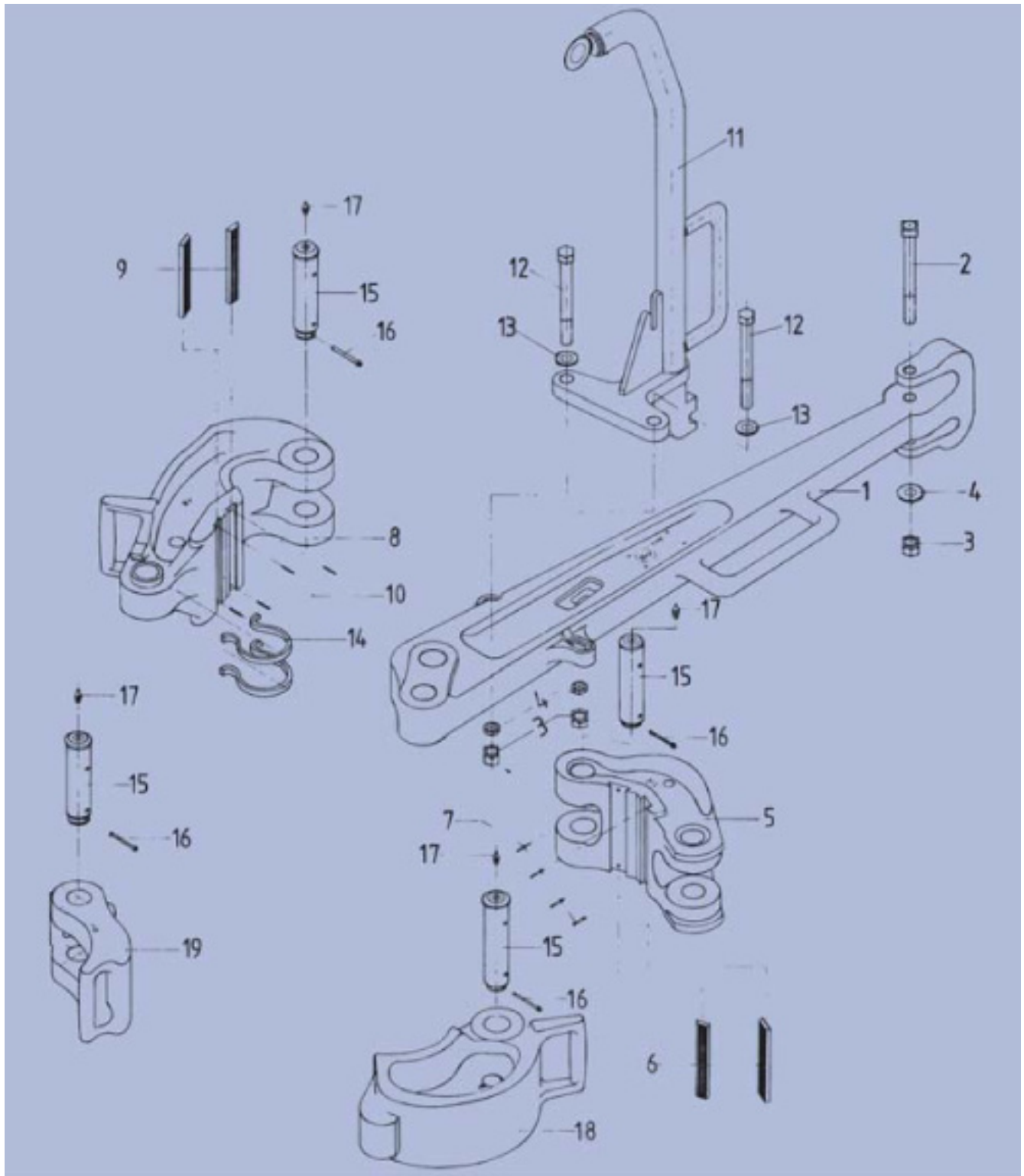
Ref	Description	Part number	71605-S	71606-S	71607-S	71608-S	71609-S	71610-S	71611-S
A	Hinge Jaw Ass'y	71685		1	1	2	3	1	4
B	Hinge Jaw Ass'y	71686	1	1	1	1	1	3	
C	Hinge Jaw Ass'y	71687	1	1	2	2	1	2	2
D	Long Jaw Ass'y	71640	1	1	1	1	1	1	1
E	Latch Jaw Ass'y	71620-S	1	1	1	1	1	1	1
F	Latch Ass'y	70660-S	1	1	1	1	1	1	1
G	Lug jaw Ass'y	71680-S	1	1	1	1			
G	Ext. Lug jaw Ass'y	71680-1-S					1	1	1
H	Short Jaw Ass'y	71630-S	1	1	1	1	1	1	1
	Hinge Pin Removable	70672	4	5	6	7	7	8	8
	Hinge Pin Threaded	70673	3	3	3	3	3	3	3
	Dowel pin	70674	11	13	15	17	17	19	19
	Latch spring	70671	2	2	2	2	2	2	2
	Hinge pin block	70670	1	1	1	1	1	1	1







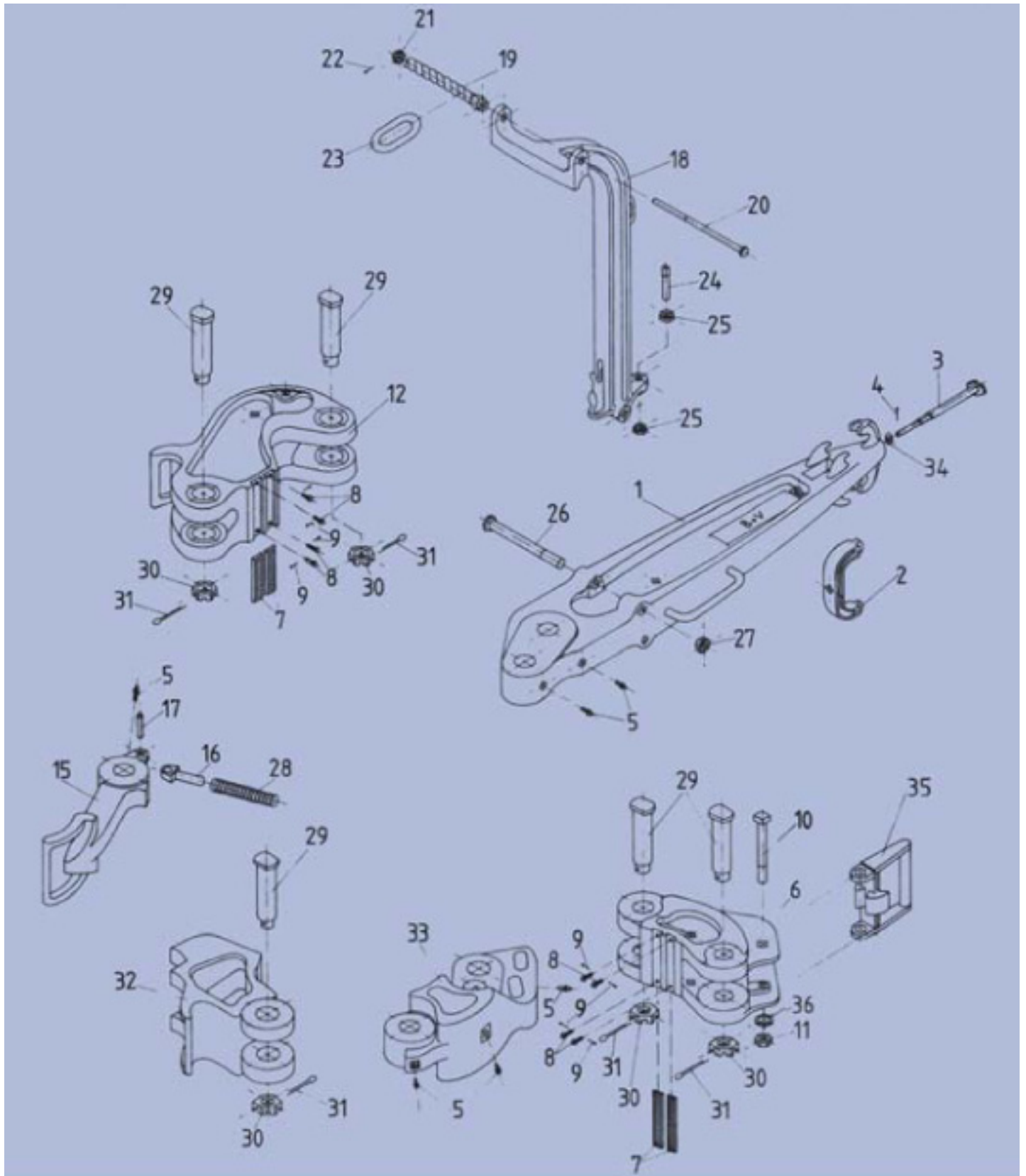
Manual Tong Type BV-57 (replacement parts only)





Position	Quantity	Part no.	Description
	<b>1</b>	<b>70010</b>	<b>Lever Assembly</b>
1	1	70011	Lever (standard)
2	1	70112	Lever End Bolt
3	1	70113	Lever End Bolt Nut
4	1	70114	Lever End Spring Washer
	<b>1</b>	<b>70020</b>	<b>Short Jaw Assembly</b>
5	1	70021	Short Jaw
6	2	70122	Die
7	4	70123	Die Retainer Pin
	<b>1</b>	<b>70030-S</b>	<b>Long Jaw Assembly</b>
8	1	70031	Long Jaw
9	2	70122	Die
10	4	70123	Die Retainer Pin
19	1	70040-S	Latch
	<b>1</b>	<b>70150</b>	<b>Hanger Assembly</b>
11	1	70151	Hanger
	2	70152	Hanger Adjustment Bolt and Nut
12	2	70153	Hanger Adjustment Bolt
3	2	70113	Hanger Adjustment Bolt Nut
4	2	70114	Hanger Spring Washer
13	2	70115	Hanger Adjustment Bolt Washer
14	2	70060	Latch Spring
	<b>4</b>	<b>70061</b>	<b>Hinge Pin Assembly</b>
15	4	70062	Hinge Pin
16	4	70363	Cotter Pin
17	4	70064	Grease Fitting
	<b>1</b>	<b>70070</b>	<b>Short Lever Assembly</b>
	1	70071	Short Lever
<b>18</b>	<b>1</b>	<b>70080-S</b>	<b>Lug Jaw (Assembly) 2.7/8" - 3.3/4"</b>
	<b>1</b>	<b>70081-S</b>	<b>Lug Jaw (Assembly) 3.1/2" - 4.1/2"</b>
	<b>1</b>	<b>70082-S</b>	<b>Lug Jaw (Assembly) 4" - 5.1/4"</b>
	<b>1</b>	<b>70083-S</b>	<b>Lug Jaw (Assembly) 5" - 7.1/4"</b>
	<b>1</b>	<b>70084-S</b>	<b>Lug Jaw (Assembly) 6" - 6.1/2"</b>
	<b>1</b>	<b>70085-S</b>	<b>Lug Jaw (Assembly) 6.7/8" - 8.5/8"</b>
	<b>1</b>	<b>70086-S</b>	<b>Lug Jaw (Assembly) 9" - 10.3/4"</b>
	<b>1</b>	<b>70087-S</b>	<b>Lug Jaw (Assembly) 10.3/4" - 11.3/4"</b>
	<b>1</b>	<b>70088-S</b>	<b>Lug Jaw (Assembly) 13.3/8"</b>

