

Parts Manual

175XT

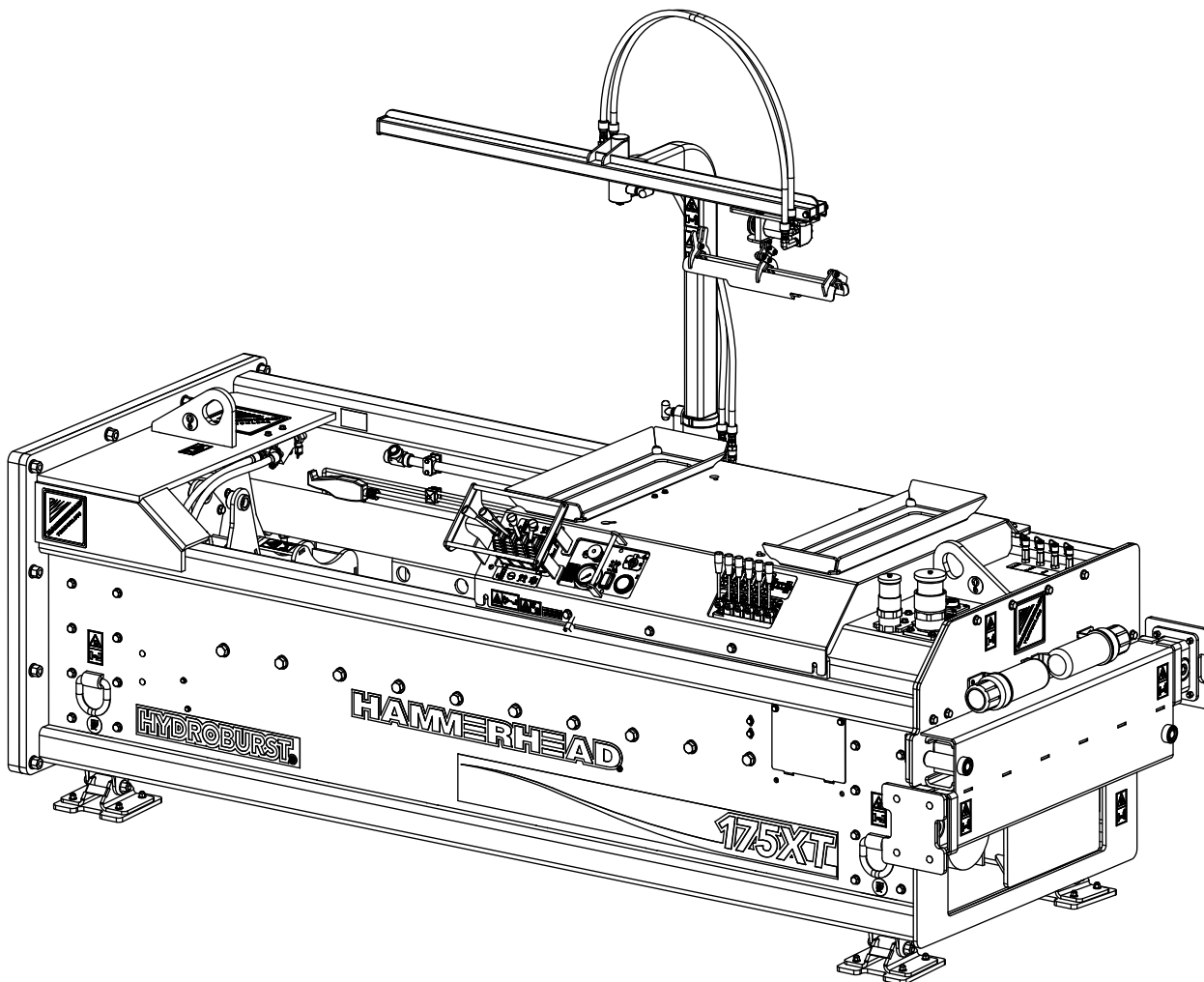


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Preface



175XT

For replacement copy order P/N 960–1026
Update 05/07/2022

Descriptions and specifications were current at the time of publication. However, The Charles Machine Works, Inc. (HammerHead Trenchless) reserves the right to make changes in engineering, design and specifications; add improvements; or discontinue manufacturing at any time without notice or obligation. This manual may not reflect the most current version of your machine. Please visit www.hammerheadtrenchless.com for the most recent and up to date version.



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Welcome

HOW TO USE THIS MANUAL

This manual contains illustrations and parts list of components and assemblies which make up various HammerHead® models. Each page consists of the name of the assembly or component, a figure number, reference numbers, part numbers, part names, and the quantities of the parts used.

Assembly or component names help identify the illustration and parts for each figure. This name also helps locate the general area of the machine where the assembly or component can be located.

Figure numbers are used to identify each assembly or component and to group these assemblies or components into major categories.

Reference numbers shown in a column refers to the numbered parts in the illustration. This ties the part in the illustration to the part number and description in the parts list. Part numbers are used to identify individual parts or part assemblies.

Part descriptions provide the name of the part, plus additional information such as dimensional specifications and what parts are grouped together to form part assemblies, which helps you identify the part(s).

Quantities listed for each figure are only for that assembly or component and not the total used per machine unless stated so in the "Remarks" column.

This parts manual is not intended to be a complete guide for machine service or repairs. Contact your HammerHead dealer for any of your service or technical requirements.

ORDERING PARTS

Parts for repair or replacement are available through the worldwide network of authorized HammerHead dealers. The use of aftermarket replacement parts in your HammerHead equipment reduces performance and overall equipment life and may also void or interfere with the factory warranty.

Use only genuine HammerHead parts from your authorized dealer for repair or replacement. Always give the serial number and model number of the machine for which parts are being ordered. When ordering parts for component(s), which are not manufactured by HammerHead Trenchless Equipment, also give the serial number of that component(s). Order all parts by part number, part name, and quantity needed. Do not order parts by illustration reference numbers.

UPDATING AND REORDERING MANUALS

The parts lists, illustrations, and specifications in this manual are based on the latest information available at the time of publication. Your machine may have product improvements and options not yet contained in this manual. Please check the web site www.hammerheadtrenchless.com for any updates.

The Charles Machine Works, Inc. reserves the right to make changes at any time without notice or obligation to you. Your dealer will receive notice of these changes and can assist you with accurate parts identification when ordering.

A copy of this manual is supplied with each machine. Additional copies are available through your dealer. When ordering additional manuals, use the reorder number listed on the front cover and the quantity needed. Electronic copies of this manual are also available on the web at www.hammerheadtrenchless.com.

OPERATING INSTRUCTIONS

Instructions on recommended equipment use and maintenance can be found in the Operator's Manual shipped with your equipment. Operator's Manuals are also available on the web at www.hammerheadtrenchless.com.

Thank you for buying and using Genuine HammerHead® Trenchless Equipment, parts and accessories.

Limited Warranty Policy

The Charles Machine Works, Inc., dba HammerHead Trenchless ("HammerHead") warrants each new industrial product of its own manufacture to be free from defects in material and workmanship, under normal use and service for one full year after delivery to the owner. During the warranty period, HammerHead shall furnish parts without charge for any HammerHead product that fails because of defects in material and workmanship. This warranty and any possible liability of HammerHead Trenchless hereunder is in lieu of all other warranties, express, implied, or statutory, including, but not limited to any warranties of merchantability or fitness for a particular purpose.

The parties agree that the Buyer's SOLE AND EXCLUSIVE REMEDY against HammerHead, whether in contract or arising out of warranties, representations, or defects shall be for the replacement or repair of defective parts as provided herein. In no event shall HammerHead's liability exceed the purchase price of the product. The Buyer agrees that no other remedy (including, but not limited to, incidental or consequential loss) shall be available to him. If, during the warranty period, any product becomes defective by reason of material or workmanship and Buyer immediately notifies HammerHead of such defect, HammerHead shall, at its option, supply a replacement part or request the return of the product to its plant in Lake Mills, Wisconsin. No part shall be returned without prior written authorization from HammerHead, and this warranty does not obligate HammerHead to bear any transpiration charges in connection with the repair or replacement of defective parts. HammerHead Trenchless will not accept any charges for labor and/or parts incidental to the removal or remounting of parts repaired or replaced under this Warranty.

This Warranty shall not apply to any part or product which shall have been installed or operated in a manner not recommended by HammerHead nor to any part or product which shall have been neglected, or used in any way which, in HammerHead's opinion, adversely affects its performance; nor negligence of proper maintenance or other negligence, fire or other accident; nor with respect to wear items; nor if the unit has been repaired or altered outside of an HammerHead authorized dealership in a manner of which, in the sole judgment of HammerHead affects its performance, stability or reliability; nor with respect to batteries which are covered under a separate adjustment warranty; nor to any product in which parts not manufactured or approved by HammerHead have been used; nor to normal maintenance services or replacement of normal service items. Equipment and accessories not of our manufacture are warranted only to the extent of the original Manufacturer's Warranty and subject to their allowance to us, if found defective by them. HammerHead reserves the right to modify, alter, and improve any product or parts without incurring any obligation to replace any product or parts previously sold with such modified, altered, or improved product or part. No person is authorized to give any other Warranty, or to assume any additional obligation on HammerHead's behalf unless made in writing, and signed by an officer of HammerHead.

**HAMMERHEAD TRENCHLESS®
LAKE MILLS, WISCONSIN**

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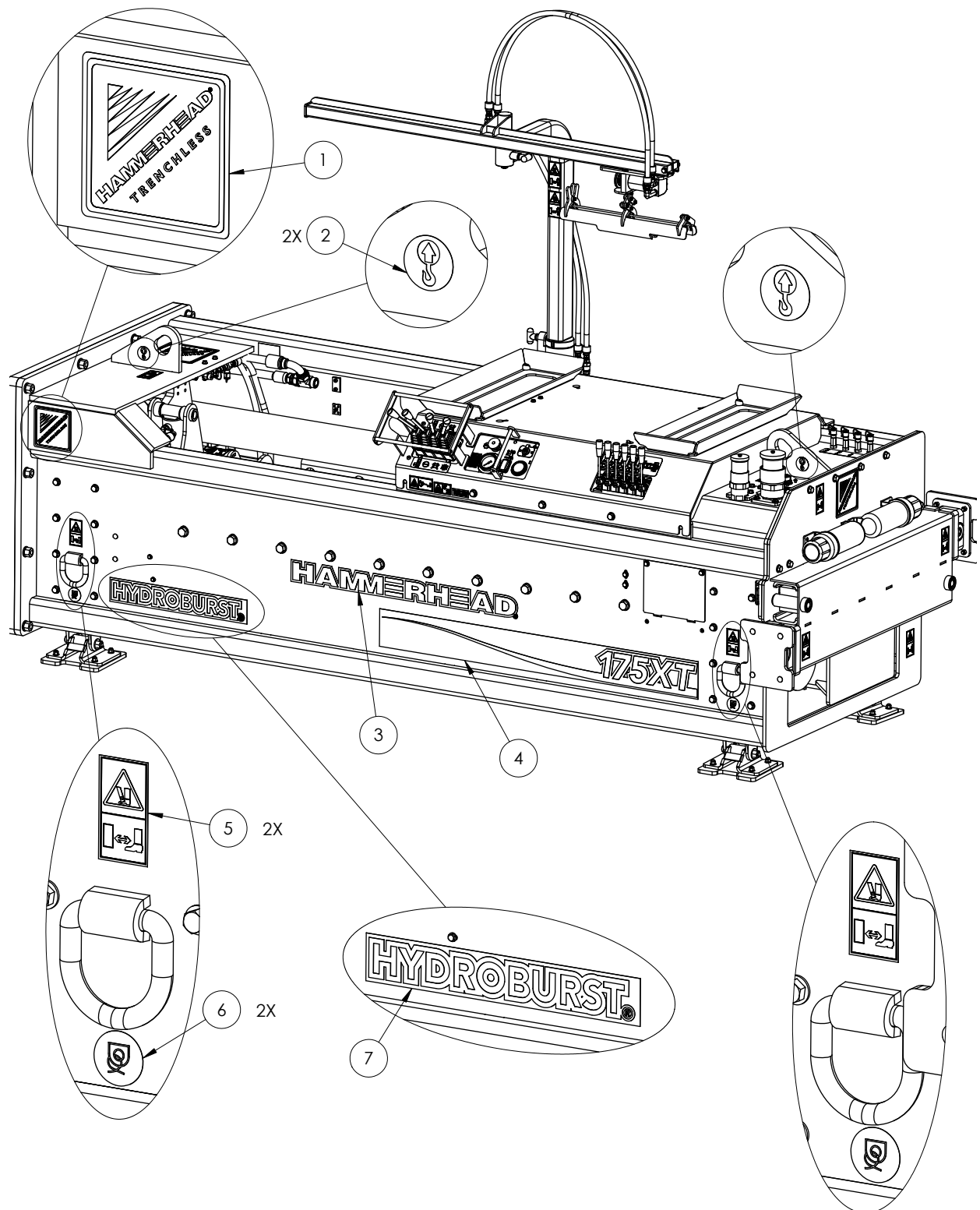
Decals ---

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Decals—Exterior

LEFT SIDE



Decals—Exterior

LEFT SIDE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	912-4973	DECAL, HH MOUNTAIN SQ-6X6	1	
2	909-8194	DECAL, LIFT POINT(SMALL)	2	
3	912-4972	DECAL, HAMMERHEAD - 37"	1	
4	931-7157	DECAL, 175XT SWOOSH	1	
5	923-2215	DECAL, FOOT CRUSH (INT)	2	
6	909-8195	DECAL, TIE DOWN (SMALL)	2	
7	931-7158	DECAL, HYDROBURST, 22.38	1	

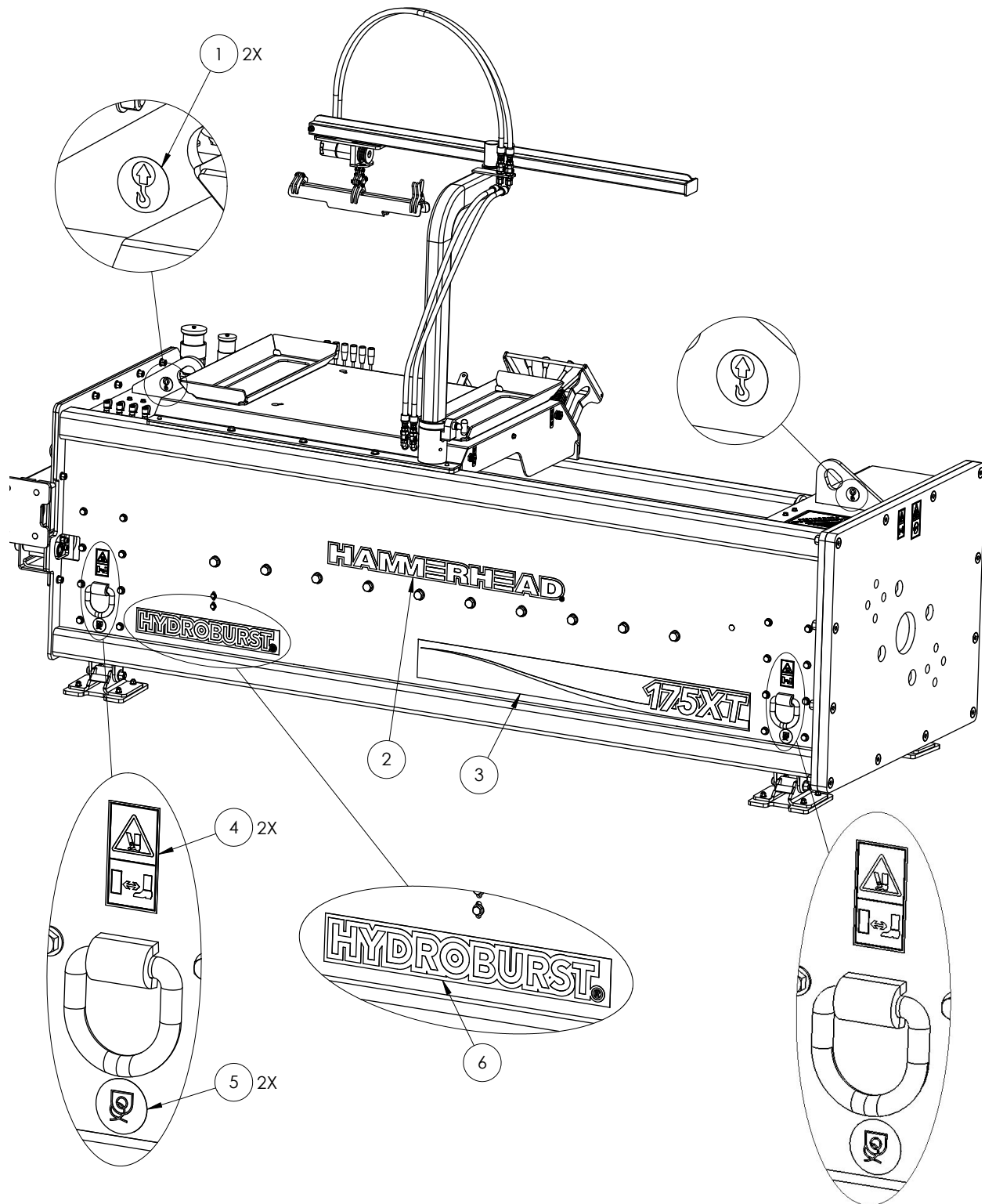
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FOOTNOTES:

NOTE:

Decals—Exterior

RIGHT SIDE



Decals—Exterior

RIGHT SIDE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	909-8194	DECAL, LIFT POINT(SMALL)	2	
2	912-4972	DECAL, HAMMERHEAD - 37"	1	
3	931-7157	DECAL, 175XT SWOOSH	1	
4	923-2215	DECAL, FOOT CRUSH (INT)	2	
5	909-8195	DECAL, TIE DOWN (SMALL)	2	
6	931-7158	DECAL, HYDROBURST, 22.38	1	

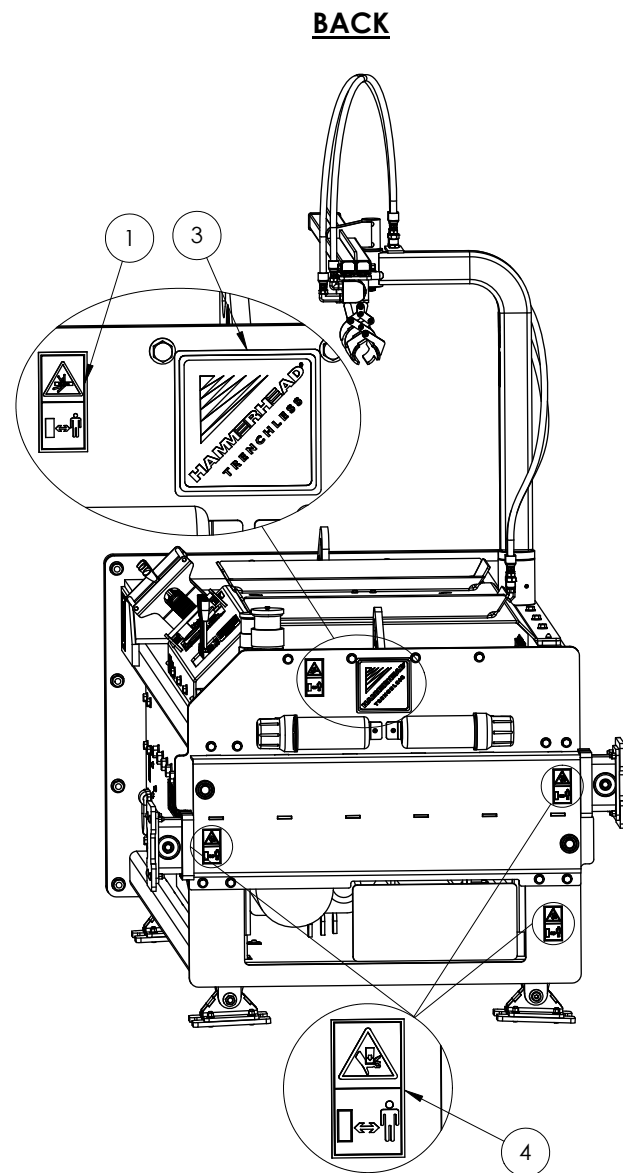
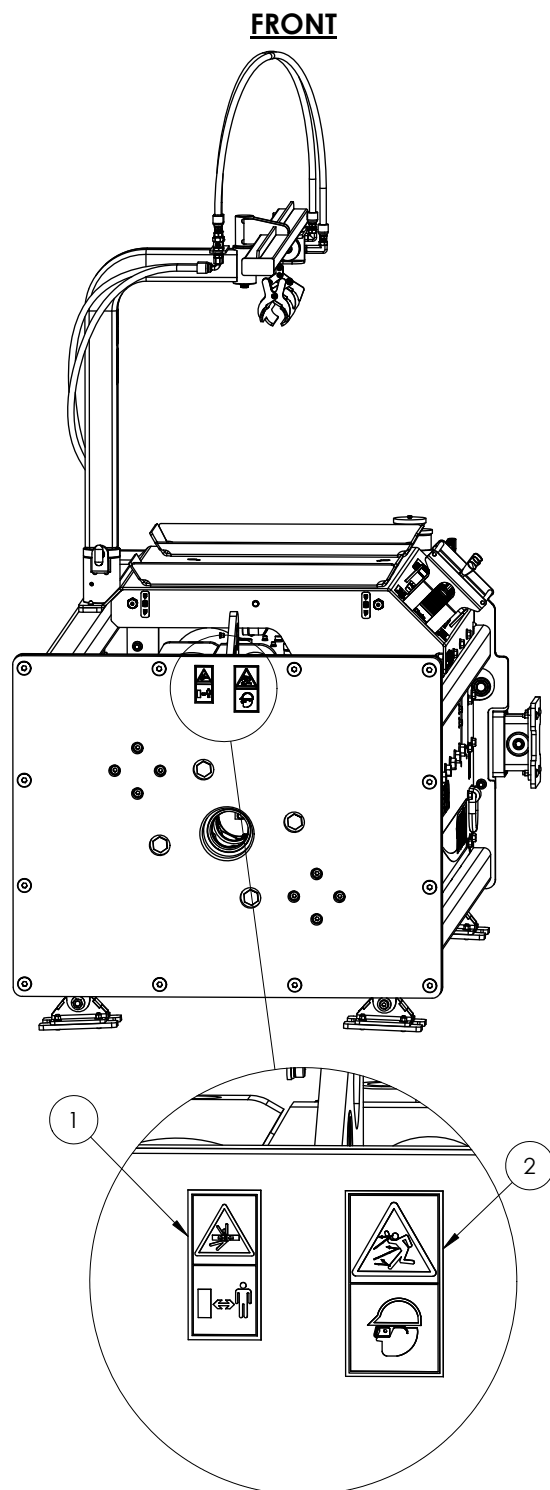
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FOOTNOTES:

NOTE:

Decals—Exterior

FRONT AND BACK



Decals—Exterior

FRONT AND BACK

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-2245	DECAL, SIDE CRUSH (SMALL)	2	
2	270-6904	CAUTION FLYING OBJECTS - ISO	1	
3	912-4973	DECAL, HH MOUNTAIN SQ-6X6	1	
4	923-2214	DECAL, HAND CRUSH (INT)	3	

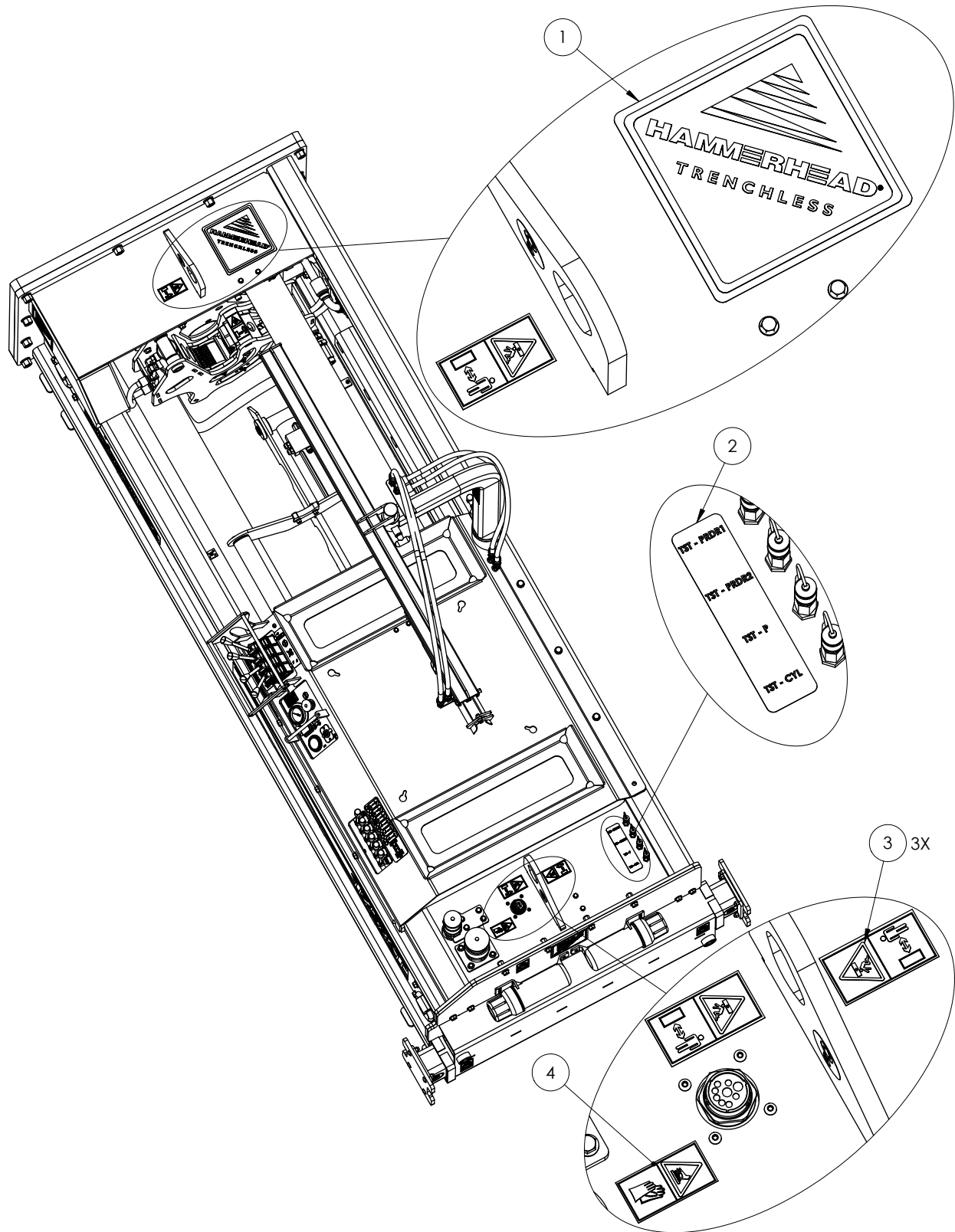
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NOTE:

Decals—Exterior

TOP



Decals—Exterior

TOP

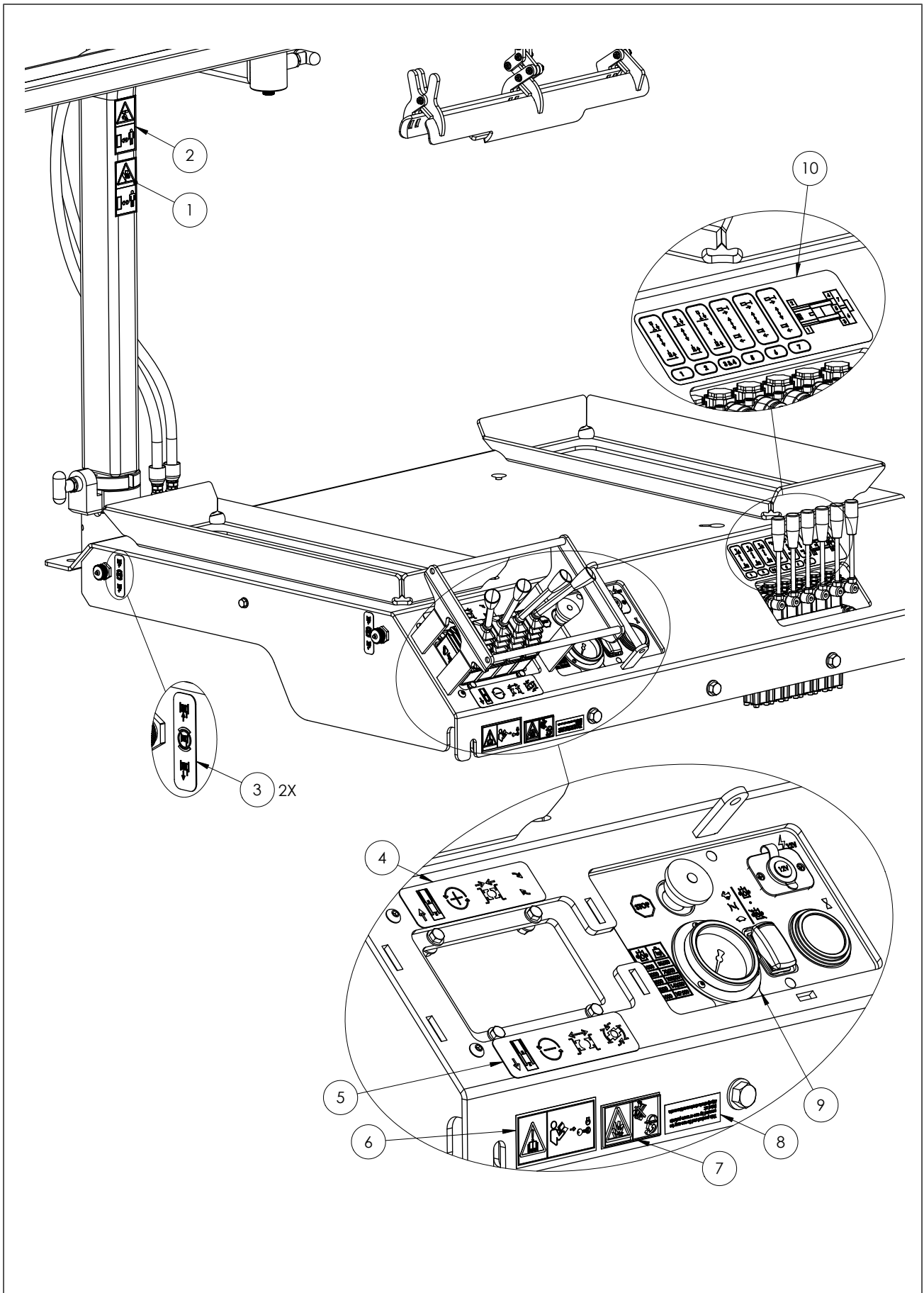
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	912-4975	DECAL, HH MOUNTAIN SQ-8X8	1	
2	931-7167	DECAL, TEST PORTS	1	
3	923-2209	DECAL, FALLING LOAD (INT)	3	
4	923-2216	DECAL, HOT (INT)	1	

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FOOTNOTES:

NOTE:

Decals—Control Panel



Decals—Control Panel

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-2214	DECAL, HAND CRUSH (INT)	1	
2	923-2209	DECAL, FALLING LOAD (INT)	1	
3	941-5632	DECAL, VALVE CONTROL	2	
4	931-7155	DECAL, CONTROL PANEL TOP	1	
5	931-7154	DECAL, CONTROL PANEL BOTTOM	1	
6	700-143	WARNING READ MANUAL ISO	1	
7	270-6911	WARNING ONE CALL NOTIFICATION ISO	1	
8	270-6773	PATENT	1	
9	923-2246	DECAL, 175XT PANEL	1	
10	931-3005	DECAL, STABILIZER	1	

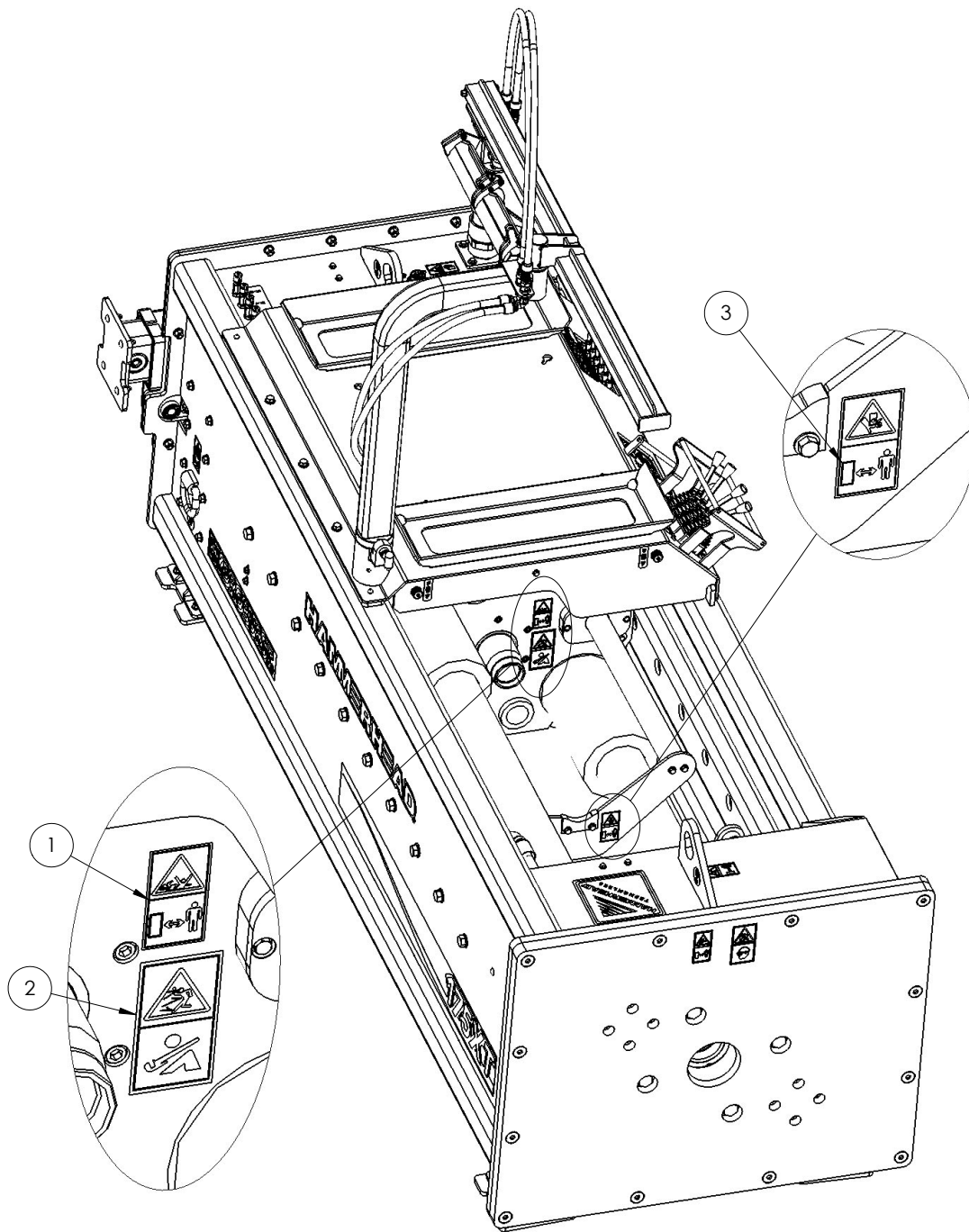
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FOOTNOTES:

NOTE:

Decals—Interior

SPINDLE DECALS



Decals—Interior

SPINDLE DECALS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	270-1151	DANGER ROTATING SHAFT	1	
2	700-075	DANGER WRENCH	1	
3	923-2214	DECAL, HAND CRUSH (INT)	1	

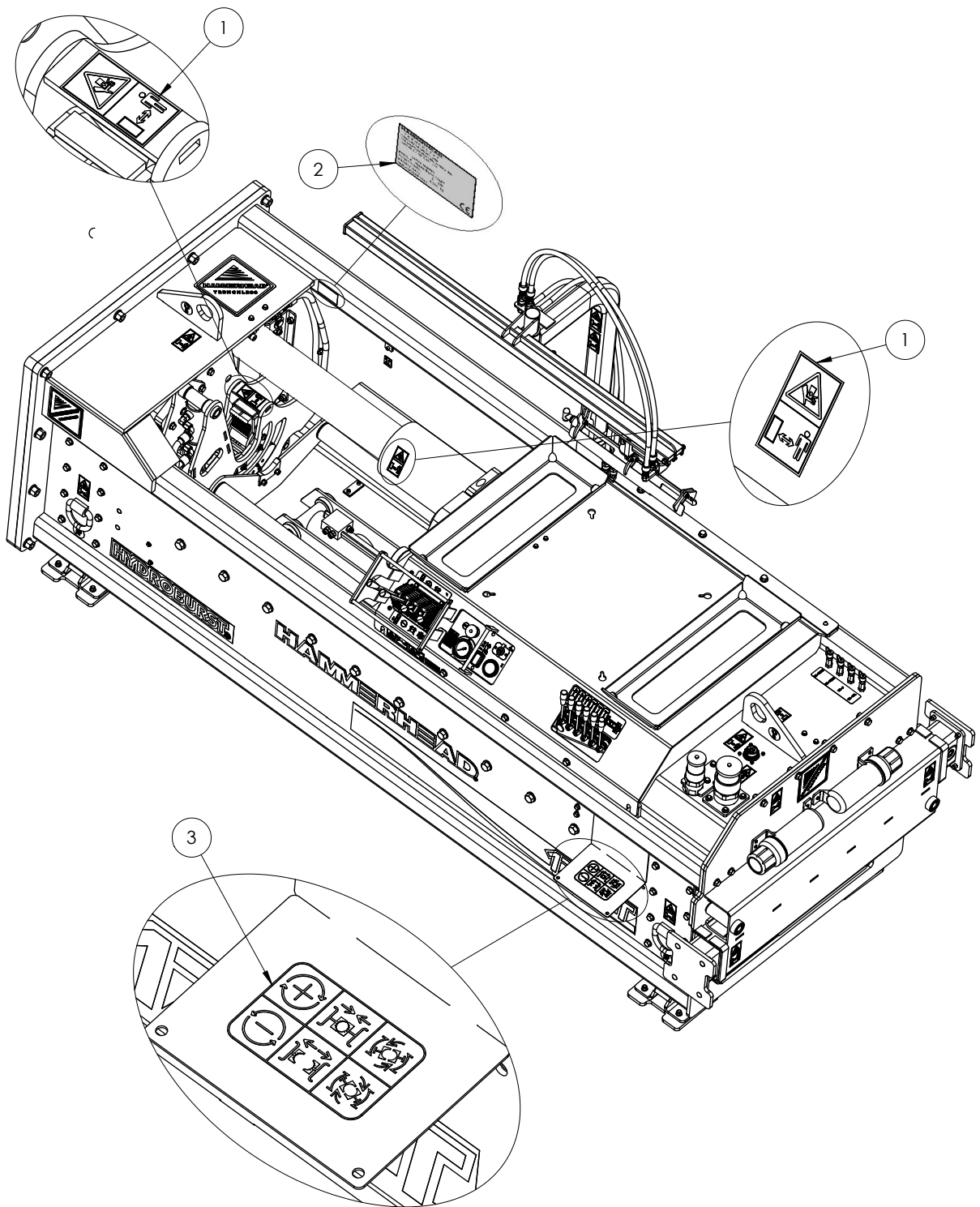
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FOOTNOTES:

NOTE:

Decals—Interior

MULTIPLE DECALS



Decals—Interior

MULTIPLE DECALS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-2214	DECAL, HAND CRUSH (INT)	2	
2	931-3037	SERIAL PLATE, HB175XT	1	
3	931-7159	DECAL, MANUAL VALVE OP	1	

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FOOTNOTES:

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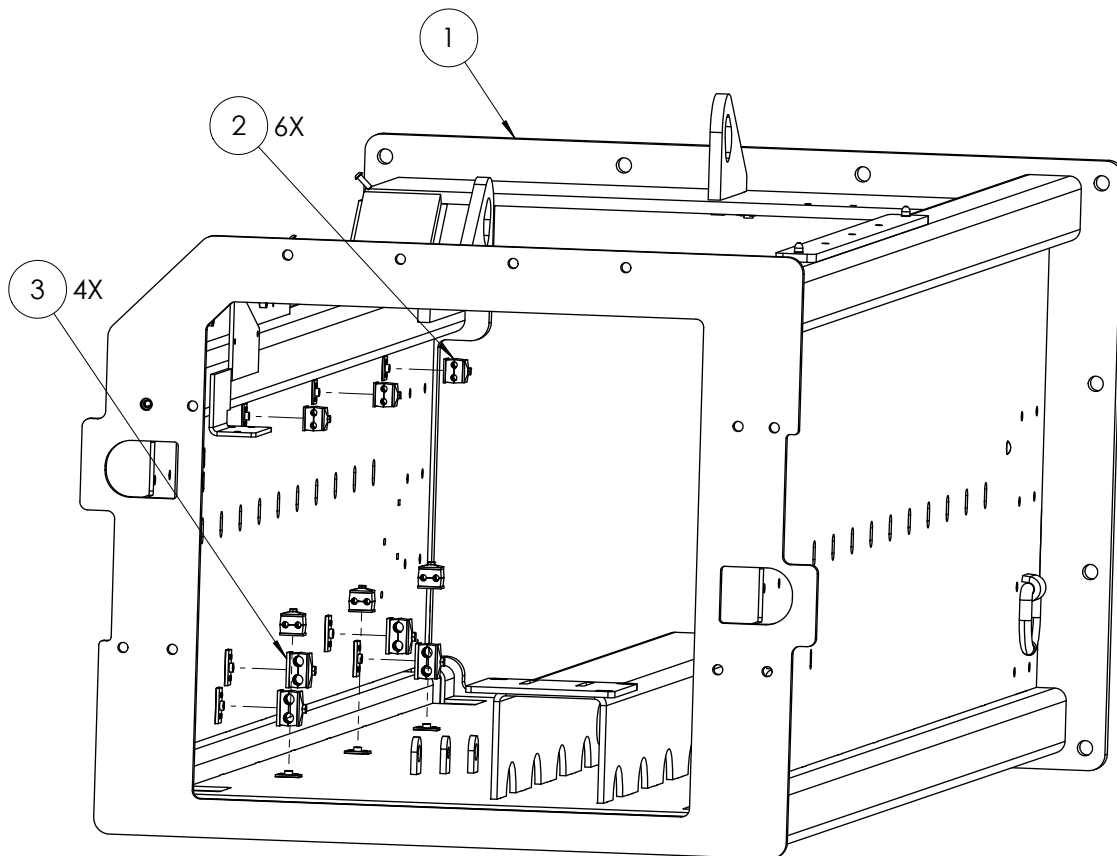
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Hull Assembly-Interior