Manual Tong Type BV-65



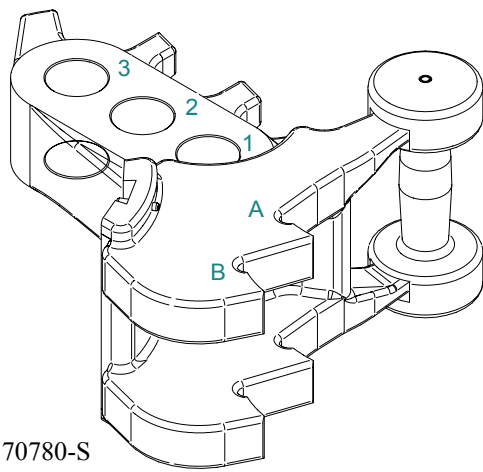
DRAWINGS

Position	Quantity	Part no.	Description	Position	Quantity	Part no.	Description
Pos.	Quantity	Part no.	Description	Pos.	Quantity	Part no.	Description
		<b>70700-S</b>	<b>BV-65 Tong, Long lever, Long hanger</b>	25	2	70655-1	Hanger Jam Nut
		<b>70701-S</b>	<b>BV-65 Tong, Short lever, Standard hanger</b>	26	1	70655-3	Hanger Bolt
		<b>70702-S</b>	<b>BV-65 Tong, Long lever, Standard hanger</b>	27	1	70113	Hanger Bolt nut
		<b>70703-S</b>	<b>BV-65 Tong, Short lever, Long hanger</b>	28	1	70860	Latch Spring
	1	<b>70710</b>	<b>Lever Assembly</b>		<b>4</b>	<b>70761</b>	<b>Hinge Pin Ass'y</b>
1	1	70711	Lever	29	4	70762	Hinge Pin
2	1	70812	Tong Line Retainer	30	4	70863	Hinge Pin Nut
3	1	70813	Tong Line Retainer Bolt	31	4	70864	Cotter Pin
4	1	70814	Cotter Pin		<b>1</b>	<b>70780-S</b>	<b>Lug Jaw Ass'y 3.1/2"-8.1/4"</b>
34	1	70815	Washer		1	70781	Lug Jaw 3.1/2"-8.1/4"
5	2	70064	Grease Fitting		1	70622	Die
	<b>1</b>	<b>70720-S</b>	<b>Short Jaw Assembly</b>		2	70323	Die Retainer Pin
6	1	70721	Short Jaw		2	70324	Cotter Pin
35	1	70722-S	Short Jaw Handle		3	70064	Grease Fitting
7	1	70622	Die	<b>32</b>	<b>1</b>	<b>70782-S</b>	<b>Lug Jaw (Ass'y) 8"-11.1/4" (Opt.)</b>
8	2	621438	Dowel Pin		2	70064	Grease Fitting
9	2	70324	Cotter Pin		<b>1</b>	<b>70783-S</b>	<b>Lug Jaw Ass'y 11.3/3"-14.3/8"</b>
10	1	70835	Stop Bolt		<b>1</b>	<b>70784-S</b>	<b>Lug Jaw Ass'y 16"-17"</b>
11	1	70113	Stop Bolt Nut	33	1	70785	Hinge Jaw (Ass'y) 11.3/4"-17"
36	1	70114	Long Jaw		<b>1</b>	<b>70791-S</b>	<b>Lug Jaw Ass'y 18.5/8"-20"</b>
	<b>1</b>	<b>70730-S</b>	<b>Long Jaw Assembly</b>		<b>1</b>	<b>70792-S</b>	<b>Lug Jaw Ass'y 20"-21.1/2"</b>
12	1	70731	Long Jaw		<b>1</b>	<b>70793</b>	<b>Hinge Jaw (Ass'y) 18.5/8"-21.1/2"</b>
7	2	70622	Die	5	3	70064	Grease Fitting
8	2	621438	Dowel Pin			70697	Tong Pull Back (Opt.)
9	4	70324	Cotter Pin				
	<b>1</b>	<b>70740-S</b>	<b>Latch Assembly</b>				
15	1	70741	Latch				
16	1	70842	Latch Spring Blunger				
17	1	70843	Plunger Pin				
5	1	70064	Grease Fitting				
	<b>1</b>	<b>70775</b>	<b>Standard Hanger Assembly</b>				
	<b>1</b>	<b>70775-1</b>	<b>Safety Standard Hanger Ass'y</b>				
	<b>1</b>	<b>70770</b>	<b>Safety Extra Long Hanger Ass'y</b>				
	<b>1</b>	<b>70770-1</b>	<b>Safety Extra Long Hanger Ass'y</b>				
18	1	70774	Hanger				
19	1	70652	Balancing Screw				
	<b>1</b>	<b>70652-1</b>	<b>Balancing Screw Bolt Ass'y</b>				
20	1	70652-2	Balancing Screw Bolt				
21	1	70652-3	Balancing Screw Bolt Nut				
22	1	70653	Cotter Pin				
23	1	70654	Suspension Ring				
24	1	70655	Hanger Adjustment Screw				
	<b>1</b>	<b>70655-2</b>	<b>Hanger Bolt Ass'y</b>				

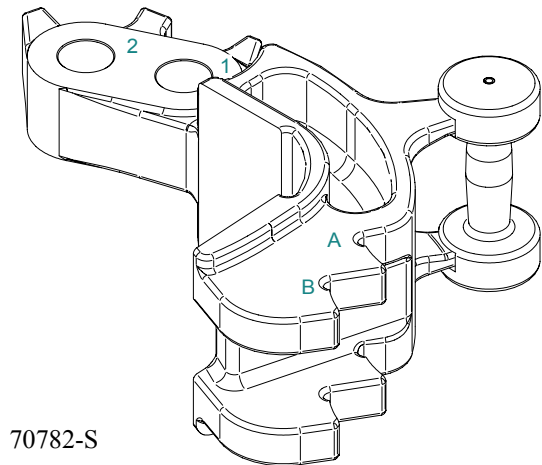
# Gripping points

## Manual Tong Type BV-65

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
70710	Lever	n.a.	70780-S	1A	3 1/2	4 3/4
70720-S	Short Jaw			1B	4 1/2	6
70730-S	Long Jaw			2A	n.a.	n.a.
70740-S	Latch			2B	5 1/2	7
				3A	n.a.	n.a.
				3B	6 1/2	8 1/4

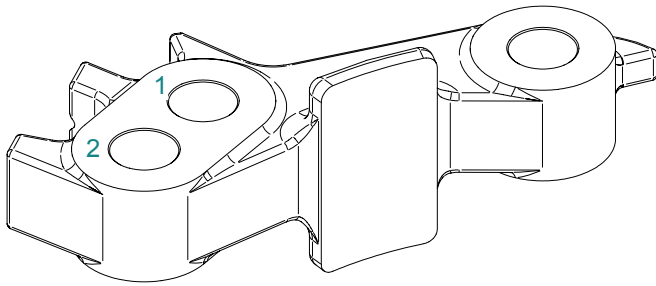


Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
70710	Lever	n.a.	70782-S	1A	7 1/2	9 1/2
70720-S	Short Jaw			1B	n.a.	n.a.
70730-S	Long Jaw			2A	n.a.	n.a.
70740-S	Latch			2B	9 1/2	11 1/2

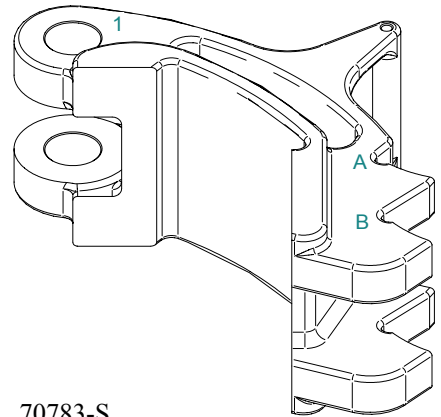


DRAWINGS

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
70710	Lever	70785	70783-S	1A	11 1/2	12 3/4
70720-S	Short Jaw			1B	12 1/2	13 1/2
70730-S	Long Jaw			2A	n.a.	n.a.
70740-S	Latch			2B	13 3/8	14 3/8

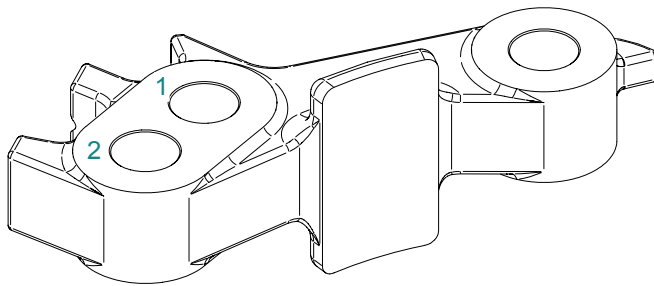


70785

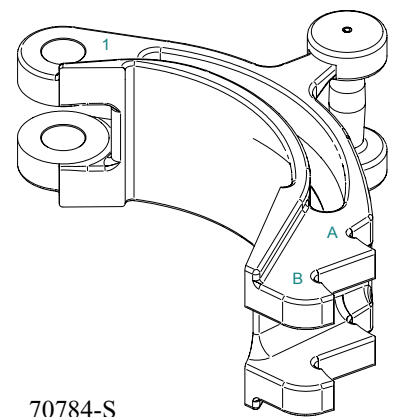


70783-S

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
70710	Lever	70785	70784-S	1A	14 1/2	15 1/2
70720-S	Short Jaw			1B	15 1/2	16
70730-S	Long Jaw			2A	n.a.	n.a.
70740-S	Latch			2B	16	17

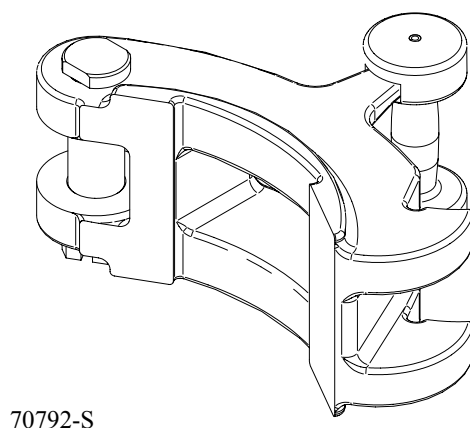
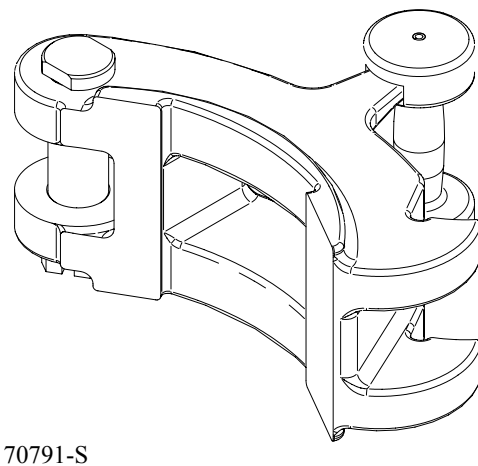
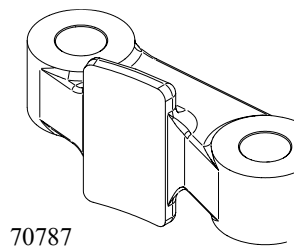
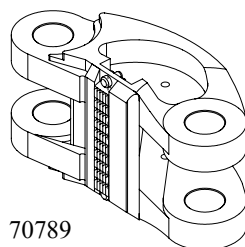
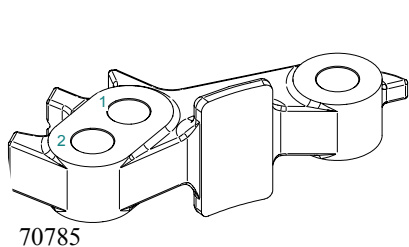


70785

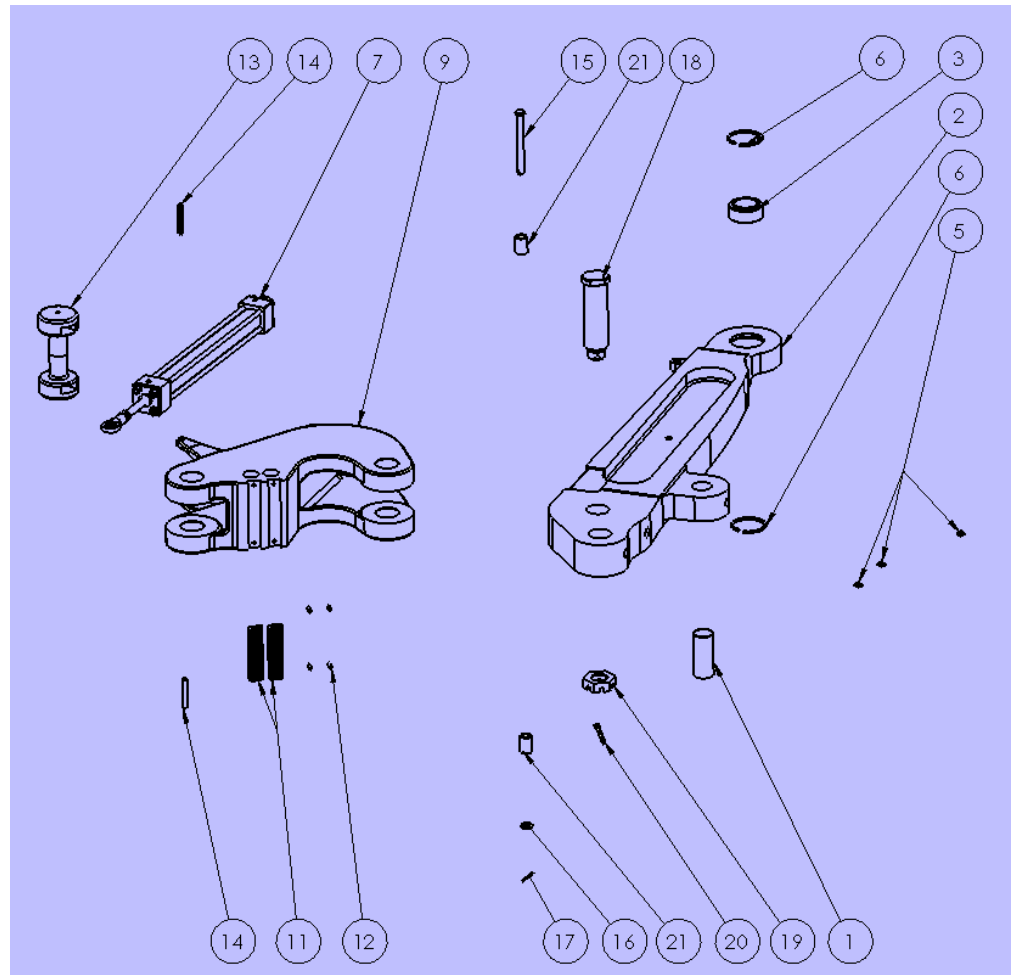


70784-S

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
70710	Lever	70785	70791-S	1	18 5/8	19
70720-S	Short Jaw	70789		2	19	20
70730-S	Long Jaw	70787				
70740-S	Latch					
70710	Lever	70785	70792-S	1	20	20 1/2
70720-S	Short Jaw	70789		2	21	21 1/2
70730-S	Long Jaw	70787				
70740-S	Latch					

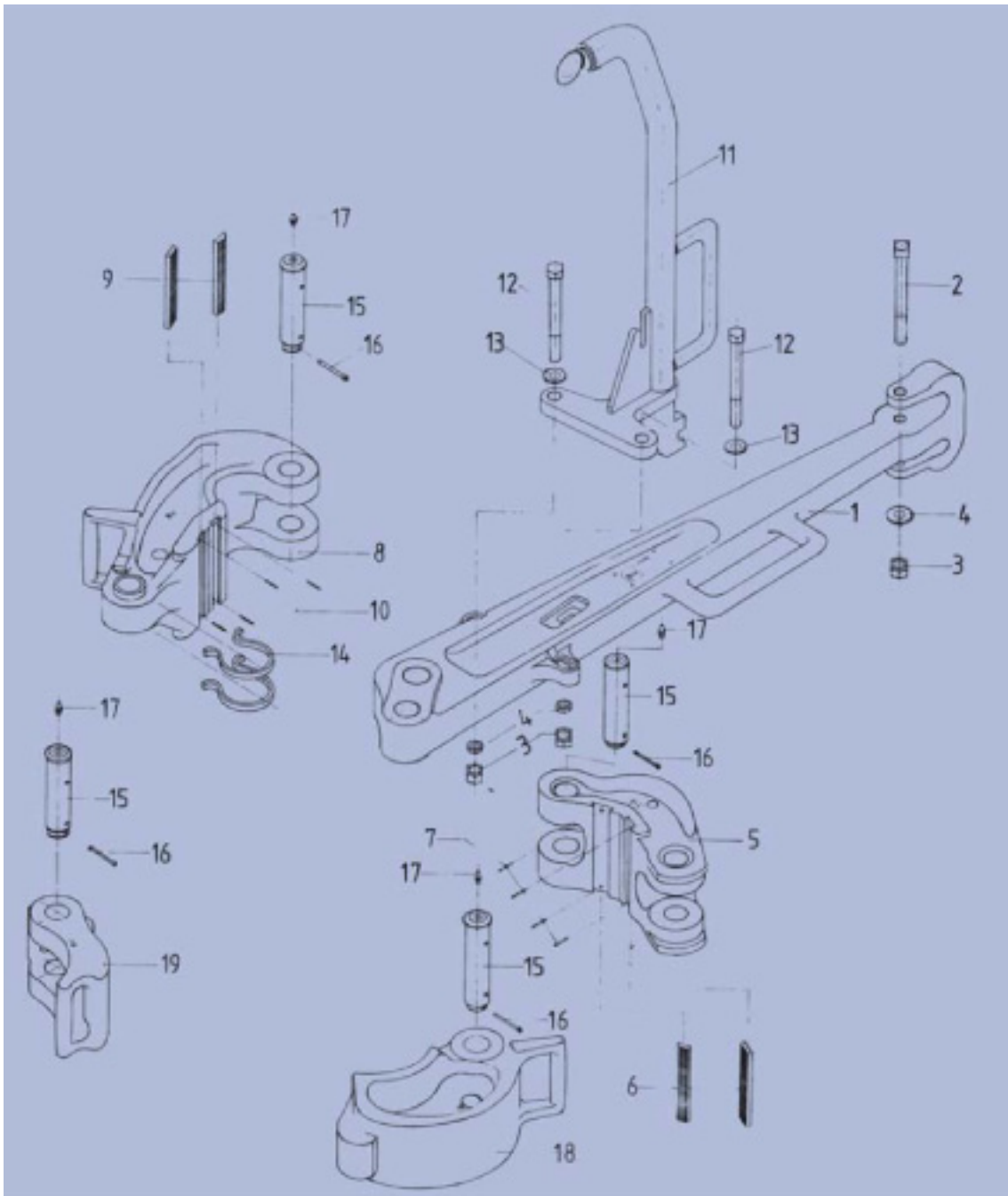


## Manual Tong Type BV-65 H



Position	Quantity	Part no.	Description
1	1	71892	Bushing
2	1	70711-H	Lever
3	1	71891	Pivoting Bearing
5	3	70064	Grease Nipple
6	2	71895	Retaining Ring
7	1	612916	Hydraulic cylinder
9	1	70730-H	Long Jaw Assembly
11	2	70322	Tong Die
12	4	645639	Dowel Pin
13	1	70751	Safety Handle
14	2	70752	Dowel Pin
15	1	800403-2	Pin
16	1	70815	Washer
17	1	725274	Cotter Pin
18	1	70862	Hinge Pin
19	1	70863	Hinge Pin Nut
20	1	70864	Cotter Pin
21	2	800403-3	Cylinder Mount Bushing

Manual Tong Type BV-80



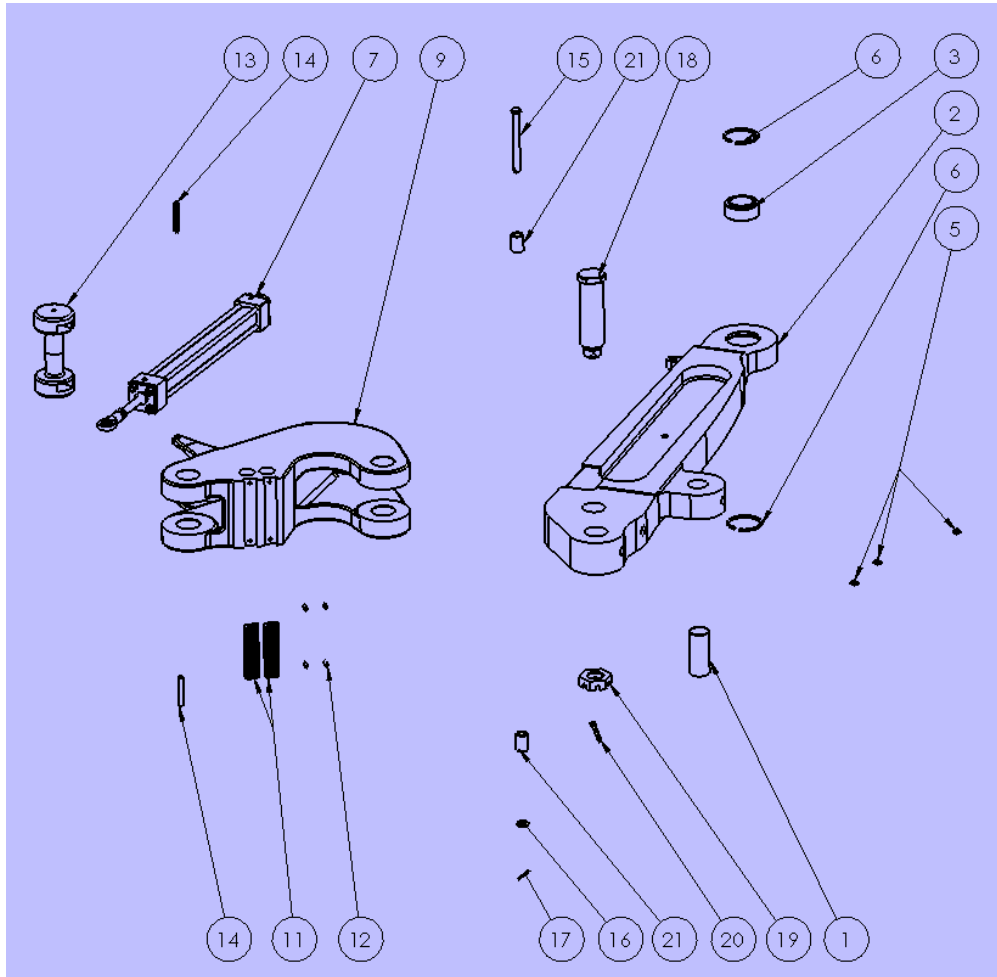


Position	Quantity	Part no.	Description
		<b>70100-S</b>	<b>BV-80 Tong Long Lever, Long hanger</b>
		<b>70101-S</b>	<b>BV-80 Tong Short Lever, Standard hanger</b>
	<b>1</b>	<b>70110</b>	<b>Lever Assembly</b>
1	1	70111	Lever (standard)
2	1	70112	Lever End Bolt
3	1	70113-1	Lever End Bolt Nut
4	1	70114-1	Lever End Spring Washer
	<b>1</b>	<b>70120</b>	<b>Short Jaw Assembly</b>
5	1	70121	Short Jaw
6	2	70622	Die
7	4	70123	Die Retainer Pin
	<b>1</b>	<b>70130-S</b>	<b>Long Jaw Assembly</b>
8	1	70131	Long Jaw
9	2	70622	Die
10	4	70123	Die Retainer Pin
19	1	70140-S	Latch
	<b>1</b>	<b>70150</b>	<b>Hanger Assembly</b>
11	1	70151	Hanger
	<b>2</b>	<b>70152</b>	<b>Hanger Adjustment Bolt and Nut</b>
12	2	70153	Hanger Adjustment Bolt
3	2	70113	Hanger Adjustment Bolt Nut
4	2	70114	Hanger Spring Washer
13	2	70115	Hanger Adjustment Bolt Washer
14	2	70160	Latch Spring
	<b>4</b>	<b>70161</b>	<b>Hinge Pin Assembly</b>
15	4	70162	Hinge Pin
16	4	70163	Cotter Pin
17	4	70064	Grease Fitting
	<b>1</b>	<b>70170</b>	<b>Short Lever Assembly</b>
	1	70171	Short Lever
<b>18</b>	<b>1</b>	<b>70180-S</b>	<b>Lug Jaw (Assembly) 3.1/2" - 4.1/2"</b>
	<b>1</b>	<b>70181-S</b>	<b>Lug Jaw (Assembly) 4" - 5.1/4"</b>
	<b>1</b>	<b>70182-S</b>	<b>Lug Jaw (Assembly) 5" - 6"</b>
	<b>1</b>	<b>70183-S</b>	<b>Lug Jaw (Assembly) 6" - 7"</b>
	<b>1</b>	<b>70184-S</b>	<b>Lug Jaw (Assembly) 7" - 9"</b>
	<b>1</b>	<b>70185-S</b>	<b>Lug Jaw (Assembly) 9" - 10.3/4"</b>
	<b>1</b>	<b>70186-S</b>	<b>Lug Jaw (Assembly) 10.3/4" - 11.3/4"</b>
	<b>1</b>	<b>70187-S</b>	<b>Lug Jaw (Assembly) 13.3/8"</b>