TUBE CLAMPS — LEFT



Hull Assembly-Interior

TUBE CLAMPS — LEFT

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7005	CLAMP, $\varnothing 3/8$ X 2	6	
3	931-7006	CLAMP, $\varnothing 5/8$ X 2	4	

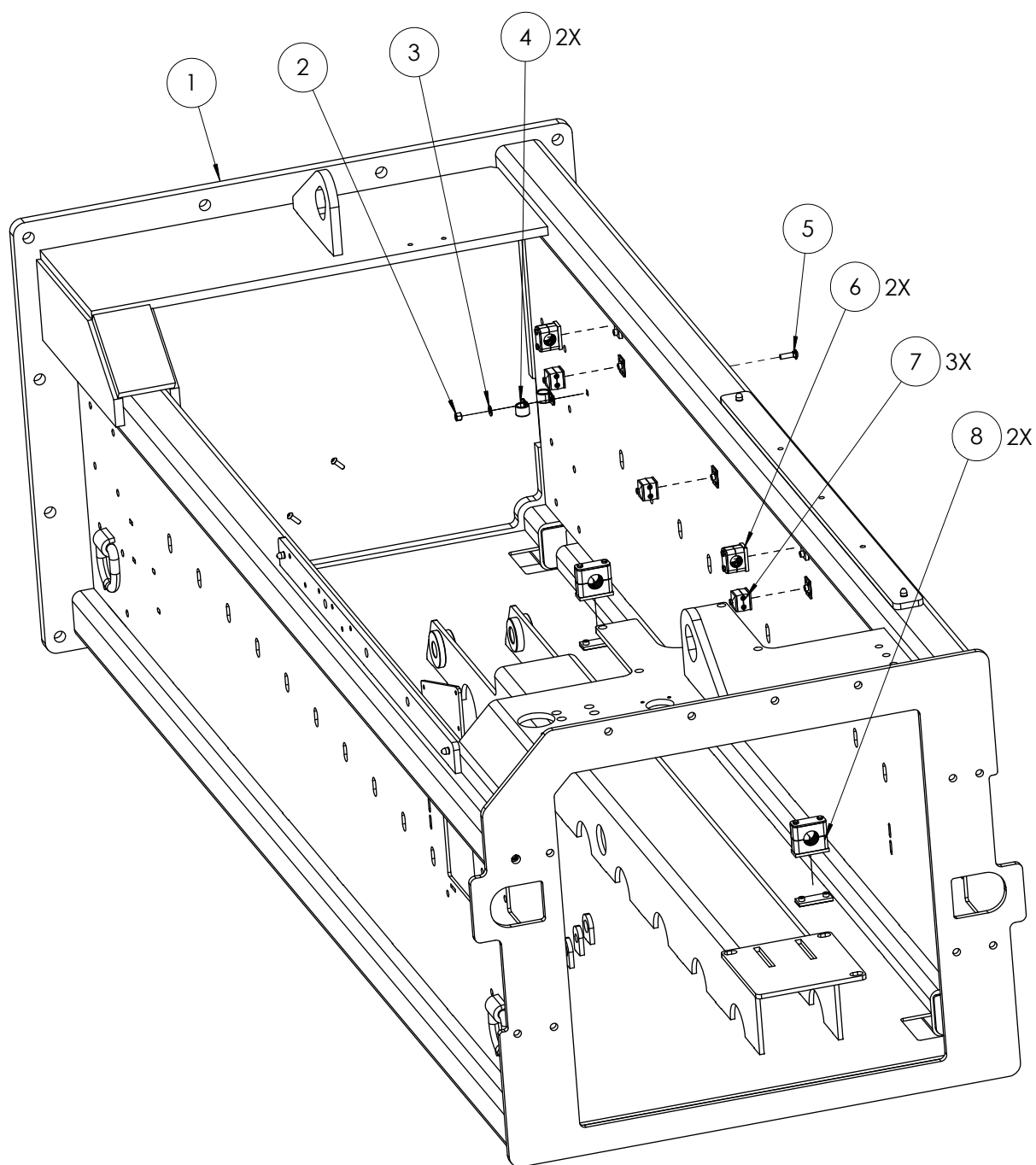
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FOOTNOTES:

NOTE:

Hull Assembly-Interior

TUBE CLAMPS — RIGHT



Hull Assembly-Interior

TUBE CLAMPS — RIGHT

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	06TLN	NUT, 3/8-16 TOP LOCK	1	
3	06FW-SAE	WASHER, 3/8"	1	
4	931-7234	CLAMP, VINYL, 7/8" ID	2	
5	06CB20	BOLT, 3/8-16 x 1.25 CARRIAGE	1	
6	931-7002	CLAMP, ø1	2	
7	931-7005	CLAMP, ø3/8 X 2	3	
8	931-7003	CLAMP, ø1 1/4	2	

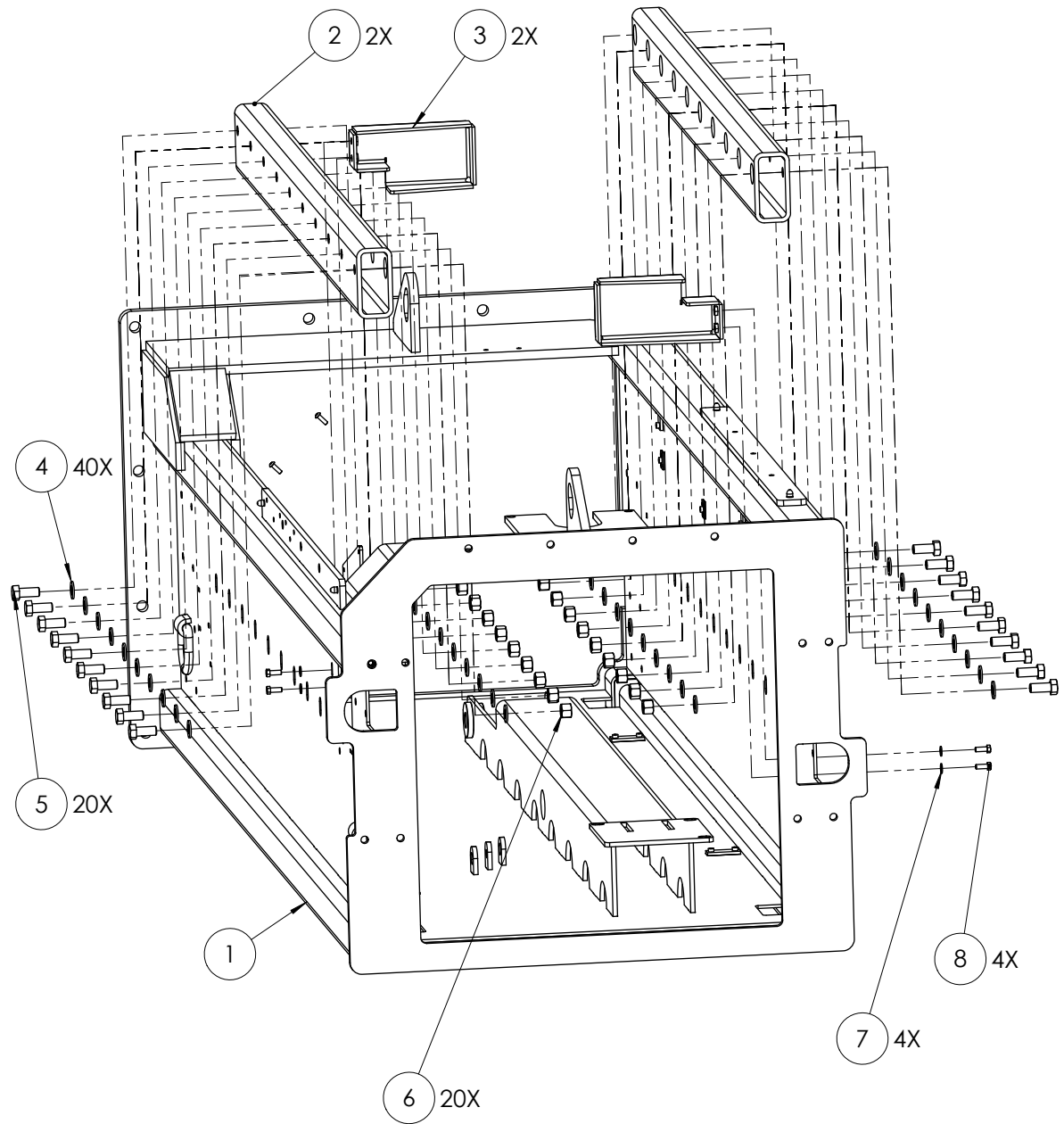
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FOOTNOTES:

NOTE:

Hull Assembly-Interior

RAILS AND ROD STOPS



Hull Assembly-Interior

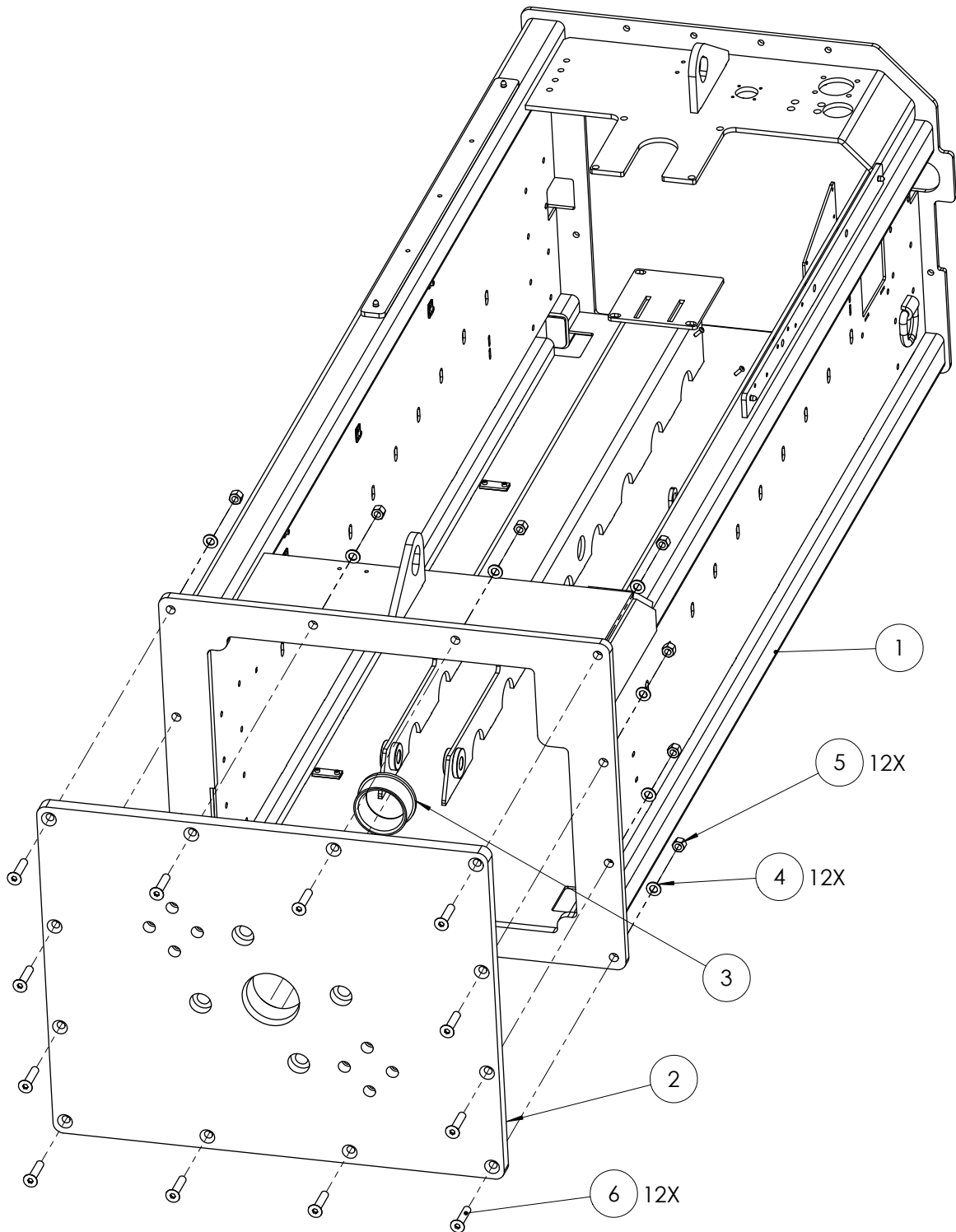
RAILS AND ROD STOPS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-1037	RAIL	2	
3	931-4581	STOP, ROD HOLDER	2	
4	12FW-SAE	WASHER, 3/4"	40	
5	12HH28	SCREW, 3/4-10 x 1.75 HHC - GR8	20	
6	12TLN	NUT, 3/4-10 TOP LOCK	20	
7	06FW-SAE	WASHER, 3/8"	4	
8	06HH16	SCREW, 3/8-16 x 1.00 HHC - GR8	4	

NOT SHOWN:

Hull Assembly-Exterior

FRONT PLATE



Hull Assembly-Exterior

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7057	FRONT PLATE	1	
3	931-1066	ROD GUIDE	1	
4	12FW-SAE	WASHER, 3/4"	12	
5	12TLN	NUT, 3/4-10 TOP LOCK	12	
6	12FH56	SCREW, 3/4-10 x 3.5 FHSC	12	

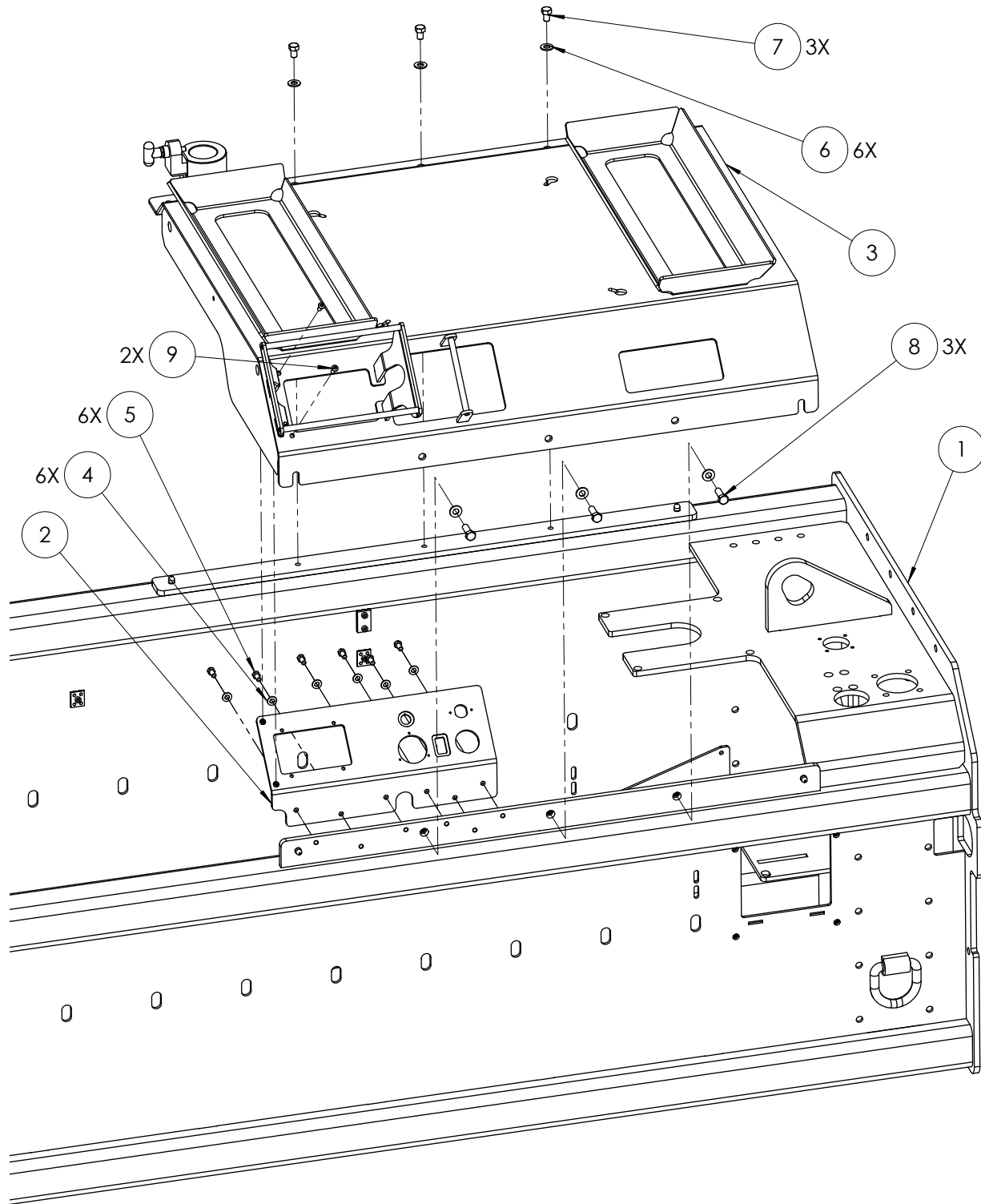
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FOOTNOTES:

NOTE:

Hull Assembly-Exterior

CONTROL PANEL



Hull Assembly-Exterior

CONTROL PANEL

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7156	WELDMENT, CONTROL PANEL	1	
3	931-7059	WELDMENT, ROD BOX TRAY	1	
4	06FW-SAE	WASHER, 3/8"	6	
5	06HH12	SCREW, 3/8-16 x .75 HHC - GR8	6	
6	08FW-SAE	WASHER, 1/2"	6	
7	08HH12	SCREW, 1/2-13 x .75 HHC - GR8	3	
8	08HH24	SCREW, 1/2-13 x 1.5 HHC - GR8	3	
9	05BH16	SCREW, 5/16-18x1 BHSC	2	

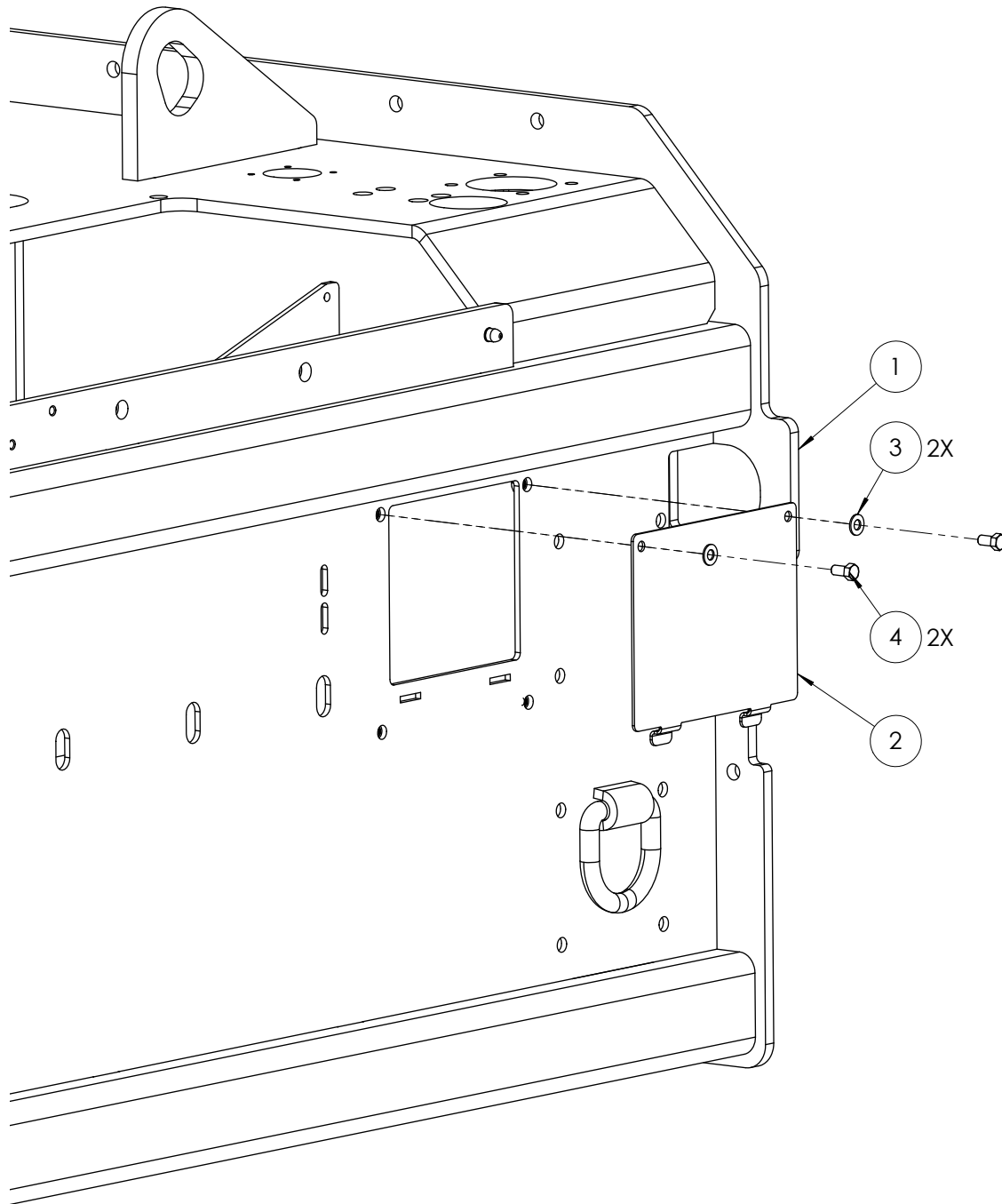
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FOOTNOTES:

NOTE:

Hull Assembly-Exterior

VALVE ACCESS COVER



Hull Assembly-Exterior

VALVE ACCESS COVER

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7000	COVER, VALVE ACCESS	1	
3	06FW-SAE	WASHER, 3/8"	2	
4	06HH12	SCREW, 3/8-16 x .75 HHC - GR8	2	

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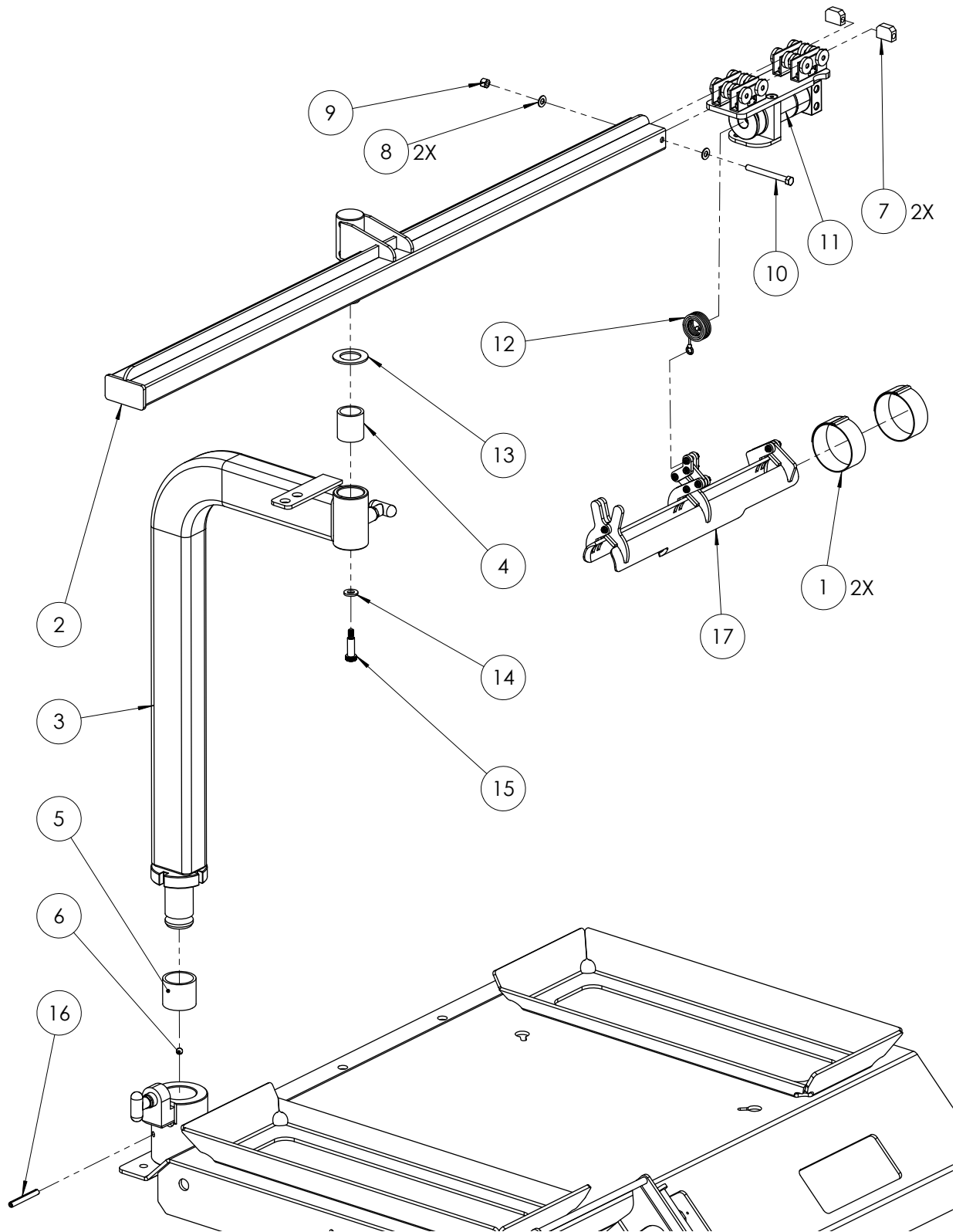
Rod Lift Assist Device_____

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Rod Lift Assist Device—Mechanical

DEVICE GENERAL ASSEMBLY



Rod Lift Assist Device—Mechanical

DEVICE GENERAL ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	933-0340	STRAP	2	
2	931-7084	TRACK WELDMENT	1	
3	931-7083	TUBE ARM WELDMENT	1	
4	931-7097	BEARING, SLEEVE - 1.50 ID	1	
5	931-7086	BEARING, SLEEVE - 2.00 ID	1	
6	931-7078	BEARING, BALL - Ø.4375	1	
7	931-7072	TRACK STOP, REAR	2	
8	06FW-SAE	WASHER, 3/8"	2	
9	06TLN	NUT, 3/8-16 TOP LOCK	1	
10	06HH60	SCREW, 3/8-16 X 3.75 HHC - GR8	1	
11	931-7131	WINCH ASSEMBLY	1	
12	931-7185	ROPE, Ø1/8 X 75	1	
13	931-7146	THRUST BEARING, 1-1/2 ID, 2-1/2 OD	1	
14	931-7147	THRUST BEARING, 1/2" ID X 1" OD	1	
15	06SS22	SCREW, SHOULDER 3/8 X 1-3/8"	1	
16	931-7134	PIN, COILED - Ø3/8" X 3.00"	1	
17	931-7129	ROD LIFTER	1	

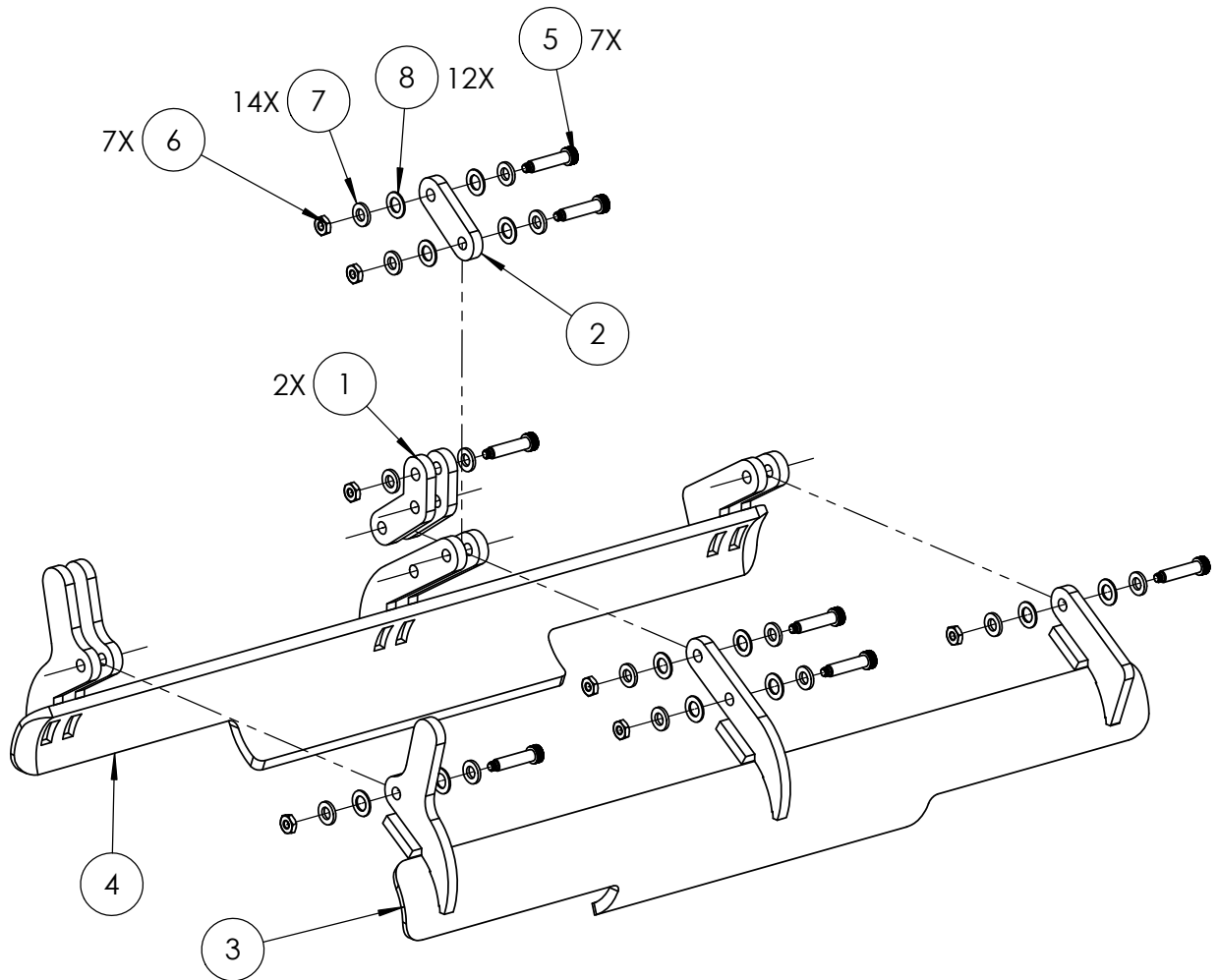
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FOOTNOTES:

NOTE:

Rod Lift Assist Device—Mechanical

931-7129 ROD LIFTER ASSEMBLY



Rod Lift Assist Device—Mechanical

931-7129 ROD LIFTER ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7122	TONG ARM - 3	2	
2	931-7120	TONG ARM - 2	1	
3	931-7127	LIFTER ARM - 1	1	
4	931-7128	LIFTER ARM - 2	1	
5	931-7145	SCREW, SHOULDER Ø1/4 X 1	7	
6	#10TLNF	NUT, #10-32 TOP LOCK	7	
7	931-7124	WASHER, 1/4" MIL SPEC	14	
8	931-7125	WASHER, 1/4" PLASTIC	12	

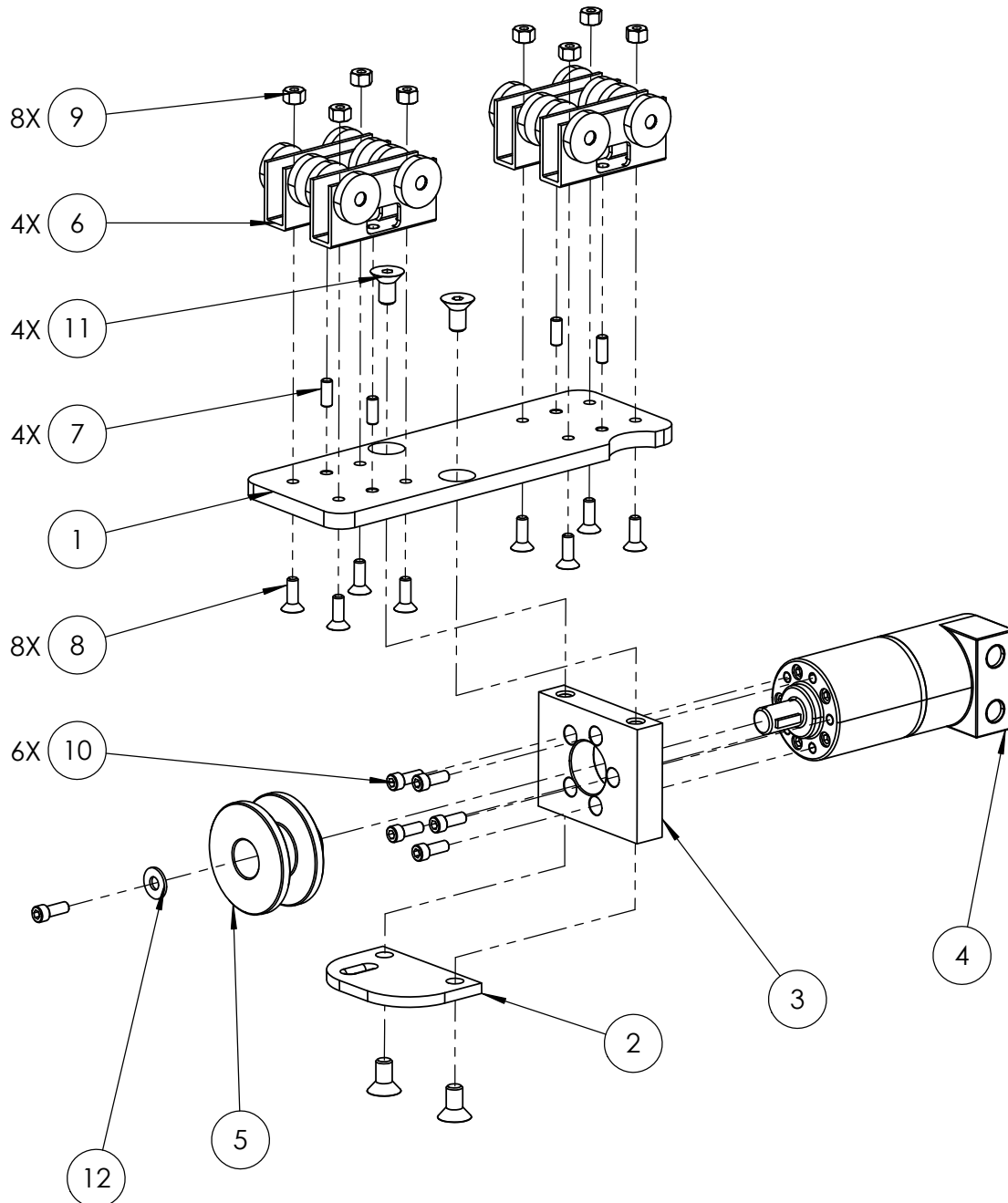
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FOOTNOTES:

NOTE:

Rod Lift Assist Device—Mechanical

931-7131 WINCH ASSEMBLY



Rod Lift Assist Device—Mechanical

931-7131 WINCH ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7181	PLATE, TOP	1	
2	931-7182	PLATE, BOTTOM	1	
3	931-7184	PLATE, MOTOR	1	
4	931-7087	MOTOR, HYD. 3 CU IN/REV	1	
5	931-7183	DRUM	1	
6	931-7076	STRUT CHANNEL TROLLEY	4	
7	931-7090	PIN, DOWEL - 1/4" X 5/8"	4	
8	04FH12	SCREW, 1/4-20 x .75 FHSC	8	
9	04TLN	NUT, 1/4-20 TOP LOCK	8	
10	931-7144	SCREW, 1/4-28 X 5/8 SHCS	6	
11	06FH12	SCREW, 3/8-16 x .75 FHSC	4	
12	04FW-USS	WASHER, 1/4" - USS	1	

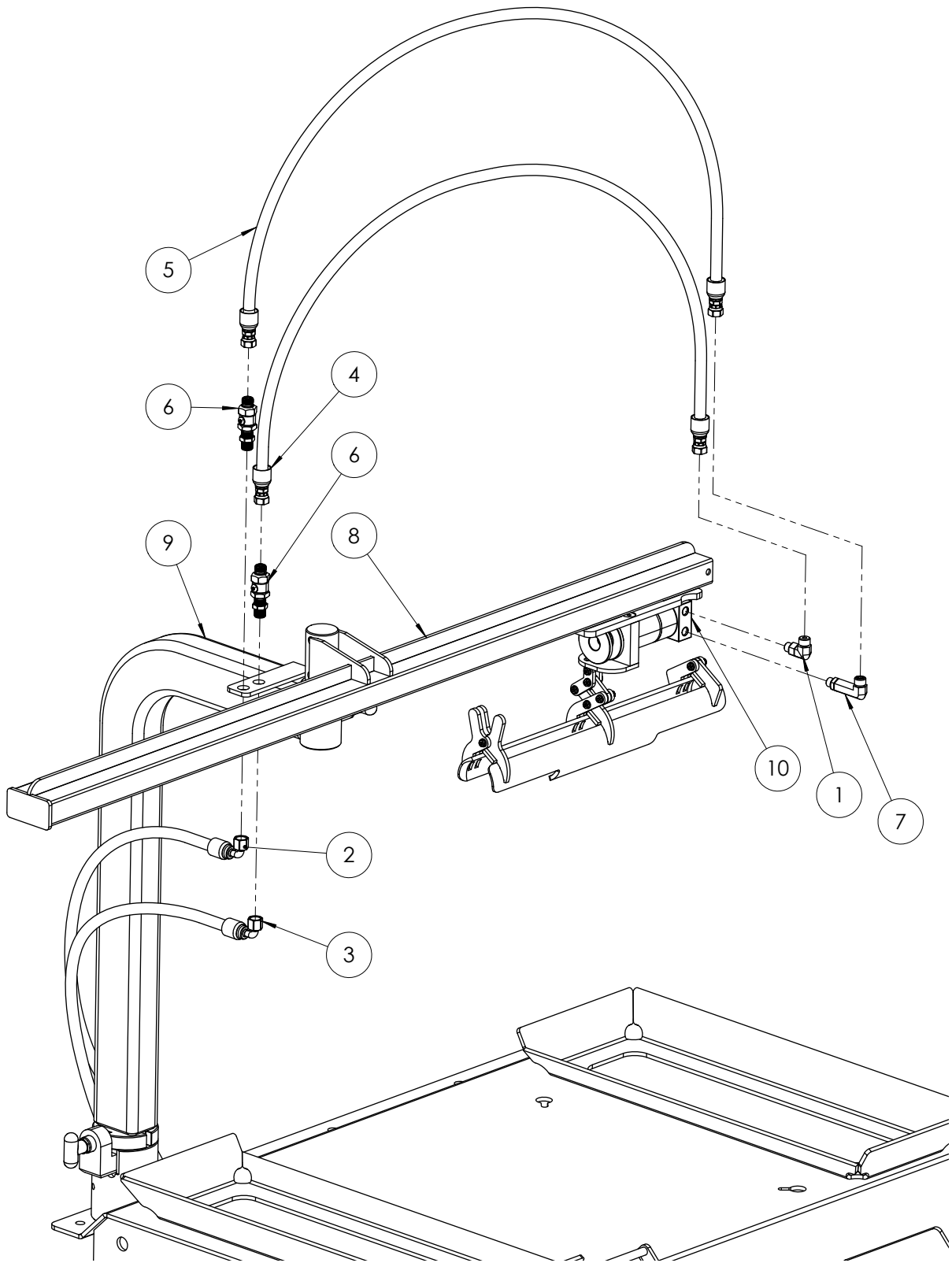
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FOOTNOTES:

NOTE:

Rod Lift Assist Device—Hydraulics

CONNECTIONS TO WINCH ASSEMBLY



Rod Lift Assist Device—Hydraulics

CONNECTIONS TO WINCH ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	926-2304	ELBOW, 6MO X 6MB 90°	1	
2	H-02214	HOSE, 6FO-6FO90S X 42	1	
3	H-02215	HOSE, 6FO-6FO90S X 43	1	
4	H-02216	HOSE, 6FO X 6FO X 40	1	
5	H-02217	HOSE, 6FO X 6FO X 44	1	
6	926-4952	ADAPTER, 06MO BH X 06MO, SUPER SWIVEL	2	
7	926-2161	ELBOW, 6MO X 6MB LONG	1	
8	931-7084	TRACK WELDMENT	1	
9	931-7083	TUBE ARM WELDMENT	1	
10	931-7131	WINCH ASSEMBLY	1	