Position	Qty	Part no.	Description	Position	Qty	Part no.	Description
		<b>70800-S</b>	<b>BV-100 Tong Long lever, Long hanger</b>	26	1	70655-3	Hanger Bolt
		<b>70801-S</b>	<b>BV-100 Tong Long lever, Standard hanger</b>	27	1	70113	Hanger Bolt Nut
	<b>1</b>	<b>70810</b>	<b>Lever Assembly</b>	28	1	70860	Latch Spring
1	1	70811	Lever		4	70861	Hinge Pin Assembly
2	1	70812	Tong Line Retainer	29	4	70862	Hinge Pin
3	1	70813	Tong Line Retainer Bolt	30	4	70863	Hinge Pin Nut
4	1	70814	Cotter Pin	31	4	70864	Cotter Pin
34	1	70815	Washer		<b>1</b>	<b>70880-S</b>	<b>Lug Jaw Ass'y 4"-8.1/2"</b>
5	2	70064	Grease Fitting	32	1	70881	Lug Jaw 4"-8.1/2"
	<b>1</b>	<b>70820</b>	<b>Short Jaw Assembly</b>	7	1	70322	Die
6	1	70821	Short Jaw	8	2	70323	Die Retainer Pin
7	2	70322	Die	9	2	70342	Cotter Pin
8	4	70323	Die Retainer Pin	5	3	70064	Grease Fitting
9	4	70324	Cotter Pin	<b>32</b>	<b>1</b>	<b>70882-S</b>	<b>Lug Jaw (Ass'y) 8.1/2"-12"</b>
10	1	70835	Stop Bolt	<b>32</b>	<b>1</b>	<b>70883-S</b>	<b>Lug Jaw (Ass'y) 12"-15"</b>
11	1	70113-1	Stop Bolt Nut	<b>32</b>	<b>1</b>	<b>70884-S</b>	<b>Lug Jaw (Ass'y) 15.3/4"</b>
	<b>1</b>	<b>800403-S</b>	<b>Long Jaw Assembly</b>	<b>32</b>	<b>1</b>	<b>70885-S</b>	<b>Lug Jaw (Ass'y) 16"-17"</b>
1	1	800403-S	Long Jaw	<b>33</b>	<b>1</b>	<b>70886</b>	<b>Hinge Jaw (Ass'y) 8.1/2"-17"</b>
2	2	70322	Die Pyramid	5	3	70064	Grease Fitting
3	4	621438	Spring Type Pin		<b>1</b>	<b>800430-S</b>	<b>Lug and hinge Jaw (Ass'y) 18.5/8"-21"</b>
29	2	70862	Hinge Pin	5	3	70064	Grease Fitting
30	2	70863	Hinge Pin Nut	<b>33</b>	<b>1</b>	<b>800410</b>	<b>Extended Hinge Jaw Ass'y 18.5/8"-21"</b>
6	2	70864	Cotter Pin	1	1	800410	Extended Hinge Jaw
7	1	70751	Safety Handle	2	1	70322	Die Pyramid
8	2	70752	Spring Type Pin	3	2	621438	Spring Type Pin
	<b>1</b>	<b>70840-S</b>	<b>Latch Assembly</b>	4	1	-	Screw
15	1	70841	Latch	5	1	800113	Nut
16	1	70842	Latch Spring Plunger	6	2	70862	Hinge Pin
17	1	70843	Plunger Pin	7	2	70863	Hinge Pin Nut
5	1	70064	Grease Fitting	8	2	70864	Cotter Pin
	<b>1</b>	<b>70775</b>	<b>Standard Hanger Assembly</b>	<b>32</b>	<b>1</b>	<b>800420-S</b>	<b>Extended Lug Jaw Ass'y 18.5/8"-21"</b>
18	1	70774	Hanger	1	1	800420-S	Extended Lug Jaw
19	1	70652	Balancing Screw	2	1	70751	Safety Handle
	<b>1</b>	<b>70652-1</b>	<b>Balancing Screw Bolt Ass'y</b>	3	2	70752	Spring Type Pin
20	1	70652-2	Balancing Screw Bolt	5	2	70064	Grease Fitting
21	1	70652-3	Balancing Screw Bolt Nut				
22	1	752339	Cotter Pin				
23	1	70654	Suspension Ring				
24	1	70655	Hanger Adjustment Screw				
25	2	70655-1	Hanger Jam Nut				
	<b>1</b>	<b>70655-2</b>	<b>Hanger Bolt Assembly</b>				

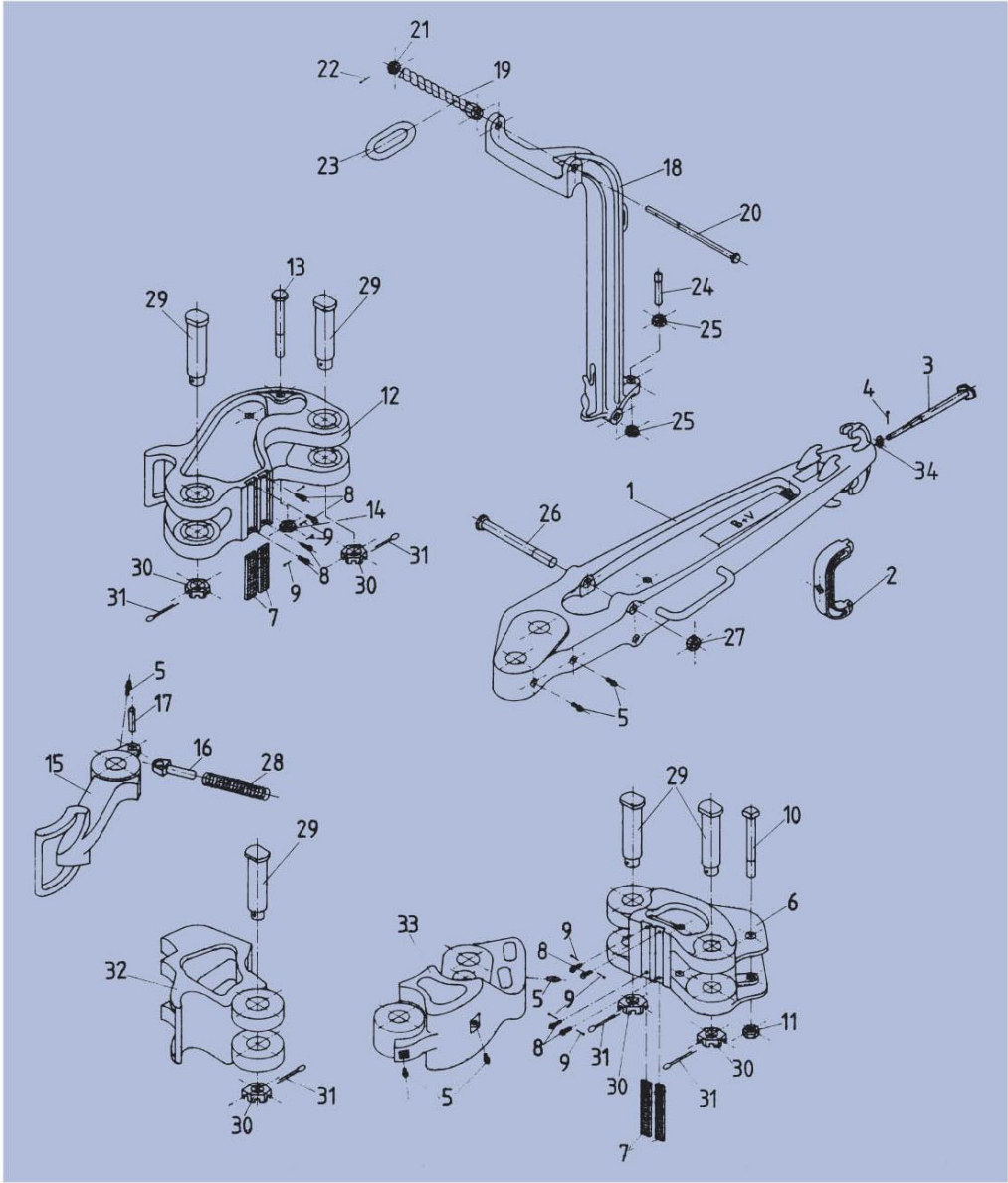
# Manual Tong Type BV-100 H



Position	Quantity	Part no.	Description
		71890-H	BV-100 H less Short Jaw, Lug Jaw & Latch
15	1	800403-2	Pin for BV-100 H and BV-100C H
21	2	800403-3	Bushing for Cylinder Mount
16	1	70815	Washer
17	1	725274	Cotter Pin
18	1	70862	Hinge Pin
19	1	70863	Hinge Pin Nut
20	1	70864	Cotter Pin
	1	70811-H	Lever Assembly for BV-100 H and BV-100C H
2	1	70711-BF	Lever
1	1	71892	Bushing
3	1	71891	Pivoting Bearing
5	3	700064	Grease Nipple
6	2	71895	Retaining Ring
	1	800403-S-H	Long Jaw Assembly for BV-100 H
9	1	800403-H	Long Jaw for BV-100 H
11	2	70322	Tong Die
12	4	645639	Dowel Pin
13	1	70751	Safety Handle
14	2	70752	Dowel Pin

DRAWINGS

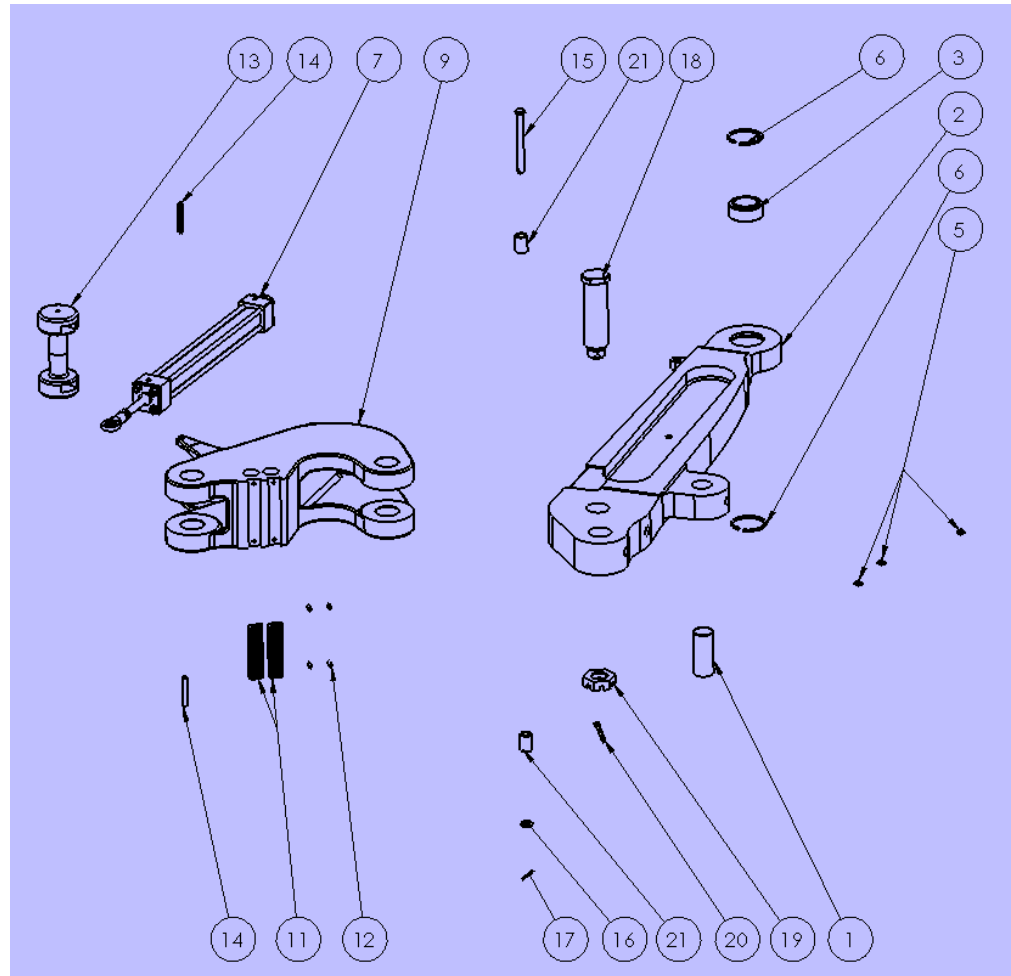
Manual Tong Type BV-100c



## Parts list BV-100c

Position	Qty	Part no.	Description	Position	Qty	Part no.	Description
		<b>70800-S</b>	<b>BV-100 Tong Long lever, Long hanger</b>	26	1	70655-3	Hanger Bolt
		<b>70801-S</b>	<b>BV-100 Tong Long lever, Standard hanger</b>	27	1	70113	Hanger Bolt Nut
	<b>1</b>	<b>70810</b>	<b>Lever Assembly</b>	28	1	70860	Latch Spring
1	1	70811	Lever	<b>4</b>	<b>70861</b>	<b>Hinge Pin Assembly</b>	
2	1	70812	Tong Line Retainer	29	4	70862	Hinge Pin
3	1	70813	Tong Line Retainer Bolt	30	4	70863	Hinge Pin Nut
4	1	70814	Cotter Pin	31	4	70864	Cotter Pin
34	1	70815	Washer	<b>1</b>	<b>71999-S</b>	<b>Lug Jaw Assembly</b>	
5	2	70064	Grease Fitting			71992	Lug Jaw
	<b>1</b>	<b>70820</b>	<b>Short Jaw Assembly</b>			70322	Die
6	1	70821	Short Jaw			70614	Screw
7	2	70322	Die			89125	Nut
8	4	70323	Die Retainer Pin			70064	Grease Fitting
9	4	70324	Cotter Pin			70751	Handle for tongs
10	1	70835	Stop Bolt			70752	Dowel Pin
11	1	70113-1	Stop Bolt Nut				
	<b>1</b>	<b>800403-S</b>	<b>Long Jaw Assembly</b>				
1	1	800403-S	Long Jaw				
2	2	70322	Die Pyramid				
3	4	621438	Spring Type Pin				
29	2	70862	Hinge Pin				
30	2	70863	Hinge Pin Nut				
6	2	70864	Cotter Pin				
7	1	70751	Safety Handle				
8	2	70752	Spring Type Pin				
	<b>1</b>	<b>70840-S</b>	<b>Latch Assembly</b>				
15	1	70841	Latch				
16	1	70842	Latch Spring Plunger				
17	1	70843	Plunger Pin				
5	1	70064	Grease Fitting				
	<b>1</b>	<b>70775</b>	<b>Standard Hanger Assembly</b>				
18	1	70774	Hanger				
19	1	70652	Balancing Screw				
	<b>1</b>	<b>70652-1</b>	<b>Balancing Screw Bolt Ass'y</b>				
20	1	70652-2	Balancing Screw Bolt				
21	1	70652-3	Balancing Screw Bolt Nut				
22	1	752339	Cotter Pin				
23	1	70654	Suspension Ring				
24	1	70655	Hanger Adjustment Screw				
25	2	70655-1	Hanger Jam Nut				
	<b>1</b>	<b>70655-2</b>	<b>Hanger Bolt Assembly</b>				

## Manual Tong BV-100c H



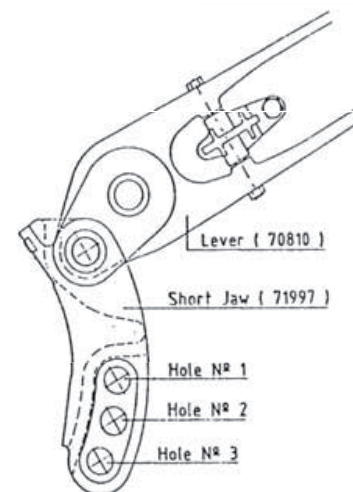
Position	Quantity	Part no.	Description
		<b>71800-H</b>	<b>BV-100C H less Casing Head Assy</b>
15	1	800403-2	Pin for BV-100 H and BV-100C H
21	2	800403-3	Bushing for Cylinder Mount
16	1	70815	Washer
17	1	725274	Cotter Pin
18	1	70862	Hinge Pin
19	1	70863	Hinge Pin Nut
20	1	70864	Cotter Pin
	<b>1</b>	<b>70811-H</b>	<b>Lever Assembly for BV-100 H and BV-100C H</b>
2	1	70711-BF	Lever
1	1	71892	Bushing
3	1	71891	Pivoting Bearing
5	3	700064	Grease Nipple
6	2	71895	Retaining Ring
	<b>1</b>	<b>71998-S-H</b>	<b>Long Jaw Assembly for BV-100C H</b>
9	1	71998-H	Long Jaw for BV-100C H
11	2	70322	Tong Die
12	4	645639	Dowel Pin
13	1	70751	Safety Handle
14	2	70752	Dowel Pin

### Tong Type BV-100 Extended 100,000 ft/lbs torque rating

Casing DIA	No.	Lever Ass. 70810	Long Jaw Ass. 71998	Lug Jaw Ass. 71999-S	Short Jaw Ass. 71997	Latch Ass. 71996-S	Hinge Jaw Ass. 72000	Hinge Jaw Ass. 72001	Short Jaw Ass. 70820	Hinge Pin Ass. 70861	Hanger Ass. 70650	1 Pin in Hole (picture)	Diameter Range
23	71809-S	1	1	1	-	1	1	2	1	7	1	/	22.2-23.1
24	71810-S	1	1	1	-	1	2	1	1	7	1	/	23.4-24.4
25	71811-S	1	1	1	1	1	3	-	-	7	1	1	24.6-25.3
26	71812-S	1	1	1	1	1	3	-	-	7	1	2	25.3-26.3
27	71813-S	1	1	1	1	1	3	-	-	7	1	3	26.4-27.4
28	71814-S	1	1	1	1	1	1	3	-	8	1	3	27.4-28.4
29	71815-S	1	1	1	1	1	2	2	-	8	1	3	28.6-29.8
30	71816-S	1	1	1	1	1	4	-	-	8	1	1	29.5-30.6
31.625	71817-S	1	1	1	1	1	4	-	-	8	1	2	30.6-31.5
32.063	71818-S	1	1	1	1	1	4	-	-	8	1	3	31.4-32.6
33	71819-S	1	1	1	1	1	2	3	-	9	1	3	31.6-33.7
34	71820-S	1	1	1	1	1	4	1	-	9	1	1	33.3-34.4
35	71821-S	1	1	1	1	1	4	1	-	9	1	2	34.2-35.5
36	71822-S	1	1	1	1	1	5	-	-	9	1	2	35.5-36.7
36.900	71823-S	1	1	1	1	1	5	-	-	9	1	3	36.5-37.7

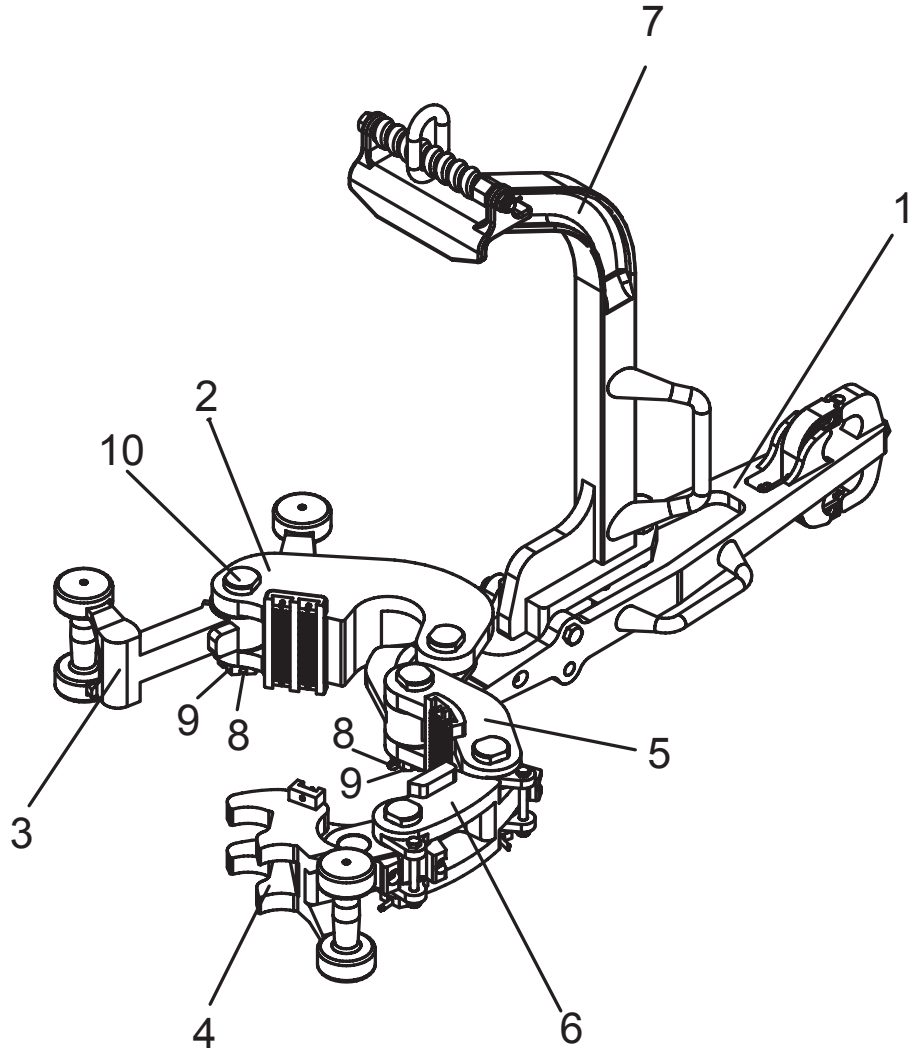
### Tong Type BV-100c Extended 100,000 ft/lbs torque rating

Casing DIA	No.	Lever Ass. 70810	Long Jaw Ass. 71998	Lug Jaw Ass. 71999-S	Short Jaw Ass. 71997	Latch Ass. 71996-S	Hinge Jaw Ass. 72000	Hinge Jaw Ass. 72001	Short Jaw Ass. 70820	Hinge Pin Ass. 70861	Hanger Ass. 70650	1 Pin in Hole (picture)	Diameter Range
18.625	71 805	1	1	1	-	1	1	1	1	1	6	/	18.4 - 19.4
20	71 806	1	1	1	-	1	1	2	-	1	6	/	19.75-20.9
21	71 807	1	1	1	-	1	1	-	3	1	4	/	20.7 - 21.6
21.500	71 808	1	1	1	-	1	1	-	3	1	7	/	20.7 - 21.6
23	71 809	1	1	1	-	1	1	1	2	1	7	/	22.2 - 23.1
24	71 810	1	1	1	-	1	1	2	1	1	7	/	23.4 - 24.4
25	71 811	1	1	1	1	1	1	3	-	-	7	1	24.6 - 25.3
26	71 812	1	1	1	1	1	1	3	-	-	7	2	25.3 - 26.3
27	71 813	1	1	1	1	1	1	3	-	-	7	3	26.4 - 27.4
28	71 814	1	1	1	1	1	1	1	3	-	8	3	27.4 - 28.4
29	71 815	1	1	1	1	1	1	2	2	-	8	3	28.6 - 29.8
30	71 816	1	1	1	1	1	1	4	-	-	8	1	29.5 - 30.6
31.625	71 817	1	1	1	1	1	1	4	-	-	8	2	30.6 - 31.5
32.063	71 818	1	1	1	1	1	1	4	-	-	8	3	31.4 - 32.6
33	71 819	1	1	1	1	1	1	2	3	-	9	3	31.6 - 33.7
34	71 820	1	1	1	1	1	1	4	1	-	9	1	33.3 - 34.4
35	71 821	1	1	1	1	1	1	4	1	-	9	2	34.2 - 35.5
36	71 822	1	1	1	1	1	1	5	-	-	9	2	35.5 - 36.7
36.900	71 823		1	1	1	1	1	1	5	-	-	9	3





## Manual Tong Type WRT-35

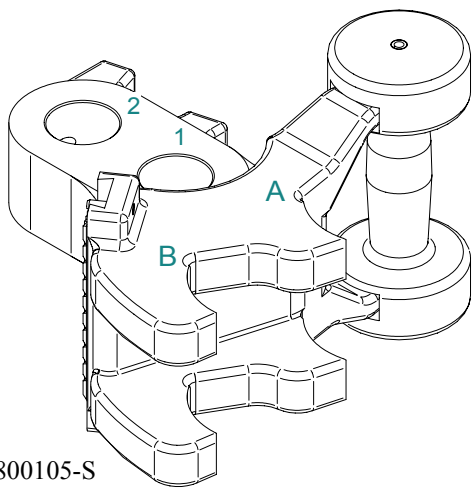


Position	Quantity	Part No.	Description
		800200-S	Long Lever Assembly
		800201-S	Short Lever Assembly
1	1	800201	Long Lever Assembly
		800202	Short Lever Assembly
2	1	800203-S	Long Jaw Assembly
3	1	800204-S	Latch Assembly
4	1	800210-S	Lug jaw Ass'y 3.1/2" - 8.1/4"
		800220-S	Lug jaw Ass'y 8" - 11.1/4"
		800230-S	Lug jaw Ass'y 11.1/4" - 14.3/8"
5	1	800206	Short Jaw Assembly 11.1/4" - 14.3/8"
6	-	800207	Hinge Jaw Assembly 11.1/2" - 14.3/8"
7	1	70775	Hanger Assembly
		70775-1	Safety Standard Hanger Assembly
8	4	70864	Cotter Pin
9	4	70863	Hinge Pin Nut
10	4	800208	Hinge Pin