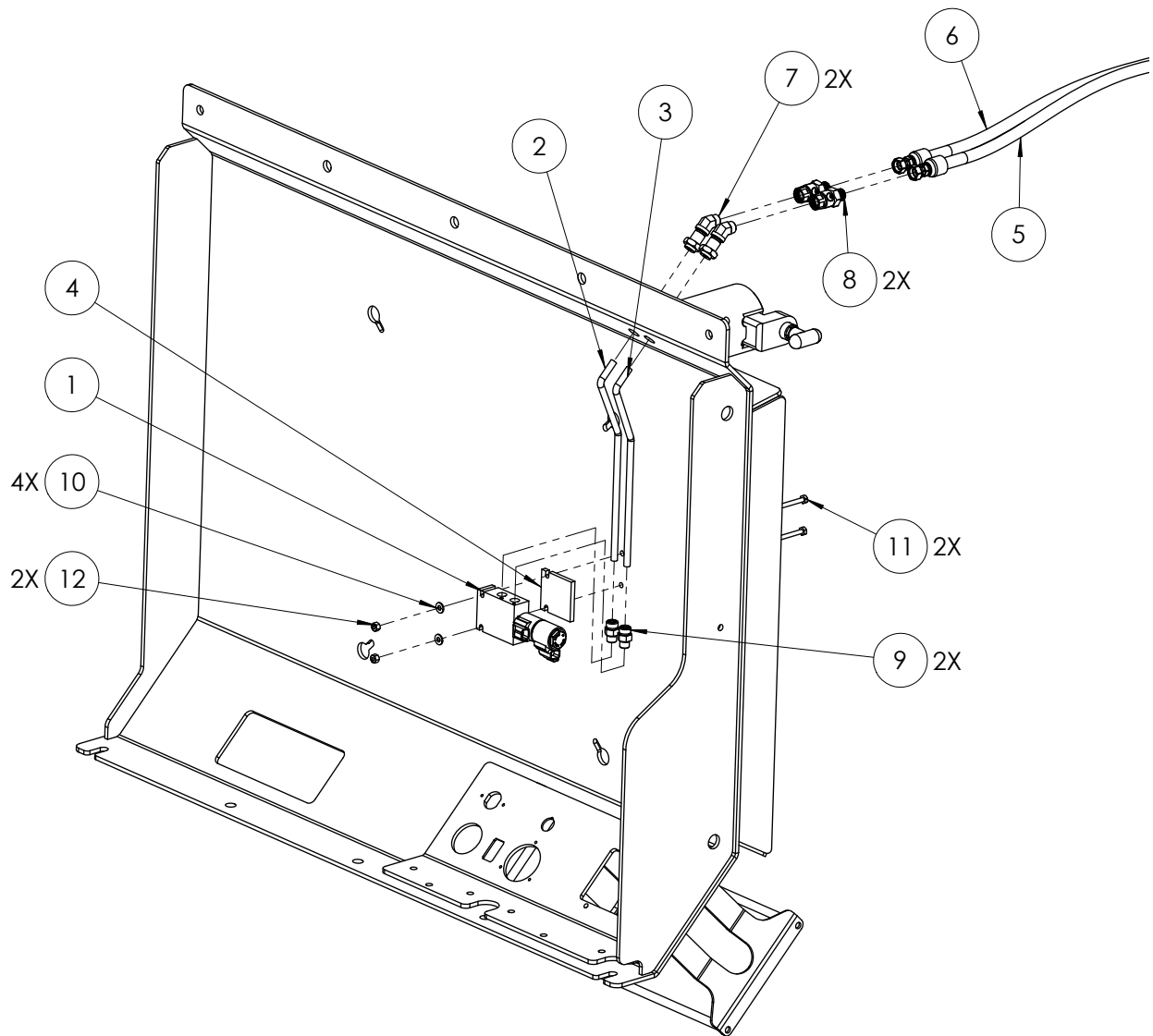
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FOOTNOTES:

NOTE:

Rod Lift Assist Device—Hydraulics

CONNECTIONS TO VALVE



Rod Lift Assist Device—Hydraulics

CONNECTIONS TO VALVE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	912-4162	VALVE, 4-WAY 3-POSITION	1	
2	931-2066	TUBE 47	1	
3	931-2067	TUBE 48	1	
4	941-4756	PLATE, SPACER	1	
5	H-02214	HOSE, 6FO-6FO90S X 42	1	
6	H-02215	HOSE, 6FO-6FO90S X 43	1	
7	926-4801	ELBOW, 06MO 45° BH	2	
8	926-4953	ADAPTER, 06MO X 06FO, SUPER SWIVEL	2	
9	926-2203	ADAPTER, 6MO X 6 MB	2	
10	04FW-SAE	WASHER, 1/4"	4	
11	04HH36	SCREW, 1/4-20 x 2.25 HHC - GR8	2	
12	04TLN	NUT, 1/4-20 TOP LOCK	2	

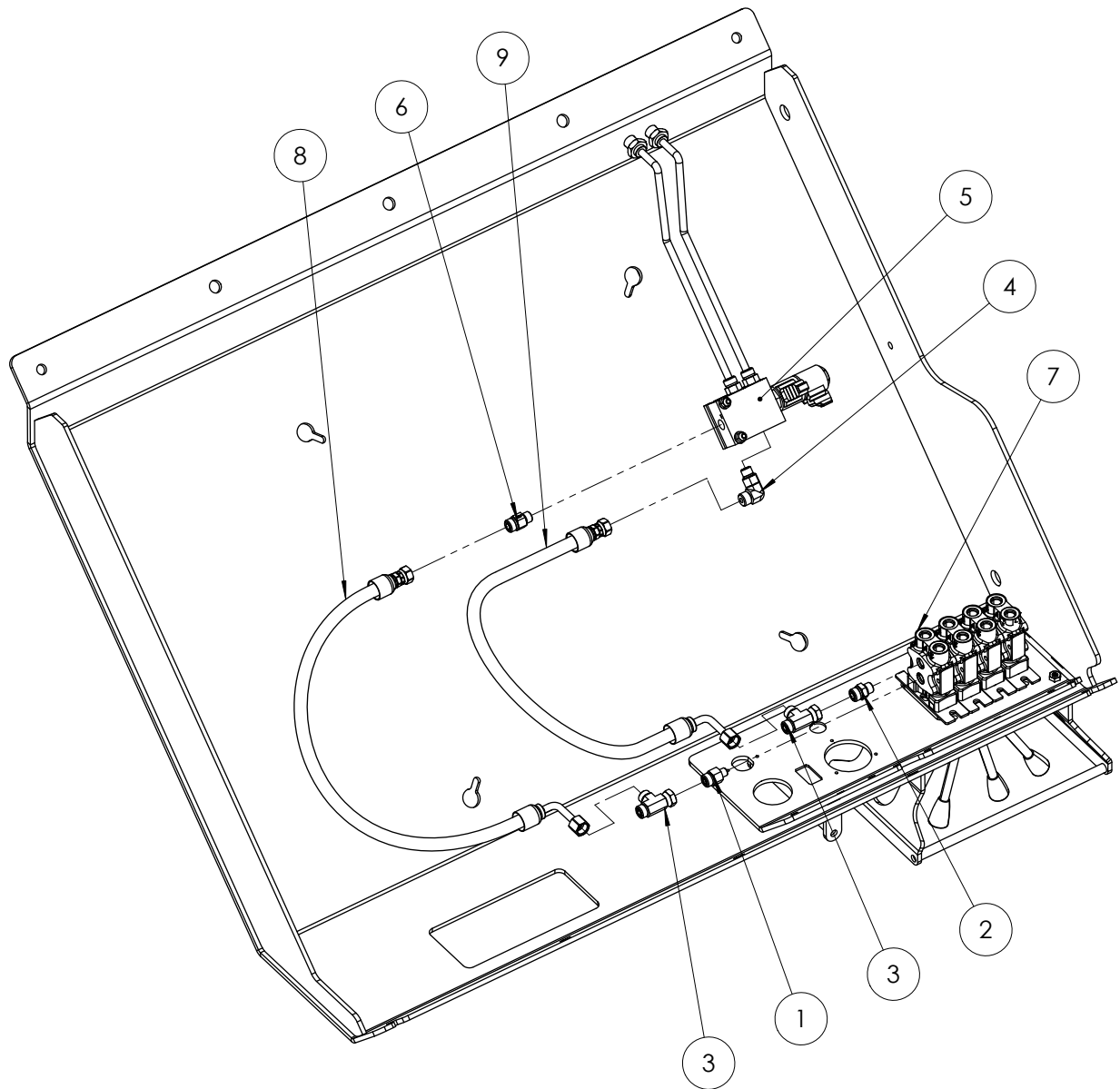
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FOOTNOTES:

NOTE:

Rod Lift Assist Device—Hydraulics

CONNECTIONS TO CONTROL VALVE



Rod Lift Assist Device—Hydraulics

CONNECTIONS TO CONTROL VALVE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	926-2227	ADAPTER, 6MO X 4MB	1	
2	931-7233	VALVE, CHECK INLINE, 1906K .020	1	
3	926-3480	TEE, 6MO X 6FO X 6MO RUN	2	
4	926-2304	ELBOW, 6MO X 6MB 90°	1	
5	912-4162	VALVE, 4-WAY 3-POSITION	1	
6	931-7235	CHECK VALVE, INLINE, 1906J, .045	1	
7	931-7114	VALVE, CONTROL 175XT	1	
8	H-02213	HOSE, 6F0 X 6FO90L X 29	1	
9	H-02218	HOSE, 6F0 X 6FO90L X 26	1	

NOT SHOWN:

FOOTNOTES:

NOTE:

Notes:

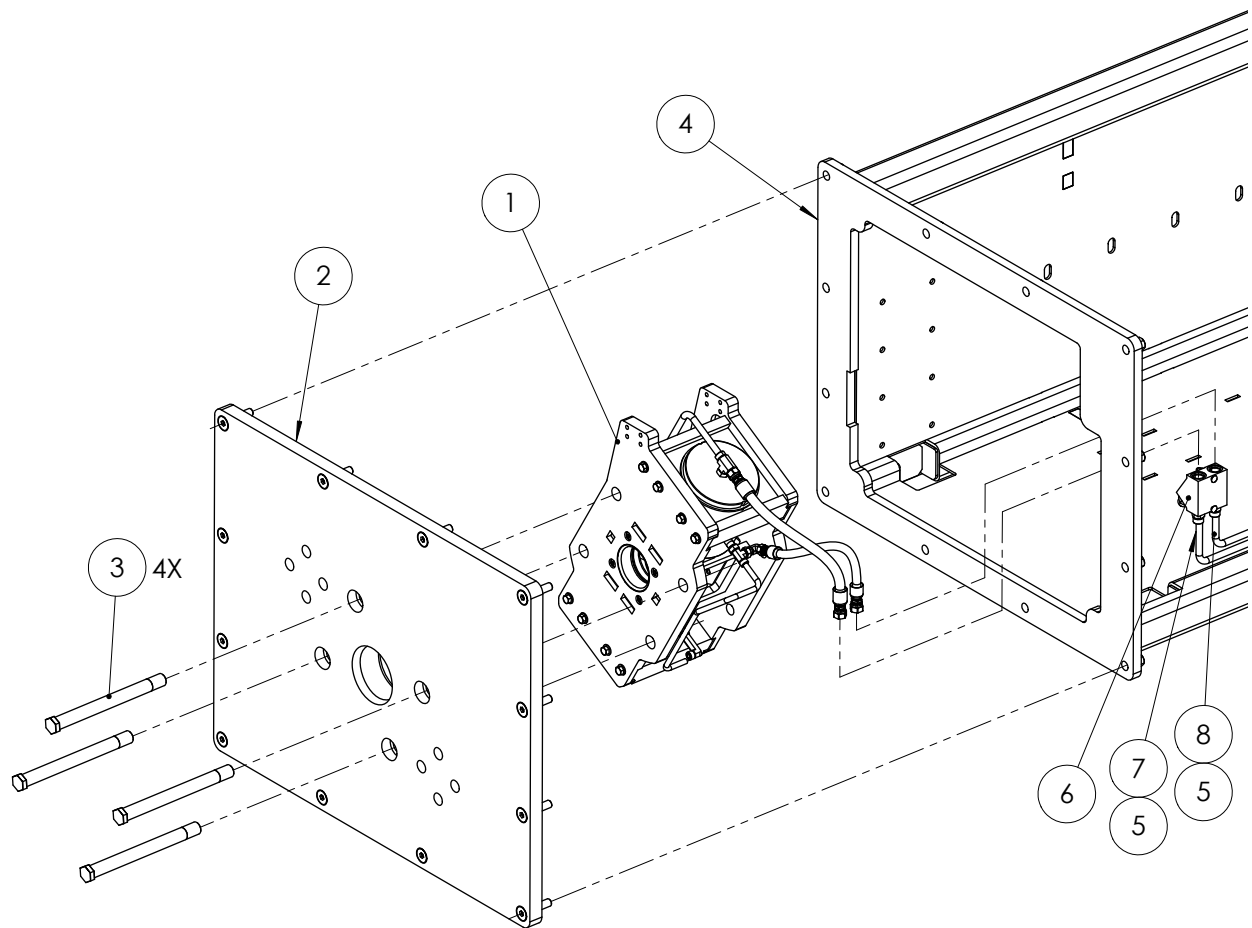
Bungee Vise_____

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Bungee Vise—Installation

INSTALLATION



Bungee Vise—Installation

INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7062	BUNGEE VISE ASSEMBLY	1	
2	931-7057	FRONT PLATE	1	
3	931-3510	BOLT, BUNGEE VISE	4	
4	931-7061	WELDMENT, HULL (RED)	1	
5	926-2230	ADAPTER, 10MO x 12MB	2	
6	931-7227	CB VALVE, BUNGEE, HB175XT	1	
7	931-2029	TUBE 10	1	
8	931-2030	TUBE 11	1	

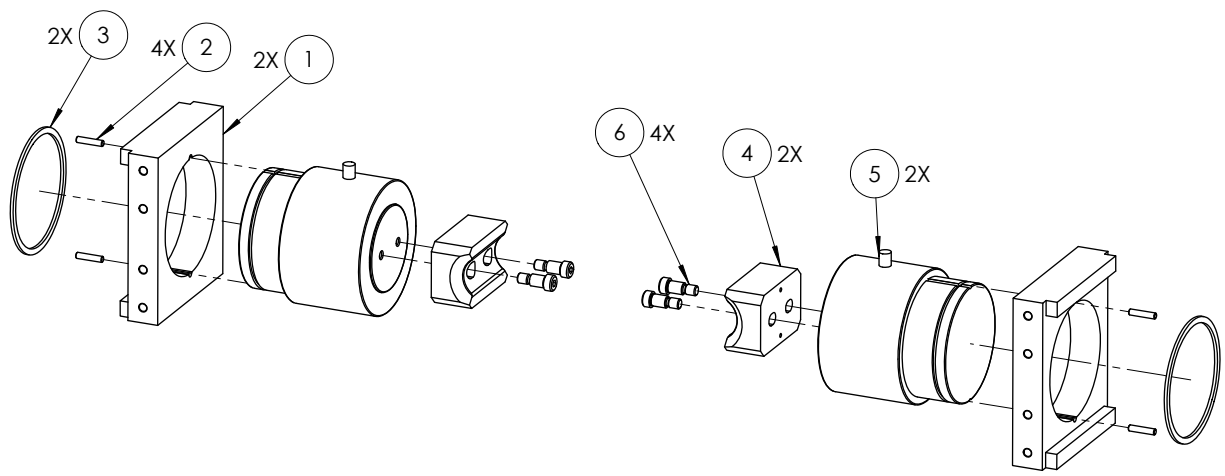
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FOOTNOTES:

NOTE:

Bungee Vise—Mechanical

JAWS ASSEMBLY



Bungee Vise—Mechanical

JAWS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-3508	SUPPORT, CYLINDER	2	
2	931-3514	PIN, DOWEL - 0.375 X 1.75	4	
3	931-3513	RETAINING RING, SPRIAL-Ø7.50 SHAFT	2	
4	931-3515	JAW, BUNGEE-SMOOTH	2	
5	931-2001	CYLINDER, BUNGEE VISE	2	
6	12SS16	SCREW, 3/4 x 1 SHOULDER	4	

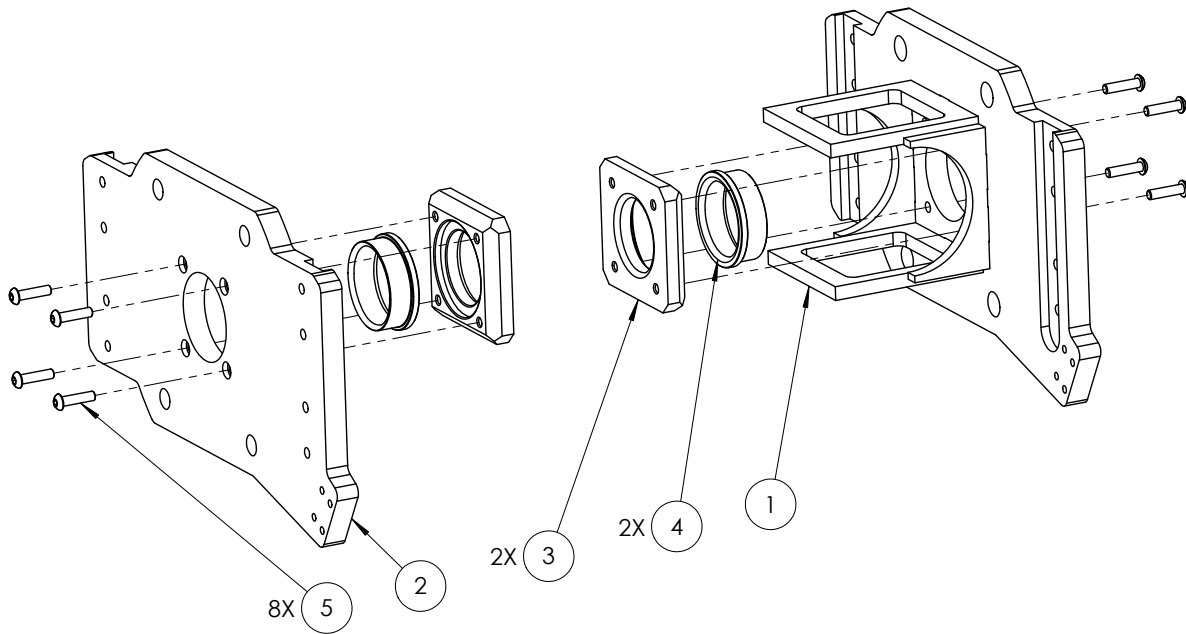
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FOOTNOTES:

NOTE:

Bungee Vise—Mechanical

PLATE ASSEMBLY



Bungee Vise—Mechanical

PLATE ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-3501	FRAME WELDMENT, BUNGEE VISE	1	
2	931-3504	PLATE, REAR	1	
3	931-3506	PLATE, BEARING	2	
4	931-3507	FUNNEL, ROD	2	
5	08BH32	SCREW, 1/2-13x2 BHSC	8	

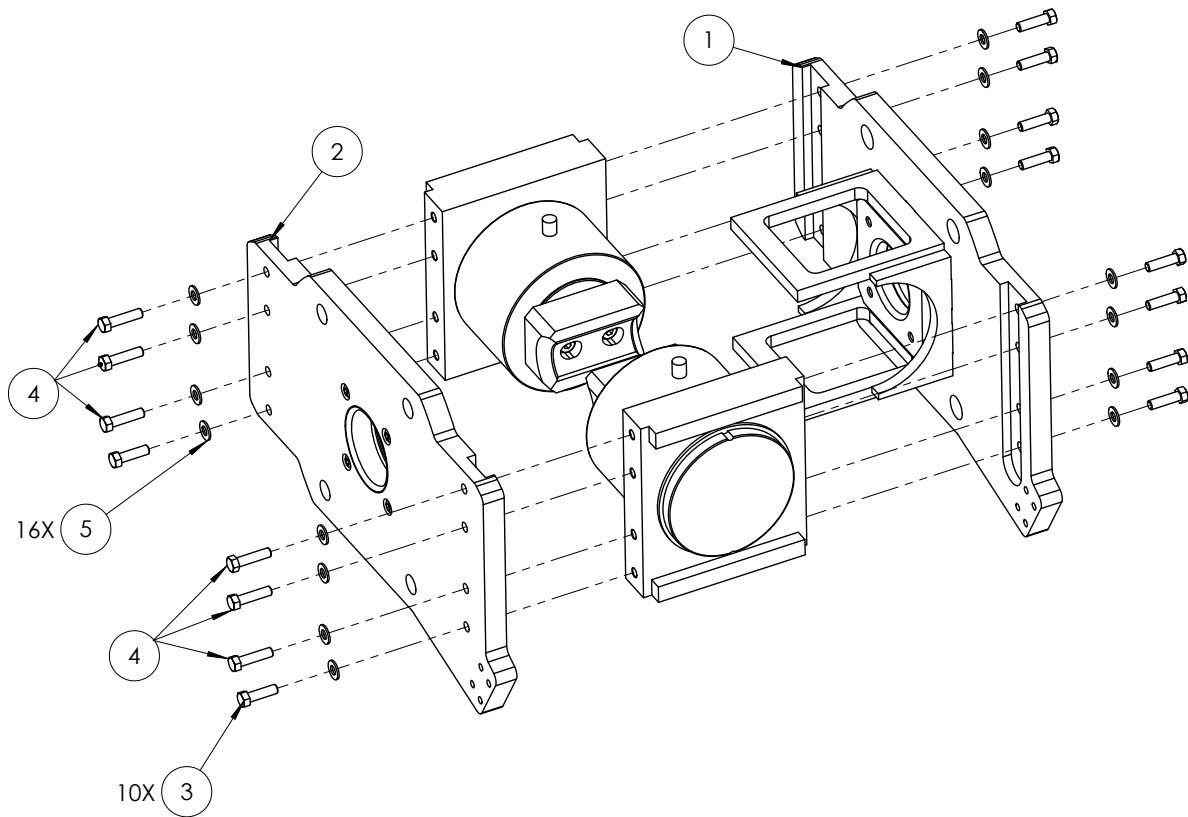
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FOOTNOTES:

NOTE:

Bungee Vise—Mechanical

FRAME ASSEMBLY



Bungee Vise—Mechanical

FRAME ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-3501	FRAME WELDMENT, BUNGEE VISE	1	
2	931-3504	PLATE, REAR	1	
3	08HH28	SCREW, 1/2-13 x 1.75 HHC - GR8	10	
4	08HH32	SCREW, 1/2-13 x 2.0 HHC - GR8	6	
5	08FW-SAE	WASHER, 1/2"	16	

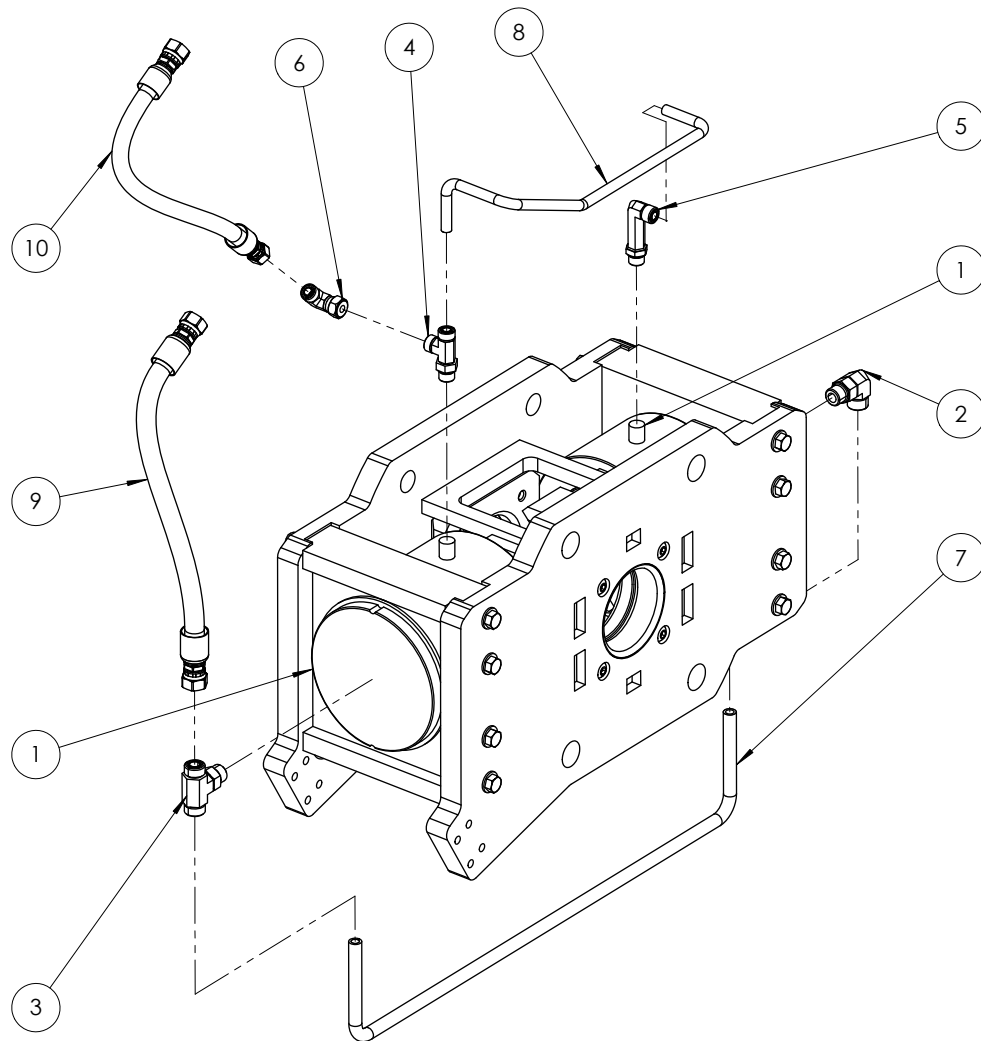
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FOOTNOTES:

NOTE:

Bungee Vise—Hydraulics

HYDRAULICS ASSEMBLY



Bungee Vise—Hydraulics

HYDRAULICS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-2001	CYLINDER, BUNGEE VISE	2	
2	926-2310	ELBOW, 10MO X 10MB 90°	1	
3	926-5208	TEE, 10MO X 10MO X 10MB BRANCH	1	
4	926-3904	TEE, 8MO X 8MB X 8MO RUN	1	
5	926-2162	ELBOW, 08MO X 08MB 90° LONG	1	
6	926-5702	ELBOW, 8MO X 8FO 90°	1	
7	931-2022	TUBE 3	1	
8	931-2023	TUBE 4	1	
9	H-02207	HOSE, 10FO X 10FO X 19	1	
10	H-02208	HOSE, 10FO X 8FO X 17	1	

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FOOTNOTES:

NOTE:

Notes:

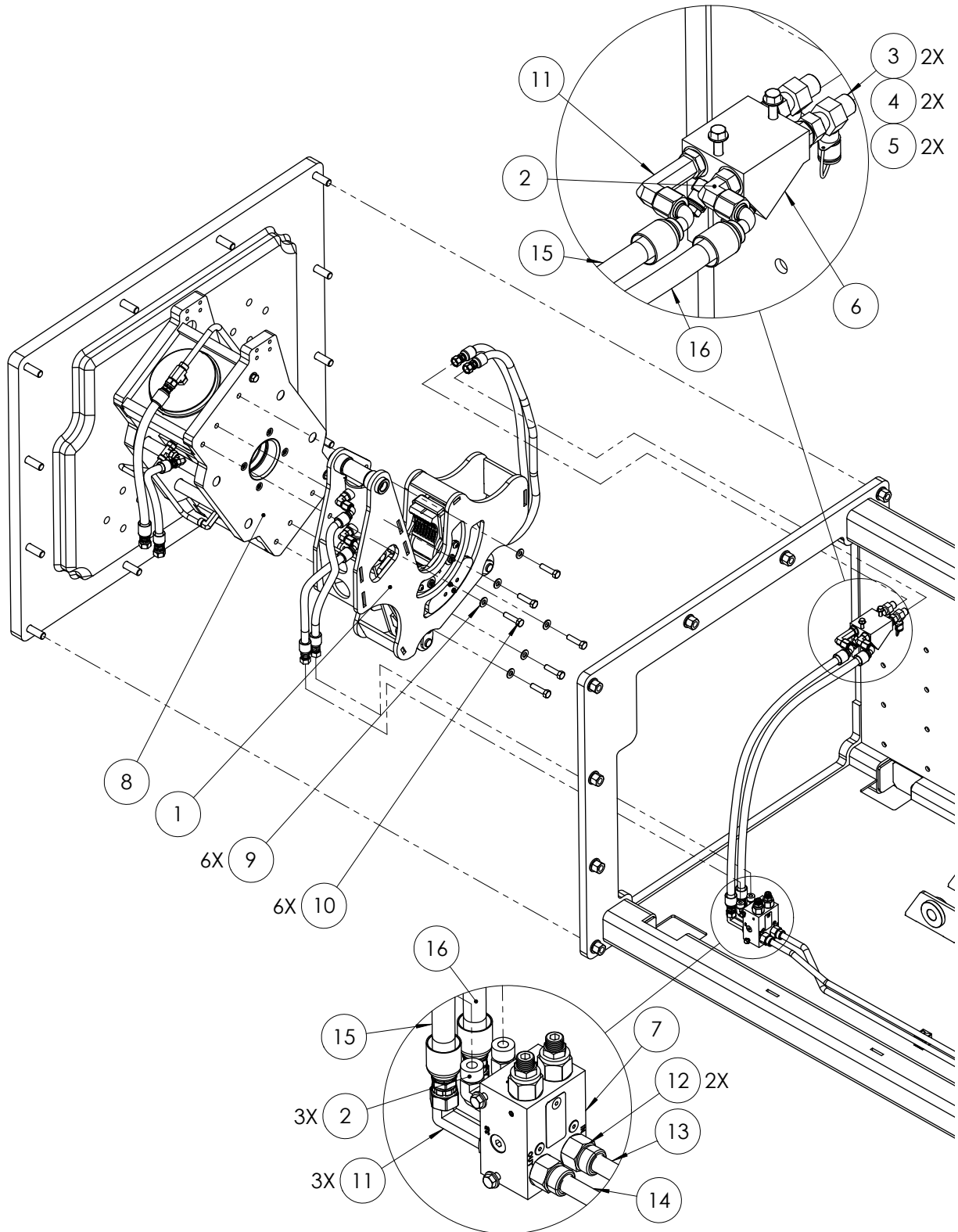
Breakout Vise_____

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Breakout Vise—Installation

INSTALLATION



Breakout Vise—Installation

INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7103	BREAKOUT VISE ASSEMBLY	1	
2	926-2307	ELBOW, 8MO X 8MB 90°	3	
3	926-6602	GAUGE PORT TEE, 8MO X 8FO X 4FB	2	
4	926-7504	TEST PORT COUPLING	2	
5	926-2206	ADAPTER, 8MO X 8MB	2	
6	931-7217	CB VALVE, BREAKOUT VISE, 175XT	1	
7	931-7117	VALVE, SEQUENCE, 175XT	1	
8	931-7062	BUNGEE VISE ASSEMBLY	1	
9	08FW-SAE	WASHER, 1/2"	6	
10	08HH32	SCREW, 1/2-13 x 2.0 HHC - GR8	6	
11	926-2162	ELBOW, 8MOX8MB 90° LONG	3	
12	926-2211	ADAPTER, 10MO X 08MB	2	
13	931-2047	TUBE 28	1	
14	931-2048	TUBE 29	1	
15	H-02241	HOSE, 8FO-8FO90 X 37	1	
16	H-02240	HOSE, 8FO-8FO90 X 36	1	

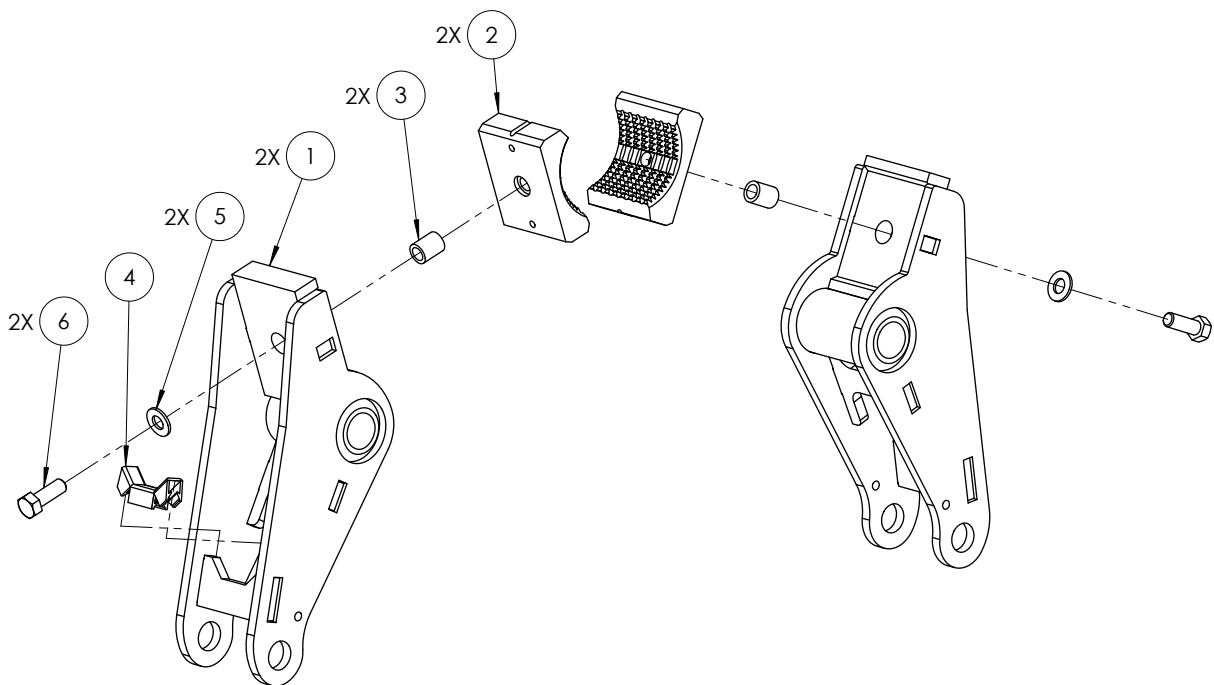
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FOOTNOTES:

NOTE:

Breakout Vise—Mechanical

JAWS ASSEMBLY



Breakout Vise—Mechanical

JAWS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-5530	JAW ARM	2	
2	931-5507	JAW INSERT, HB175	2	
3	913-7599	JAW ARM BUSHING	2	
4	931-5545	EDGE TRIM, PUSH ON - 2.64	1	
5	08FW-SAE	WASHER, 1/2"	2	
6	08HH22	SCREW, 1/2-13 x 1.375 HHC - GR8	2	

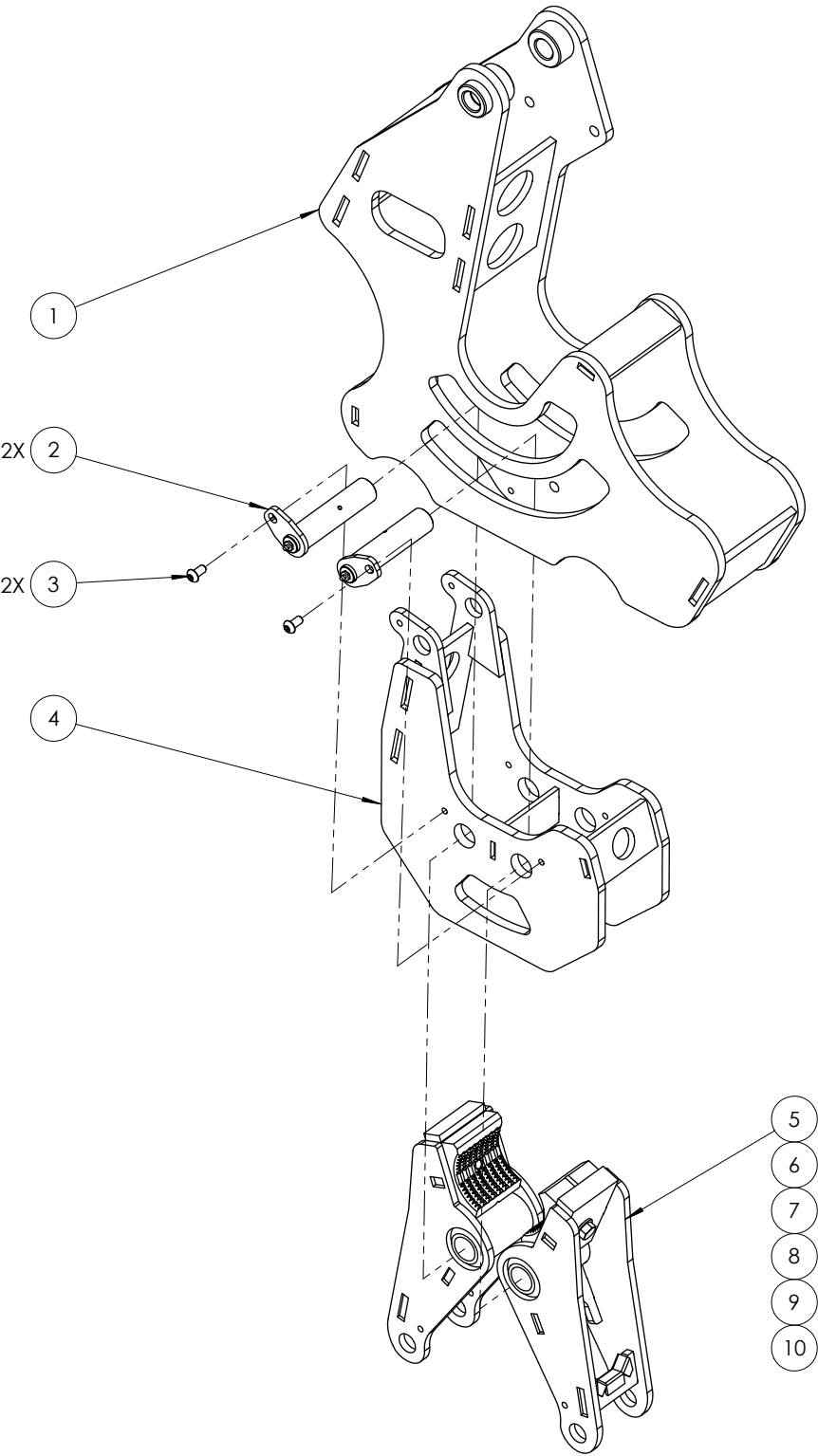
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FOOTNOTES:

NOTE:

Breakout Vise—Mechanical

JAW CARRIER ASSEMBLY



Breakout Vise—Mechanical

JAW CARRIER ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-5500	FRAME, BREAKOUT	1	
2	912-4154	PIN - 1.25	2	
3	06BH12	SCREW, 3/8-16x0.75 BHSC	2	
4	931-5520	ARM CARRIER, WELDMENT	1	
5	931-5530	JAW ARM	2	
6	931-5507	JAW INSERT, HB175	2	
7	913-7599	JAW ARM BUSHING	2	
8	931-5545	EDGE TRIM, PUSH ON - 2.64	1	
9	08HH22	SCREW, 1/2-13 x 1.375 HHC - GR8	2	
10	08FW-SAE	WASHER, 1/2"	2	

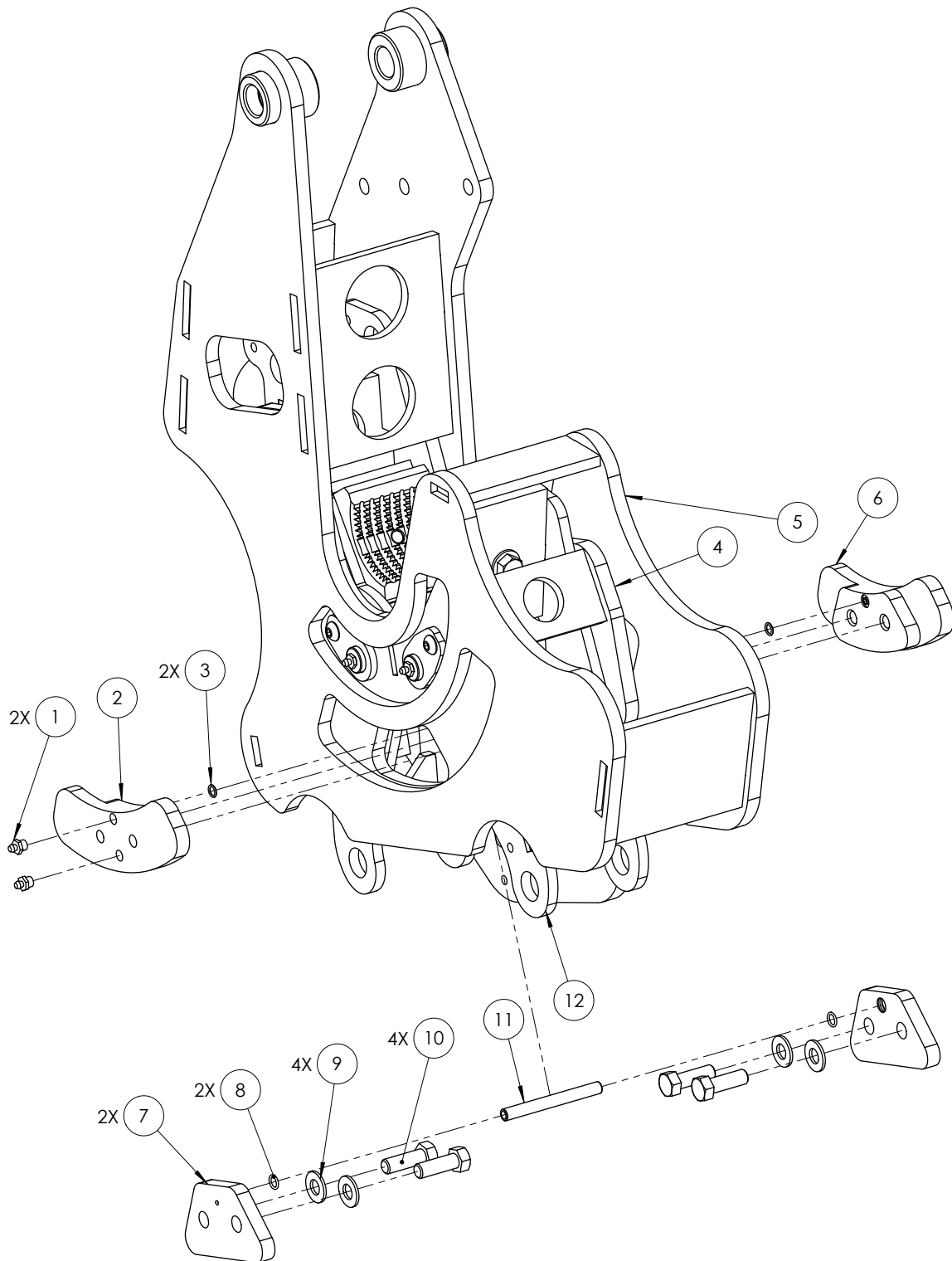
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FOOTNOTES:

NOTE:

Breakout Vise—Mechanical

JAW PIVOT ASSEMBLY



Breakout Vise—Mechanical

JAW PIVOT ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	912-1149	FITTING, GREASE	2	
2	931-5534	GUIDE PLATE	1	
3	930-2034	O-RING -011	2	
4	931-5520	ARM CARRIER, WELDMENT	1	
5	931-5500	FRAME, BREAKOUT	1	
6	931-5535	REAR GUIDE PLATE	1	
7	931-5533	GUIDE PLATE RETAINER	2	
8	931-5525	O-RING, -012	2	
9	08FW-SAE	WASHER, 1/2"	4	
10	08HH24	SCREW, 1/2-13 x 1.5 HHC - GR8	4	
11	931-5536	CROSS TUBE, 1/8" X 3.825"	1	
12	931-5530	JAW ARM	2	

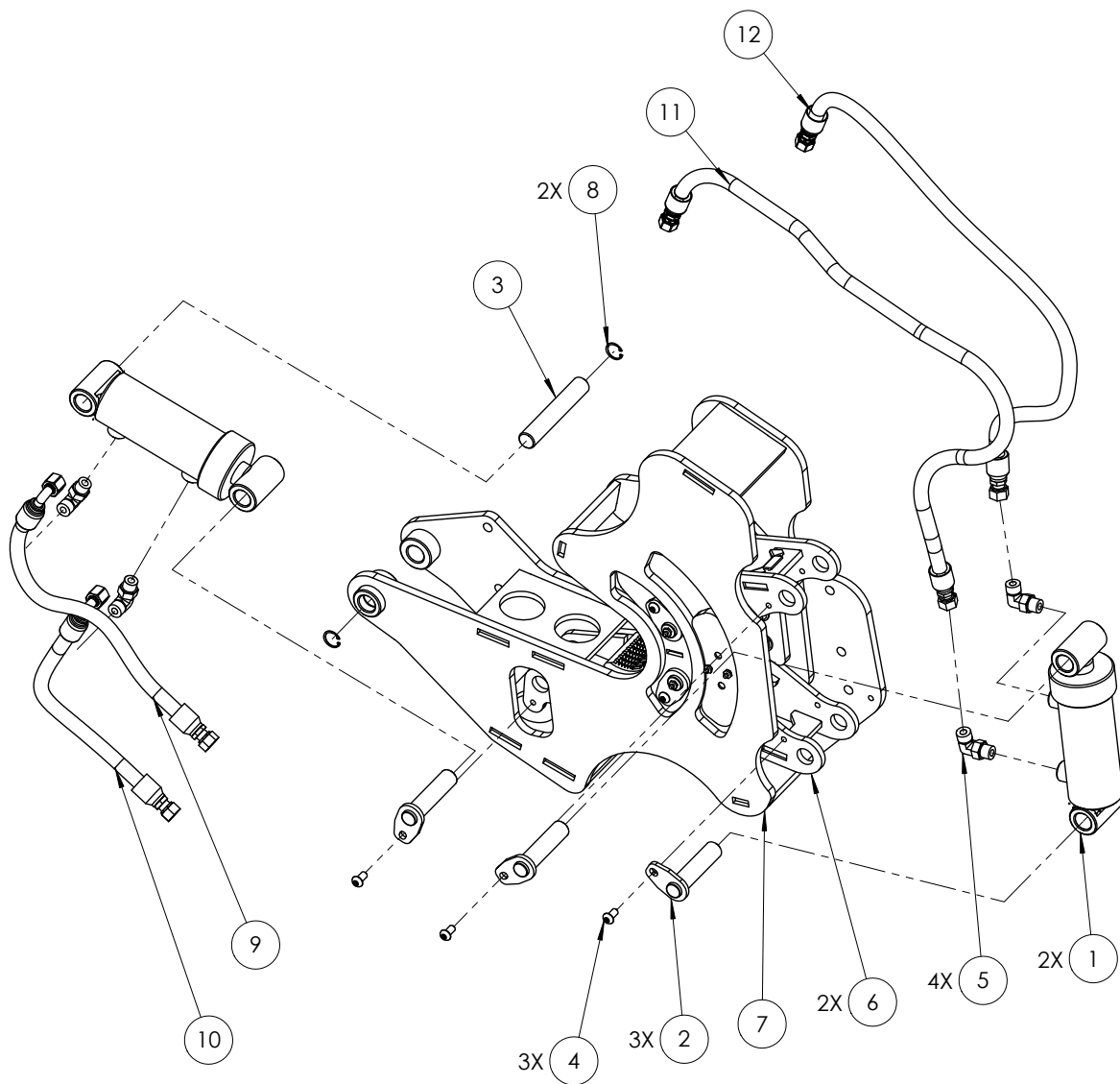
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FOOTNOTES:

NOTE:

Breakout Vise—Hydraulics

HYDRAULICS ASSEMBLY



Breakout Vise—Hydraulics

HYDRAULICS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	913-7600	CYLINDER, 2-1/2x3-1/2	2	SEE BELOW
2	913-7601	PIN 1.00	3	
3	913-7612	PIN, 6.0 x 1.00	1	
4	06BH12	SCREW, 3/8-16x0.75 BHSC	3	
5	926-2307	ELBOW, 8MO X 8MB 90°	4	
6	931-5530	JAW ARM	2	
7	931-5500	FRAME, BREAKOUT	1	
8	913-4220	RETAINING RING - 1.00 BORE	2	
9	H-02210	HOSE, 8FO X 8FO90S X 16	1	
10	H-02212	HOSE, 8FO X 8FO90S X 16	1	
11	H-02209	HOSE, 8FO X 8FO X 44	1	
12	H-02211	HOSE, 8FO X 8FO X 49	1	

NOT SHOWN:

913-8354

SEAL KIT, 2-1/2 X 3-1/2 CYLINDER

(SERVICE PART ONLY)

FOOTNOTES:

NOTE:

Notes:

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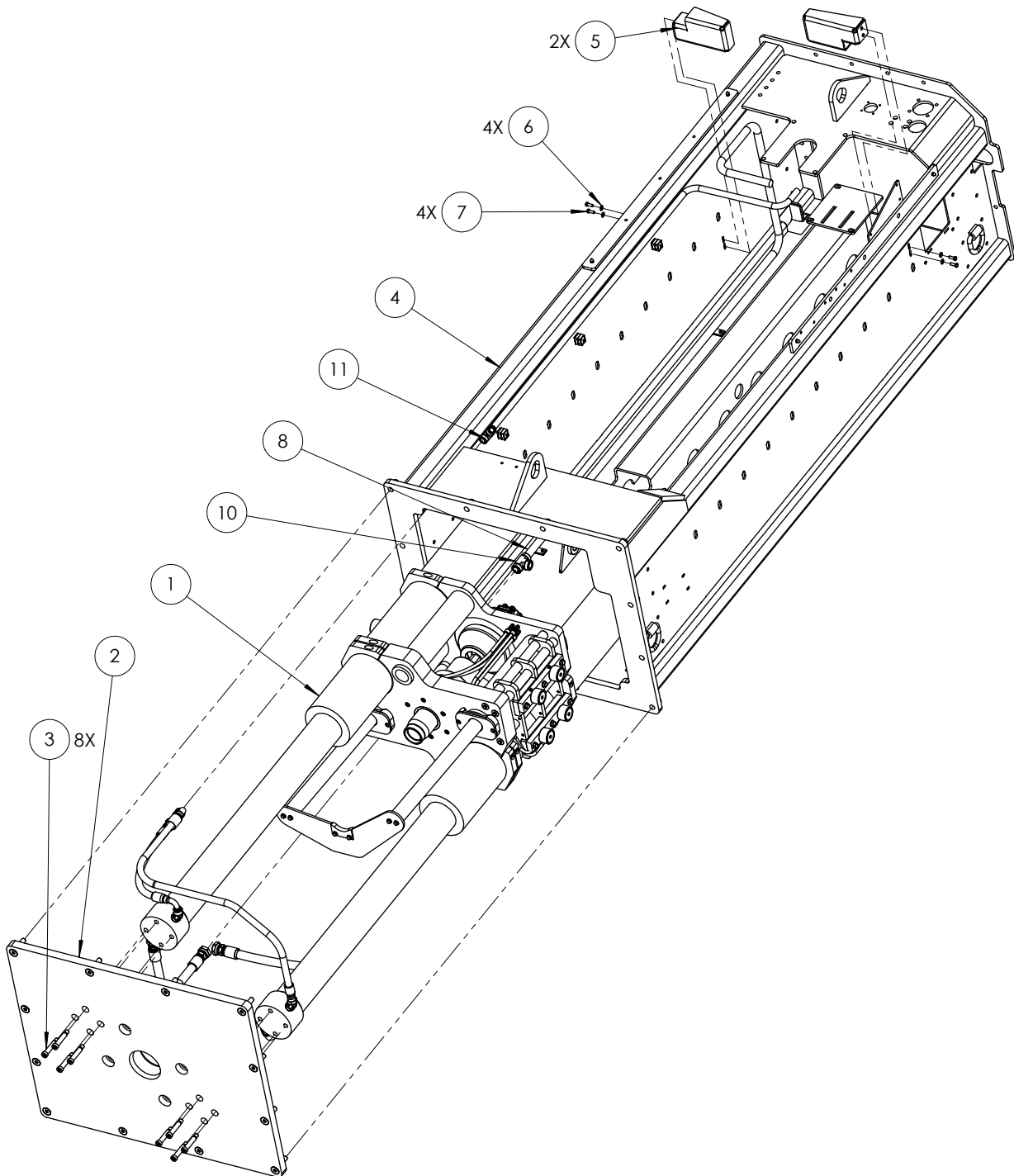
Spindle

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Spindle—Installation

INSTALLATION



Spindle—Installation

INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7093	SPINDLE ASSEMBLY	1	
2	931-7057	FRONT PLATE	1	
3	12SS48	SCREW, 3/4 x 3 SHOULDER	8	
4	931-7061	WELDMENT, HULL (RED)	1	
5	931-4581	STOP, ROD HOLDER	2	
6	06FW-SAE	WASHER, 3/8"	4	
7	06HH16	SCREW, 3/8-16 x 1.00 HHC - GR8	4	
8	931-2073	TUBE 54	1	
9	931-2074	TUBE 55	1	
10	926-3706	TEE, 20MO X 20MO X 20MO UNION	1	
11	926-3705	TEE, 16MO X 16MO X 16MO	1	

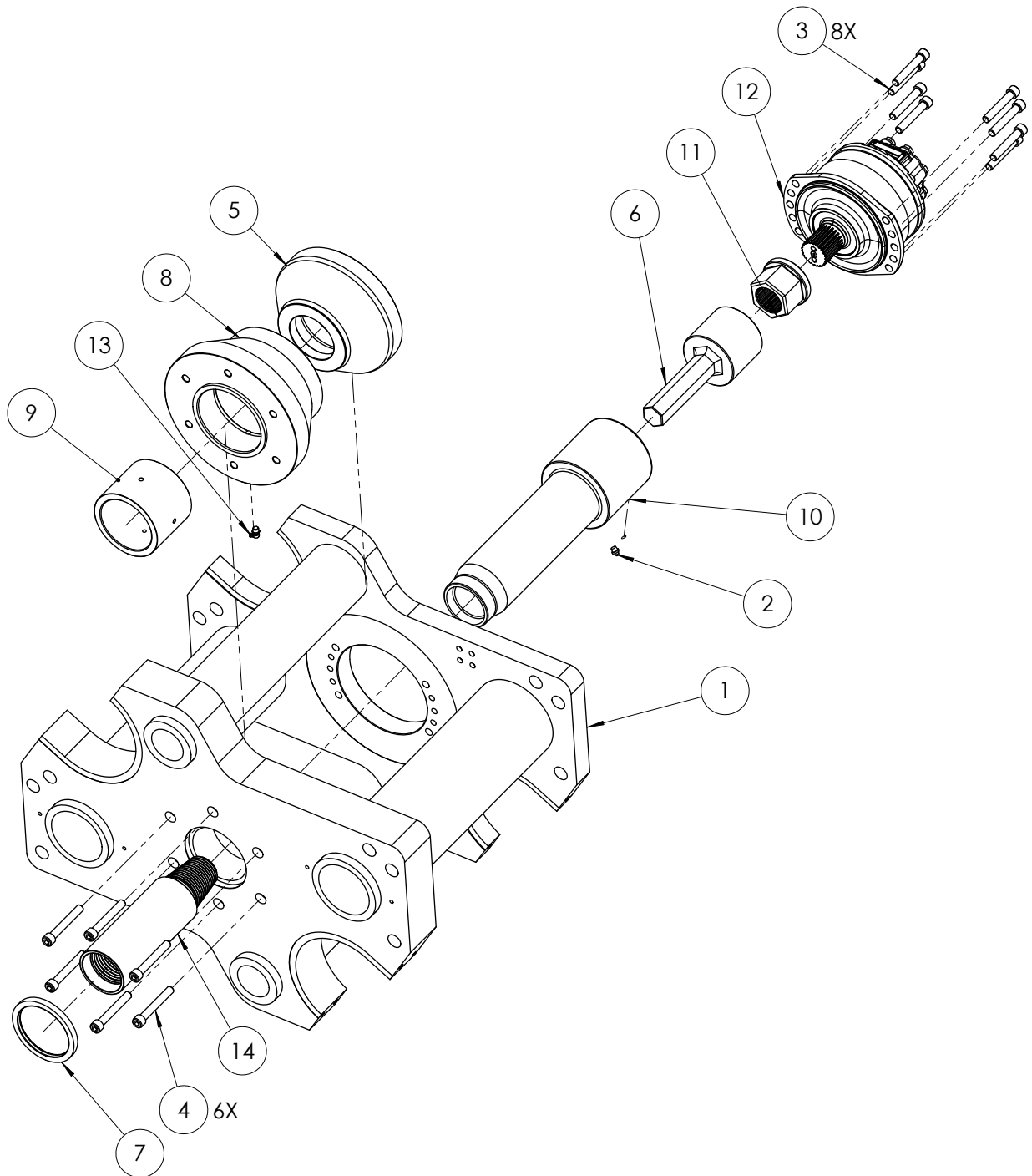
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FOOTNOTES:

NOTE:

Spindle—Mechanical

MOTOR AND SHAFT ASSEMBLY



Spindle—Mechanical

MOTOR AND SHAFT ASSEMBLY

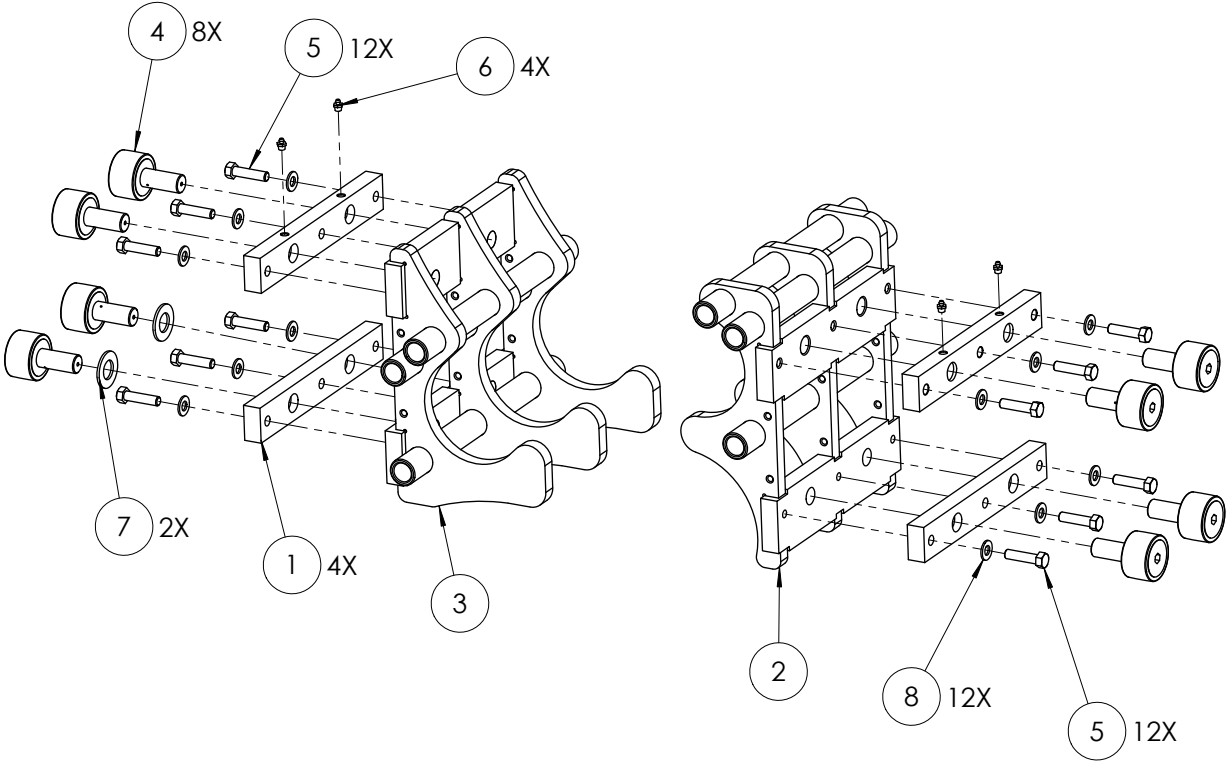
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7060	WELDMENT, SPINDLE FRAME	1	
2	912-1149	FITTING, GREASE	1	
3	08SH48	SCREW, 1/2-13 x 3.00" SHC	8	
4	08SH56	SCREW, 1/2-13 x 3.5" SHC	6	
5	931-7015	CONE, RESISTANCE	1	
6	931-7017	SHAFT, DRIVE	1	
7	931-4547	SEAL, BEARING Ø4.00	1	
8	931-4534	LOAD CONE	1	
9	931-4535	BUSHING, DRIVEN SHAFT	1	
10	931-7018	SHAFT, DRIVEN	1	
11	931-7046	SPLINE ADAPTER, HB175 SPINNER	1	
12	931-7137	MOTOR, RADIAL PISTON - 24.3 CID	1	
13	912-1150	FITTING, GREASE, 1/8" NPT 90 DEG.	1	
14	931-4566	SUB-SAVER, HB175	1	

NOT SHOWN:

FOOTNOTES:

NOTE:

ROLLERS ASSEMBLY



Spindle—Mechanical

ROLLERS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-4605	PLATE, SPACER	4	
2	931-4608	WELDMENT, ROLLER SUPPORT - OP SIDE	1	
3	931-4609	WELDMENT, ROLLER SUPPORT, RIGHT	1	
4	913-7516	ROLLER	8	
5	08HH32	SCREW, 1/2-13 x 2.0 HHC - GR8	12	
6	912-1149	FITTING, GREASE	4	
7	16FW-SAE	WASHER, 1"	2	
8	08FW-SAE	WASHER, 1/2"	12	