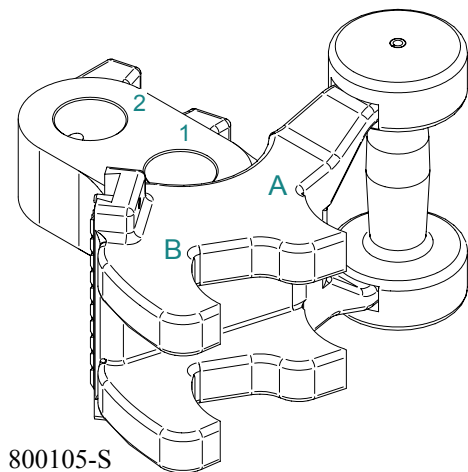
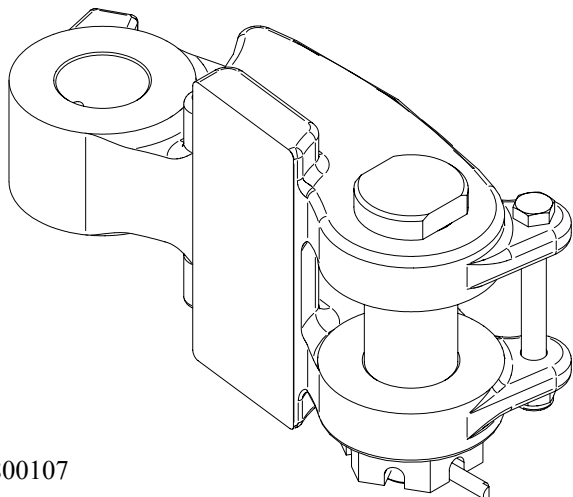
# Gripping points

## Manual Tong Type WRT-35

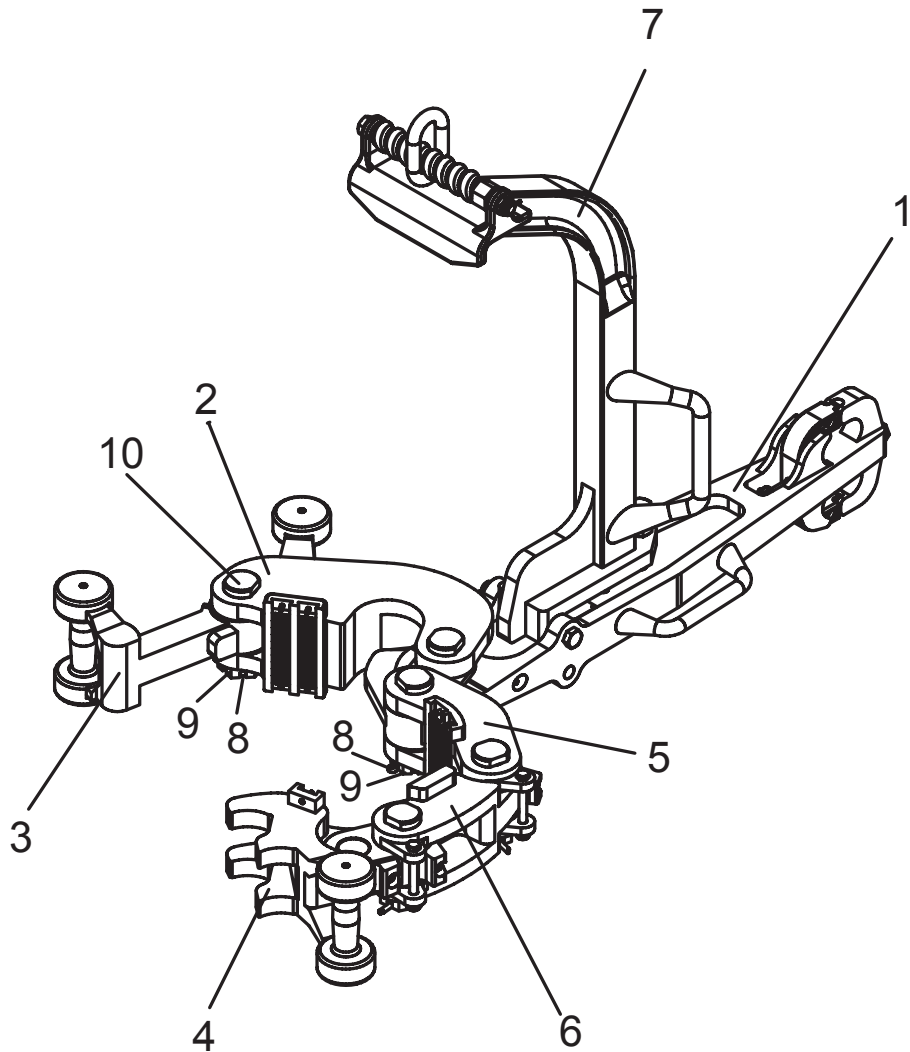
Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800101	Lever	n.a.	800105-S	1A	2 3/8	4 1/2
800106	Short Jaw			1B	4 1/2	6 1/4
800103-S	Long Jaw			2A	n.a.	n.a.
800104-S	Latch			2B	5 1/2	7 5/8



Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800101	Lever	800107	800105-S	1A	n.a.	n.a.
800106	Short Jaw			1B	n.a.	n.a.
800103-S	Long Jaw			2A	7 5/8	9 5/8
800104-S	Latch			2B	9	11



## Manual Tong Type WRT-55

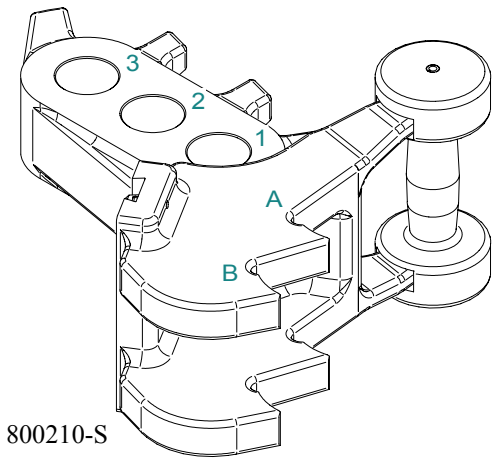


Position	Quantity	Part No.	Description
		800200-S	Long Lever Assembly
		800201-S	Short Lever Assembly
1	1	800201	Long Lever Assembly
		800202	Short Lever Assembly
2	1	800203-S	Long Jaw Assembly
3	1	800204-S	Latch Assembly
4	1	800210-S	Lug jaw Ass'y 3.1/2" - 8.1/4"
		800220-S	Lug jaw Ass'y 8" - 11.1/4"
		800230-S	Lug jaw Ass'y 11.1/4" - 14.3/8"
5	1	800206	Short Jaw Assembly 11.1/4" - 14.3/8"
6	-	800207	Hinge Jaw Assembly 11.1/2" - 14.3/8"
7	1	70775	Hanger Assembly
		70775-1	Safety Standard Hanger Assembly
8	4	70864	Cotter Pin
9	4	70863	Hinge Pin Nut
10	4	800208	Hinge Pin

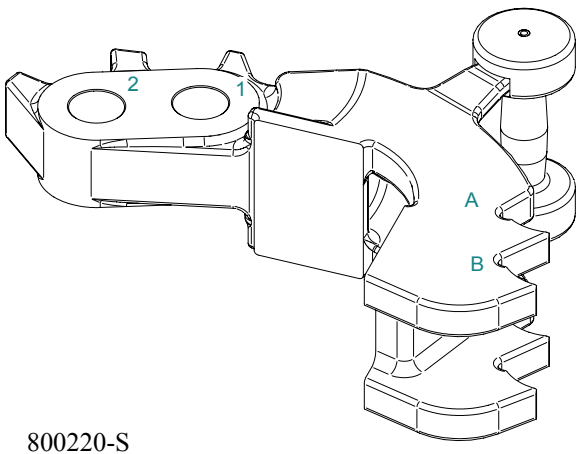
# Gripping points

## Manual Tong Type WRT-55

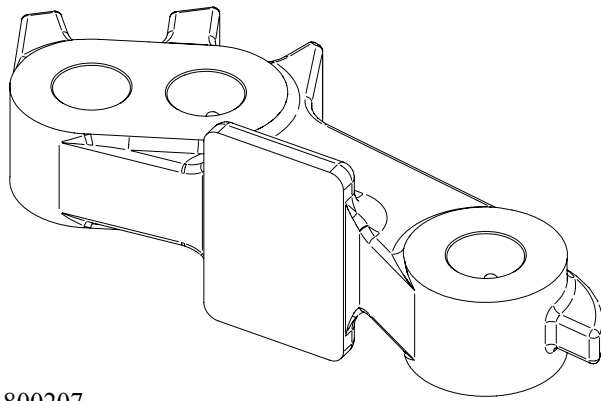
Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800201	Lever	n.a.	800210-S	1A	3 1/2	4 3/4
800206	Short Jaw			1B	n.a.	n.a.
800203-S	Long Jaw			2A	4 1/2	6
800204-S	Latch			2B	5 1/2	7
				3A	n.a.	n.a.
				3B	6 1/2	8 1/4



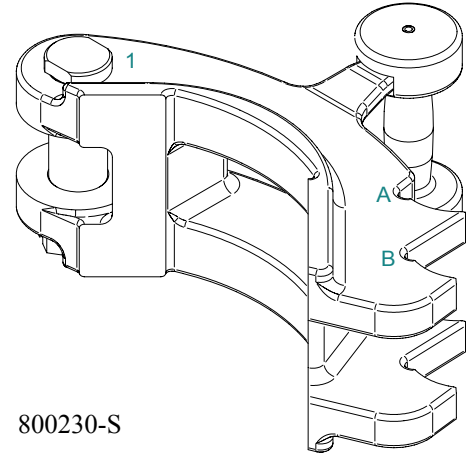
Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800201	Lever	n.a.	800220-S	1A	7 1/2	9 1/2
800206	Short Jaw			1B	n.a.	n.a.
800203-S	Long Jaw			2A	n.a.	n.a.
800204-S	Latch			2B	9 1/2	11 1/2



Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800201	Lever	800207	800230-S	1A	11 1/2	12 3/4
800206	Short Jaw			1B	12 1/2	14
800203-S	Long Jaw			2A	n.a.	n.a.
800204-S	Latch			2B	13 3/8	14 3/8

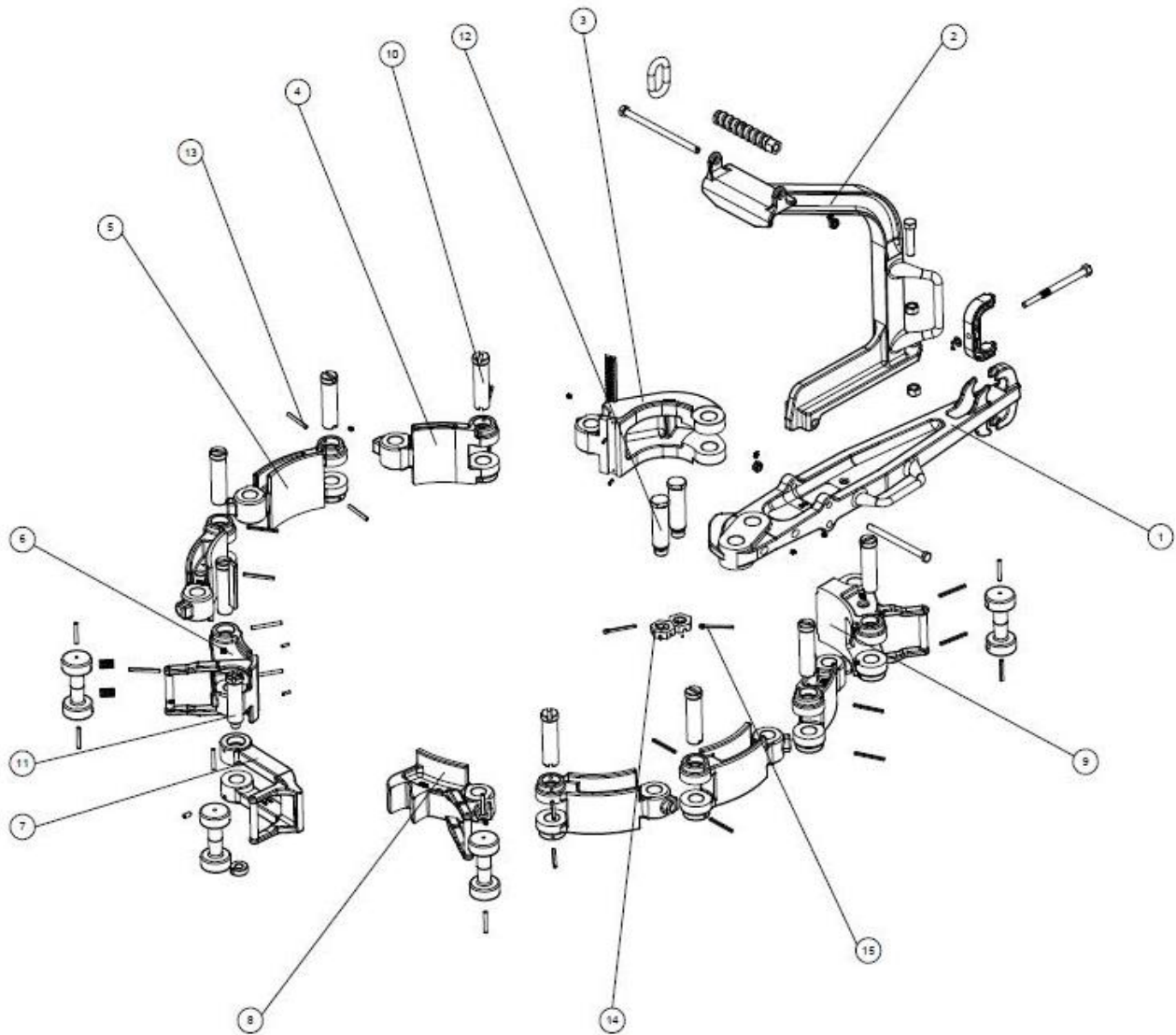


800207



800230-S

# Manual Tong Type WRT-55C



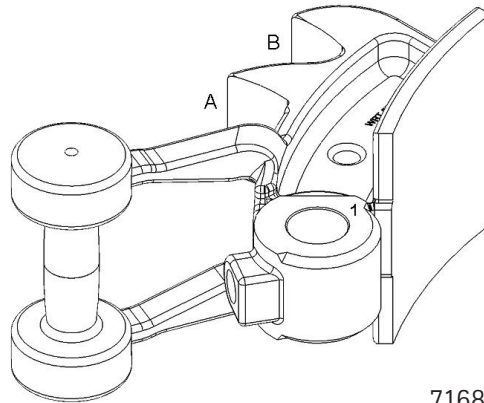
Position	Quantity	Part No.	Description
		800201-S	Short Lever Assembly
1	1	800201	Long Lever Assembly
2	1	70775	Standard Hanger
		70775-1	Safety Standard Hanger Assembly
3	1	800303	Long Jaw Assembly
4	2	71686	Hinge Jaw Assembly "B"
5	4	71685	Hinge Jaw Assembly "A"
6	1	71620-S	Latch Jaw Assy., c/w Safety Handle
7	1	70660-S	Latch Assembly, c/w Safety Handle
8	1	71680-1-S	Lug Jaw Assy. for 25.1/2" to 36"
9	1	800306-S	Short Jaw Assy., c/w Safety Handle
10	8	70672	Hinge Pin
11	1	70673	Hinge Pin
12	2	800208	Hinge Pin
13	17	70674	Dowel Pin
14	2	70863	Hinge Pin Nut
15	2	70864	Cotter Pin

DRAWINGS

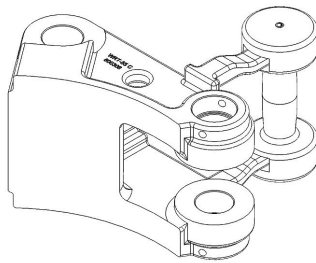
## Gripping points

### Manual Tong Type WRT-55C

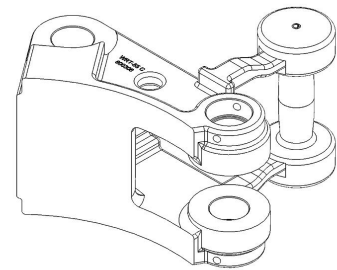
Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800201	Lever	n.a.	71680-1-S	1A	25.1/2	36
71630-1-S	Short Jaw			n.a.	n.a.	n.a.
800303	Long Jaw			n.a.	n.a.	n.a.
71620-S	Latch			n.a.	n.a.	n.a.



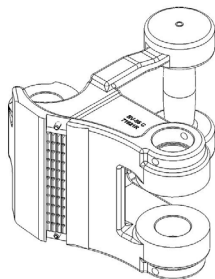
71680-1-S



800303

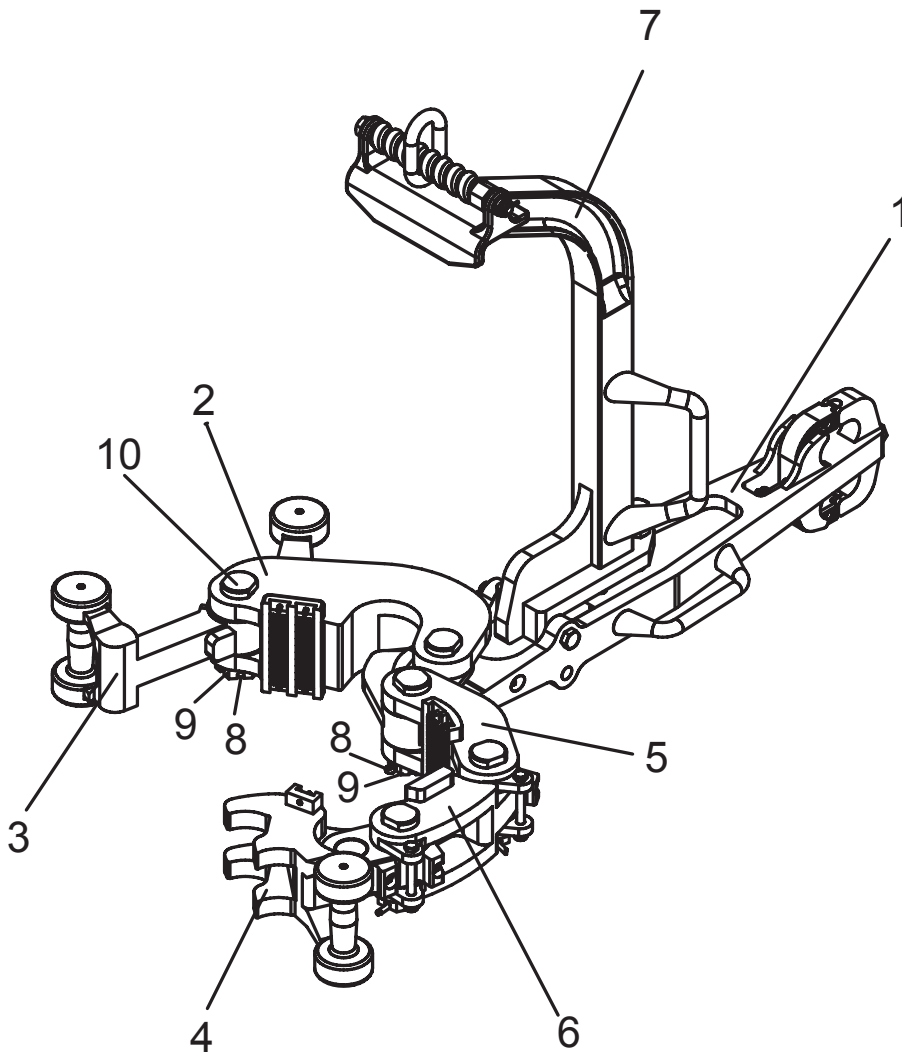


71630-1-S



71620-S

Manual Tong Type WRT-135



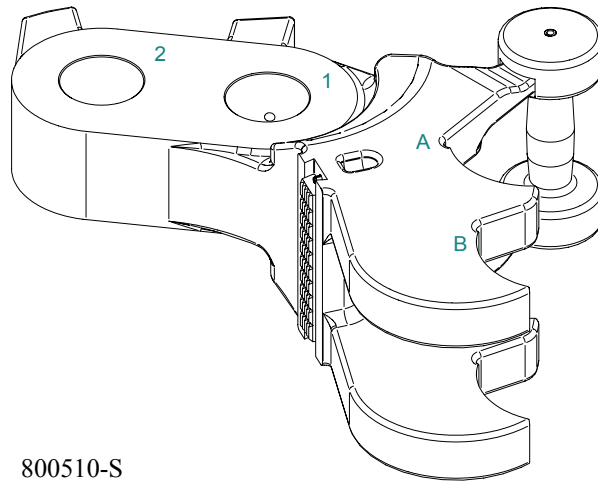
Position	Quantity	Part No.	Description
		800500-S	Standard Hanger
1	1	800501	Long Lever Assembly
2	1	800503-S	Long Jaw Assembly
3	1	800504-S	Latch Assembly
4	1	800510-S	Lug jaw Ass'y
		800520-S	Lug jaw Ass'y
5	1	800506	Short Jaw Assembly
7	1	70775	Hanger Assembly
		70775-1	Safety Standard Hanger Assembly
8	4	70864	Cotter Pin
9	4	70863	Hinge Pin Nut
10	4	800208	Hinge Pin

DRAWINGS



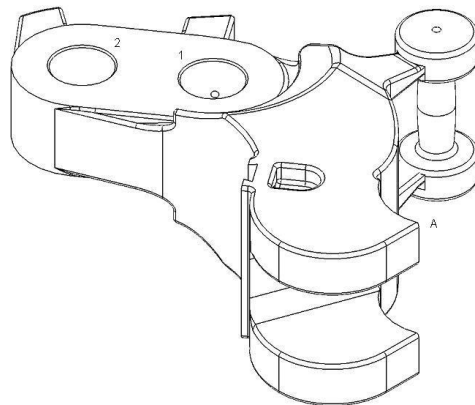
## Manual Tong Type WRT-135

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800501	Lever	n.a.	800510-S	1A	7	8 1/2
800506	Short Jaw			1B	9	9 5/8
800503-S	Long Jaw			2A	10	10 3/4
800504-S	Latch			2B	11	12

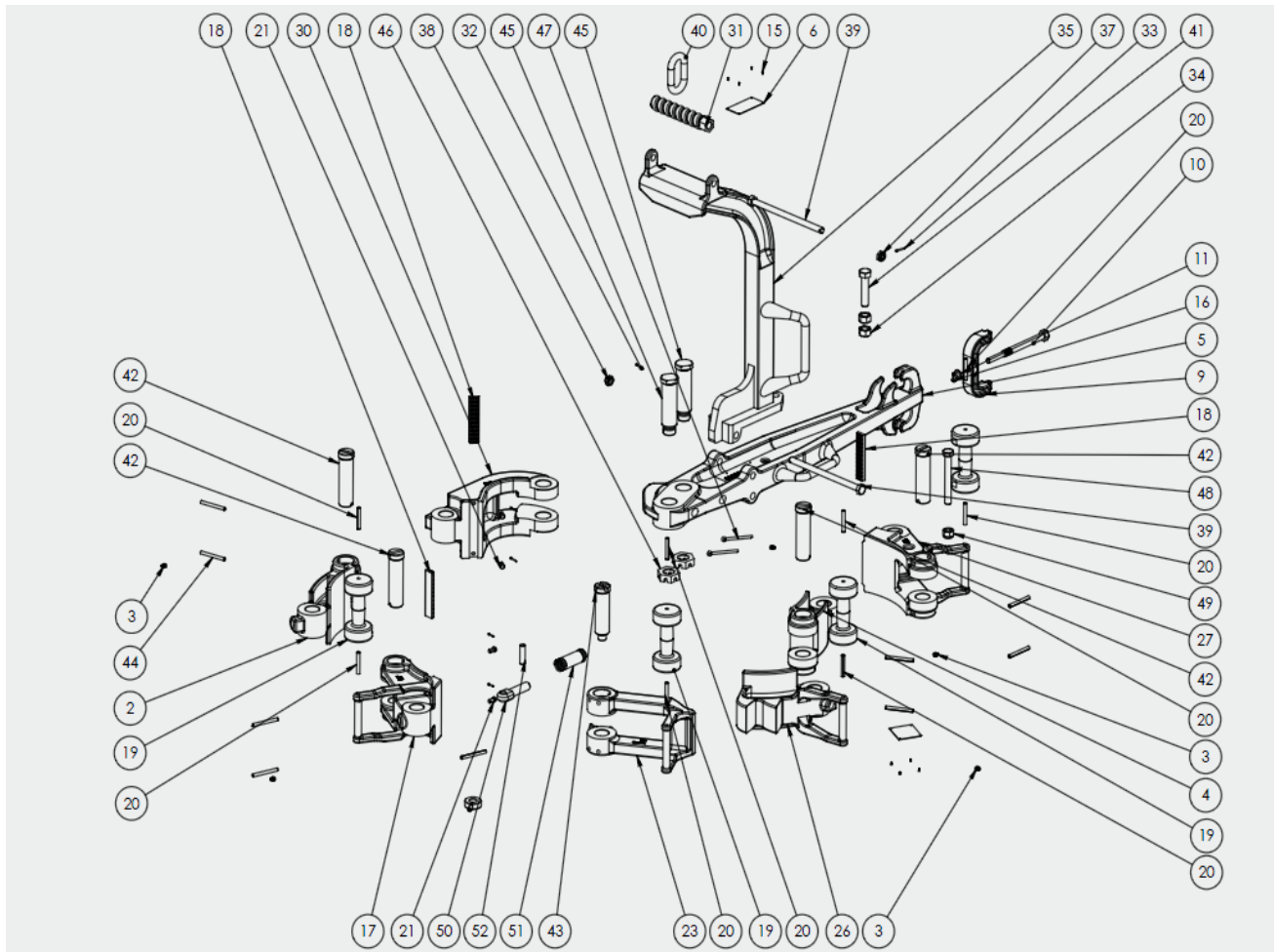


800510-S

Basic Tong		Hinge Jaw	Lug Jaw		Min OD	Max OD
Part number	Description	Part number	Part number	Grippingpoint	inch	inch
800501	Lever	n.a.	800520-S	1A	8	9 7/8
800506	Short Jaw			n.a.	n.a.	n.a.
800503-S	Long Jaw			2A	9	10 3/4
800504-S	Latch			n.a.	n.a.	n.a.



# Manual Tong Type WRT 160



Position	Quantity	Part no.	Description
	<b>1</b>	<b>800501</b>	<b>Long Lever Assembly</b>
5	1	800501-BF	Long Lever
9	1	70812	Tong Line Retainer
10	1	70813	Tong Line Retainer Bolt
11	1	70814	Cotter Pin
16	1	70815	Washer
8	2	70064	Grease Fitting
6	1	800110	Blohm & Voss Manufacturer Plate
<b>15</b>	<b>4</b>	<b>70900</b>	<b>Half round grooved pin</b>
	1	800503-S	Long Jaw Assembly
30	1	800503-BF	Long Jaw
18	2	70623	Die Pyramid
21	4	621438	Straight Pin
19	1	70751	Handle for Tongs
20	2	70752	Dowel Pin
	1	800504-S	Latch Jaw Assembly
23	1	800504-BF	Latch Jaw
50	1	70842	Latch Spring Plunger
52	1	70742	Dowel Pin
3	1	70064	Grease Fitting
19	1	70751	Handle for Tongs
20	2	70752	Dowel Pin

DRAWINGS

51	1	70860	Latch Spring
	1	800506	Short Jaw Assembly
<b>27</b>	<b>1</b>	<b>800506-BF</b>	<b>Short Jaw</b>
<b>18</b>	<b>2</b>	<b>70623</b>	<b>Die Pyramid</b>
<b>21</b>	<b>2</b>	<b>621438</b>	<b>Straight Pin</b>
<b>48</b>	<b>1</b>	<b>70724</b>	<b>Screw</b>
<b>49</b>	<b>1</b>	<b>70726</b>	<b>Nut</b>
	<b>1</b>	<b>70775</b>	<b>Standard Hanger Assembly</b>
<b>35</b>	<b>1</b>	<b>70774</b>	<b>Standard Hanger</b>
<b>31</b>	<b>1</b>	<b>70652R</b>	<b>Balancing Screw</b>
<b>39</b>	<b>1</b>	<b>70652-2</b>	<b>Bolt</b>
<b>37</b>	<b>1</b>	<b>70652-3</b>	<b>Nut</b>
<b>33</b>	<b>1</b>	<b>752339</b>	<b>Cotter Pin</b>
40	1	70654	Suspension Ring
41	1	70655	Hanger Adjustment Screw
34	2	70655-1	Hanger Jam Nut
39	1	70655-3	Screw
38	1	70113	Bolt Nut
30	4	800508	Hinge Pin
46	4	800511	Nut
32	4	70864	Cotter Pin
	1	800510-S	Lug Jaw Assy 7.1/2" - 8.1/2" & 9.1/2" - 10.3/4"
17	1	800510	Lug Jaw 7.1/2" - 8.1/2" & 9.1/2" - 10.3/4"
18	1	70623	Die Pyramid
21	2	621438	Dowel Pin
3	2	70064	Grease Fitting
19	1	70751	Handle for Tongs
20	2	70752	Dowel Pin
	1	800520-S	Lug Jaw Assy 8.1/2" - 9.7/8" & 10.3/4" - 12"
17	1	800520-BF	Lug Jaw 8.1/2" - 9.7/8" & 10.3/4" - 12"
18	1	70623	Die Pyramid
21	2	621438	Dowel Pin
3	2	70064	Grease Fitting
19	1	70751	Handle for Tongs
20	2	70752	Dowel Pin

# Overview Lug Jaw Assemblies

Part number	Description	Part number	Description
70370-S	Lug Jaw Ass'y 2.3/8"-3.3/4"	<b>Overview BV-65 Jaw Assemblies</b>	
70372-S	Lug Jaw Ass'y 2.7/8"-4.1/2"	70780-S	Lug Jaw Ass'y 3.1/2"-8.1/4"
70374-S	Lug Jaw Ass'y 4"-5.3/4"	70782-S	Lug Jaw Ass'y 8"-11.1/4"
70376-S	Lug Jaw Ass'y 5.1/2"-7"	70783-S	Lug Jaw Ass'y 11.3/4"-14.3/8"
70380-S	Hinge & Lug Jaw Ass'y 7"-8.5/8"	70784-S	Lug Jaw Ass'y 16"-17"
70381-S	Lug Jaw 7"-8.5/8"	70785	Hinge Jaw Ass'y 11.3/4"-17"&18.5/8"-21.1/2"
70382	Hinge Jaw 7"-8.5/8"	70791-S	Lug Jaw Ass'y 18.5/8"-20"
70390-S	Hinge & Lug Jaw Ass'y 9.5/8"-10.3/4"	70792-S	Lug Jaw Ass'y 20"-21.1/2"
70391-S	Lug Jaw 9.5/8"-10.3/4"	70793	Hinge Jaw Ass'y 18.5/8"-21.1/2"
70392	Hinge Jaw 9.5/8"-10.3/4"	<b>Overview BV-80 Jaw Assemblies</b>	
<b>Overview BV-35 Jaw Assemblies</b>		70180-S	Lug Jaw Ass'y 3.1/2"-4.1/2"
70470-S	Lug Jaw Ass'y 2.3/8"-3.668"	70181-S	Lug Jaw Ass'y 4"-5.1/4"
70472-S	Lug Jaw Ass'y 2.7/8"-4.1/4"	70182-S	Lug Jaw Ass'y 5"-6"
70474-S	Lug Jaw Ass'y 3.1/2"-5.1/4"	70183-S	Lug Jaw Ass'y 6"-7"
70476-S	Lug Jaw Ass'y 5.1/4"-7"	70184-S	Lug Jaw Ass'y 7"-9"
70478-S	Lug Jaw Ass'y 4.1/2"-6.1/2" (Opt.)	70185-S	Lug Jaw Ass'y 9"-10.3/4"
70480-S	Hinge & Lug Jaw Ass'y 7"-8.5/8"	70186-S	Lug Jaw Ass'y 10.3/4"-11.3/4"
70481-S	Lug Jaw Ass'y 7"-8.5/8"	70187-S	Lug Jaw Ass'y 13.3/8"
70482	Hinge Jaw Ass'y 7"-8.5/8"	<b>Overview BV-100 Jaw Assemblies</b>	
70483	Hinge Jaw 7"-8.5/8"	70880-S	Lug Jaw Ass'y 4"-8.1/2"
70485-S	Hinge & Lug Jaw Ass'y 9.5/8"-10.3/4"	70882-S	Lug Jaw Ass'y 8.1/2"-12"
	Lug Jaw 9.5/8"-10.3/4"	70883-S	Lug Jaw Ass'y 12"-15"
	Hinge Jaw 9.5/8"-10.3/4"	70884-S	Lug Jaw Ass'y 15.3/4"
<b>Overview BV-37 Jaw Assemblies</b>		70885-S	Lug Jaw Ass'y 16"-17"
70280-S	Lug Jaw Ass'y 2.3/8"-3.3/4"	70886	Hinge Jaw Ass'y 8.1/2"-17"
70281-S	Lug Jaw Ass'y 3.1/2"-4.5/8"	800430-S	Hinge & Lug Jaw Ass'y 18.5/8"-21"
70282-S	Lug Jaw Ass'y 4.1/2"-5.3/4"	800410-S	Extended Hinge Jaw Ass'y 18.5/8"-21"
70283-S	Lug Jaw Ass'y 5.1/2"-7.1/4"	800420-S	Extended Lug Jaw Ass'y 18.5/8"-21"
70284-S	Lug Jaw Ass'y 6.7/8"-8.5/8"	<b>Overview WRT-35 Jaw Assemblies</b>	
70285-S	Lug Jaw Ass'y 9"-10.3/4"	800105-S	Lug Jaw Ass'y 2.3/8"-7.5/8"&7.5/8"-11"
<b>Overview BV-55 Jaw Assemblies</b>		800107	Hinge Jaw Ass'y 7.5/8"-11"
70680-S	Lug Jaw Ass'y 3.1/2"-5"	<b>Overview WRT-55 Jaw Assemblies</b>	
70681-S	Lug Jaw Ass'y 5"-6.3/4"	800210-S	Lug Jaw Ass'y 3.1/2"-8.1/4"
70682-S	Lug Jaw Ass'y 6.5/8"-9"	800220-S	Lug Jaw Ass'y 8"-11.1/4"
70683-S	Lug Jaw Ass'y 9"-10.3/4"	800230-S	Lug Jaw Ass'y 11.1/4"-14.3/8"
70684-S	Lug Jaw Ass'y 11.3/4"	800207	Hinge Jaw Ass'y 7.5/8"-11"
70686-S	Lug Jaw Ass'y 12.3/4"-13"	<b>Overview WRT-135 Jaw Assemblies</b>	
70688-S	Lug Jaw Ass'y 13.3/8"	800510-S	Lug Jaw Ass'y 7.1/2"-8.1/2"&9.7/8"-10.5/8"
70690-S	Lug Jaw Ass'y 4"-5.1/2" (Opt.)	800520-S	Lug Jaw Ass'y 8.1/2"-9.7/8"&10.5/8"-12"
70693-S	Lug Jaw Ass'y 4.1/4"-6.3/4" (Opt.)	<b>Overview WRT-160 Jaw Assemblies</b>	
<b>Overview BV-57 Jaw Assemblies</b>		800510-S	Lug Jaw Ass'y 7.1/2"-8.1/2"&9.7/8"-10.5/8"
70080-S	Lug Jaw Ass'y 2.7/8"-3.3/4"	800520-S	Lug Jaw Ass'y 8.1/2"-9.7/8"&10.5/8"-12"
70081-S	Lug Jaw Ass'y 3.1/2"-4.1/2"		
70082-S	Lug Jaw Ass'y 4"-5.1/4"		
70083-S	Lug Jaw Ass'y 5"-7.1/4"		
70084-S	Lug Jaw Ass'y 6"-6.1/2"		
70085-S	Lug Jaw Ass'y 6.7/8"-8.5/8"		
70086-S	Lug Jaw Ass'y 9"-10.3/4"		
70087-S	Lug Jaw Ass'y 10.3/4"-11.3/4"		
70088-S	Lug Jaw Ass'y 13.3/8"		

## B + V Tong Range Overview BV-55C

	P/N for Assembly	Hinge Pin Assy. 70672	Lug Jaw Assy. 71680-S	Hinge Jaw Assy. 71685 "A"	Hinge Jaw Assy. 71686 "B"	Hinge Jaw Assy. 71687 "C"
13 3/8" - 14 1/2"	71605-S	4	1	-	1	1
13 3/8" - 16"	71606-S	5	1	1	1	1
13 3/8" - 21 1/2"	71607-S	6	1	1	1	2
13 3/8" - 25 1/2"	71608-S	7	1	2	1	2
25 1/2" - 27"	71609-S	7	1	3	1	1
27" - 28 1/2"	71610-S	8	1	1	3	2
28 1/2" - 30"	71611-S	8	1	3	2	1
30" - 31 5/8"	71612-S	10	-	4	2	-
31 1/2" - 33"	71613-S	9	-	3	2	2
33" - 34 1/2"	71614-S	10	1	2	2	4
34 1/2" - 36"	71615-S	10	1	2	4	2