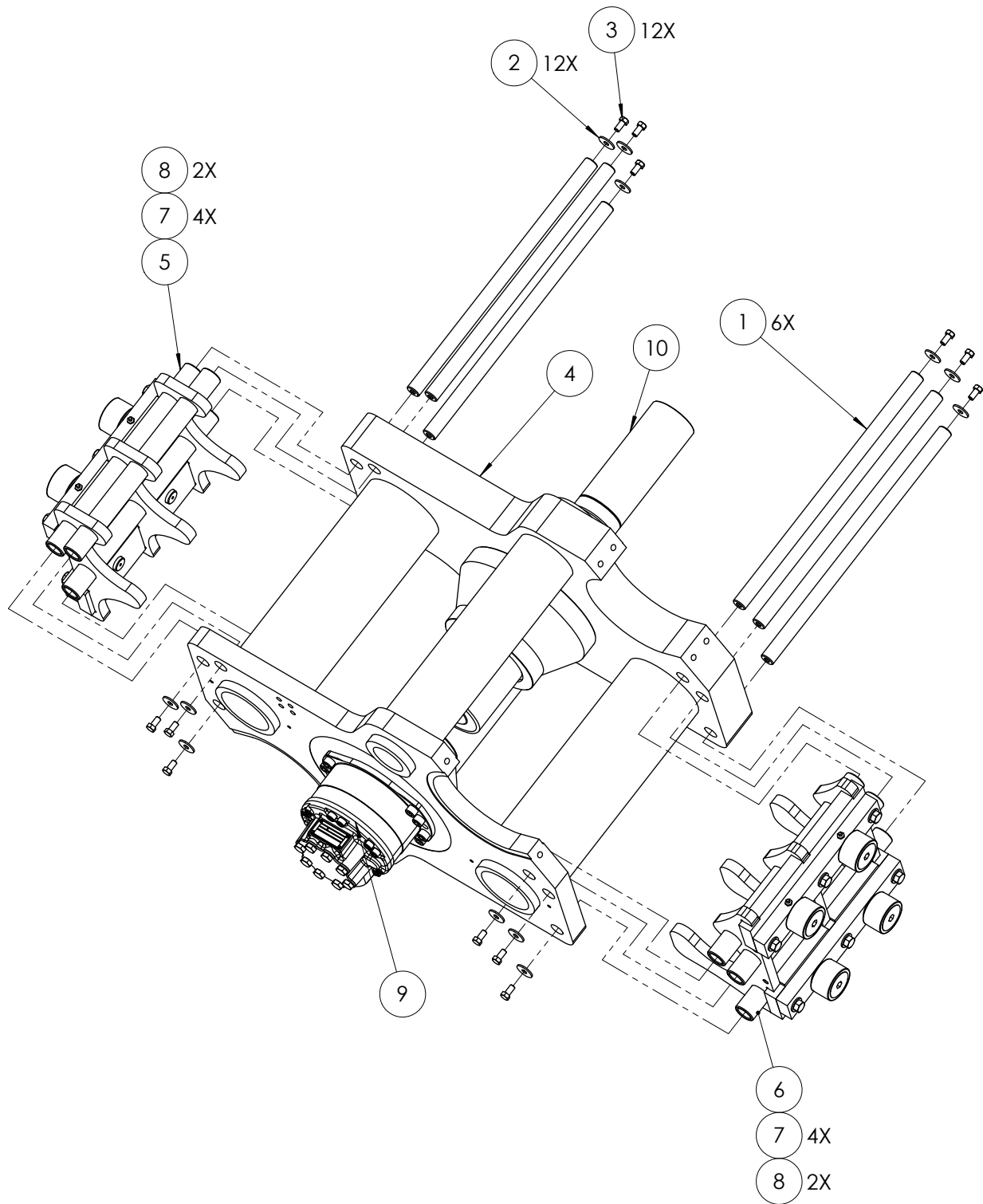
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FOOTNOTES:

NOTE:

Spindle—Mechanical

ROD CARRIERS ASSEMBLY



Spindle—Mechanical

ROD CARRIERS ASSEMBLY

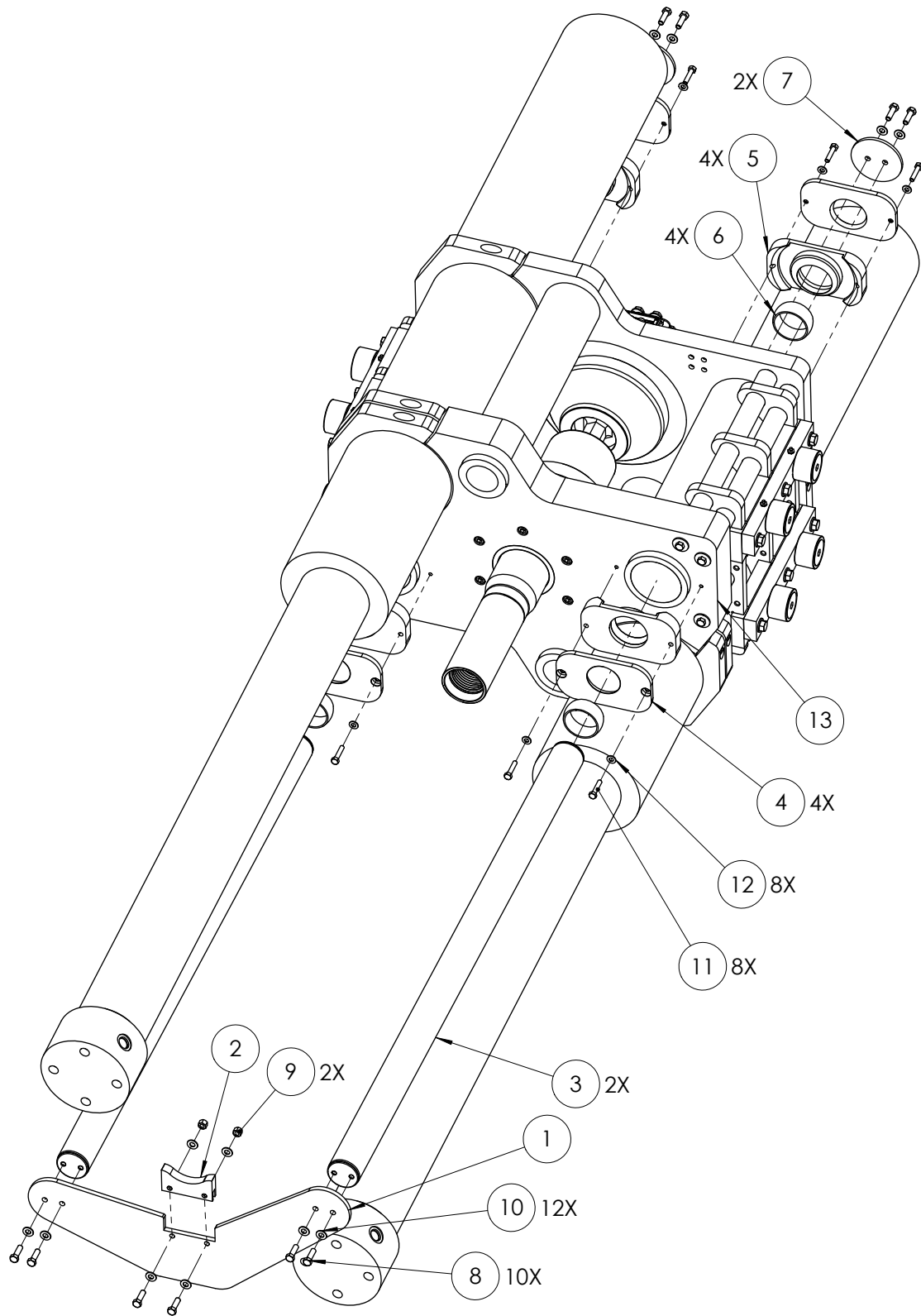
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-4518	ROD, CARRIER	6	
2	930-1022	WASHER, FLAT 3/8" X 1.25"	12	
3	06HH12	SCREW, 3/8-16 x .75 HHC - GR8	12	
4	931-7060	WELDMENT, SPINDLE FRAME	1	
5	931-4608	WELDMENT, ROLLER SUPPORT - OP SIDE	1	
6	931-4609	WELDMENT, ROLLER SUPPORT, RIGHT	1	
7	913-7516	ROLLER	8	
8	931-4605	PLATE, SPACER	4	
9	931-7137	MOTOR, RADIAL PISTON - 24.3 CID	1	
10	931-4566	SUB-SAVER, HB175		

NOT SHOWN:

FOOTNOTES:

NOTE:

ROD HOLDERS ASSEMBLY



Spindle—Mechanical

ROD HOLDERS ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-4592	FRONT PLATE, ROD HOLDER	1	
2	931-4588	WEAR PAD, ROD HOLDER	1	
3	931-4582	TUBE, ROD HOLDER	2	
4	931-4590	FRONT, ROD HOLDER	4	
5	931-4591	BACK, ROD HOLDER	4	
6	931-4587	BUSHING, ROD HOLDER	4	
7	931-4630	STOP, TUBE	2	
8	06HH20	SCREW, 3/8-16 x 1.25 HHC - GR8	10	
9	06TLN	NUT, 3/8-16 TOP LOCK	2	
10	06FW-SAE	WASHER, 3/8"	12	
11	05HH24	SCREW, 5/16-18 x 1.5 HHC - GR8	8	
12	05FW-SAE	WASHER, 5/16"	8	
13	931-7060	WELDMENT, SPINDLE FRAME	1	

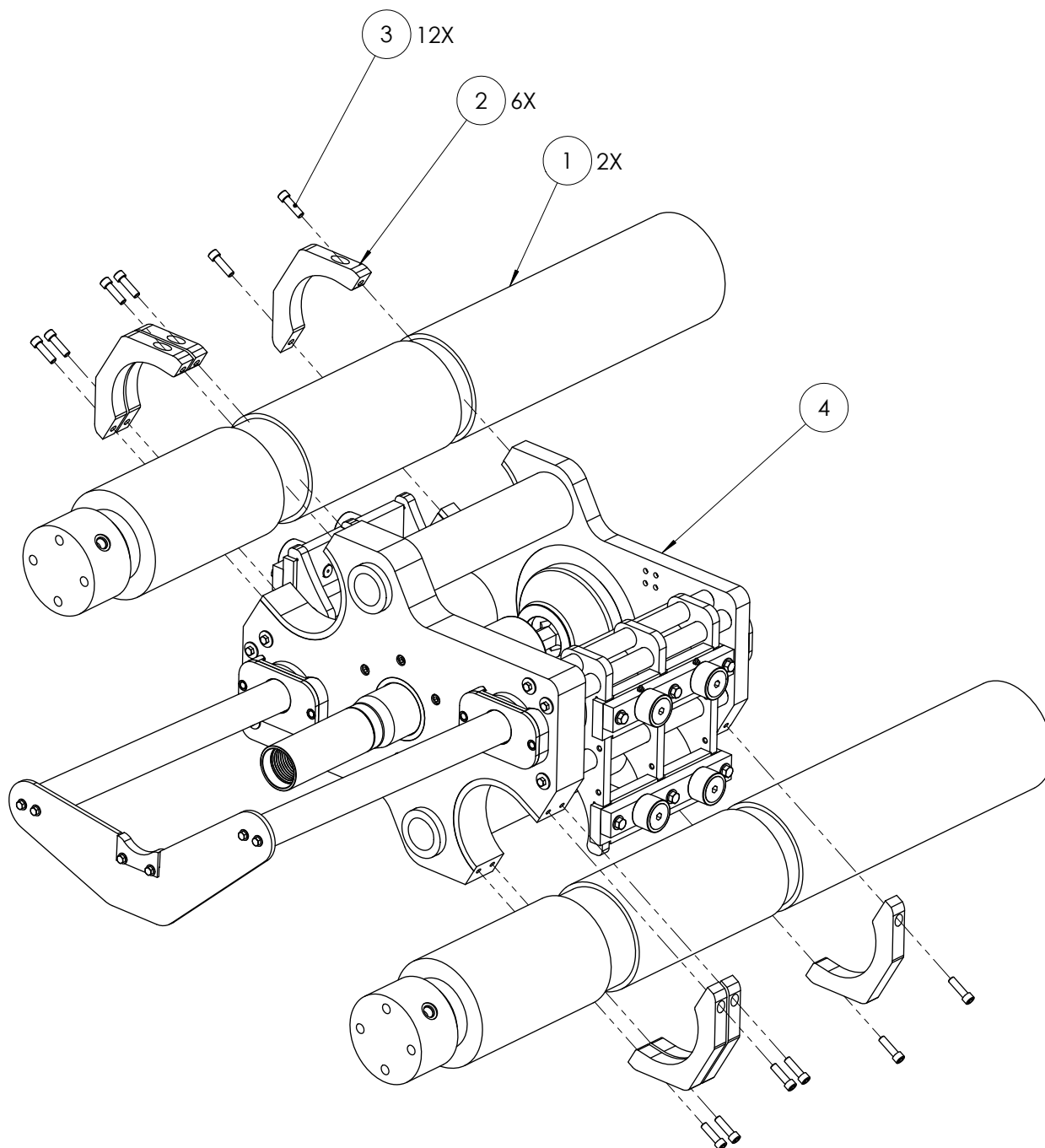
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FOOTNOTES:

NOTE:

Spindle—Hydraulics

MAIN CYLINDERS ASSEMBLY



Spindle—Hydraulics

MAIN CYLINDERS ASSEMBLY

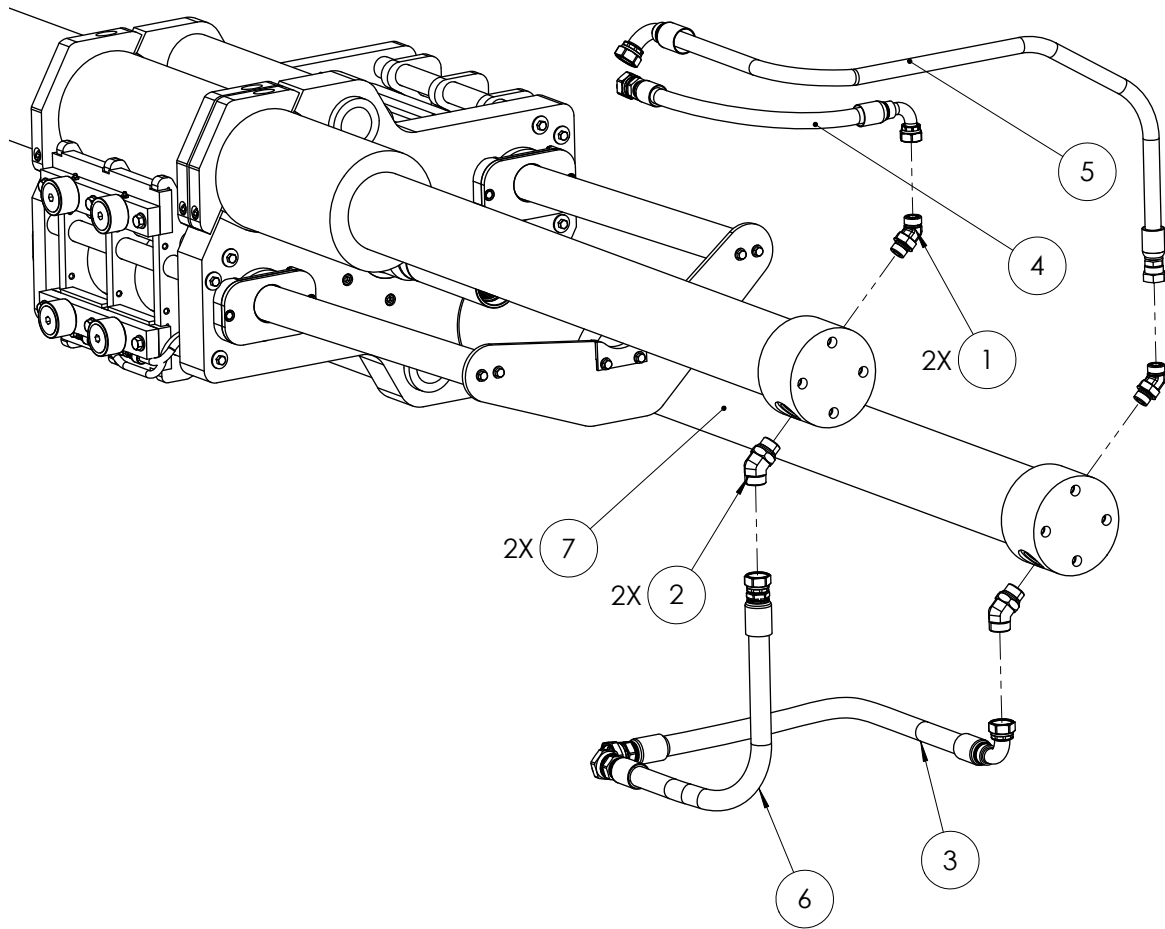
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-2002	HB175 PUSH PULL CYLINDERS	2	
2	931-4521	CLAMP, PUSH/PULL CYLINDER	6	
3	8SH28	SCREW, SHC 1/2-13 X 1-3/4"	12	
4	931-7060	WELDMENT, SPINDLE FRAME	1	

NOT SHOWN:

FOOTNOTES:

NOTE:

HOSE ASSEMBLY



Spindle—Hydraulics

HOSE ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	926-3612	ELBOW, 12MO X 12MB 45°	2	
2	926-3615	ELBOW, 16MO X 16MB 45°	2	
3	H-02203	HOSE, 20FO X 16FO90S X 35	1	
4	H-02201	HOSE, 16FO X 12FO90S X 25	1	
5	H-02202	HOSE, 12FO X 16FO90S X 57	1	
6	H-02200	HOSE, 16FO X 20FO X 26	1	
7	931-2002	CYLINDER, MAIN	2	

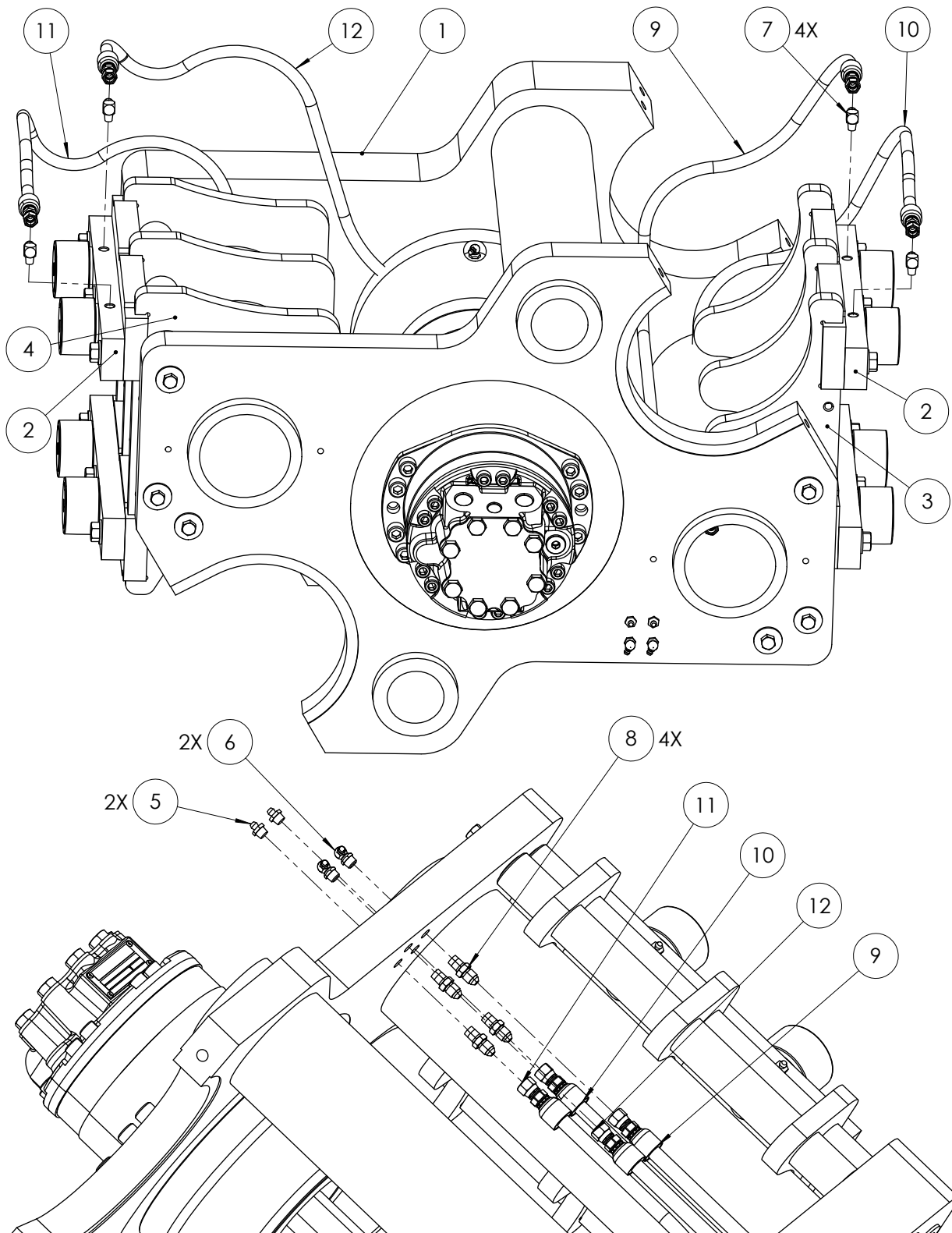
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FOOTNOTES:

NOTE:

Spindle—Hydraulics

GREASE LINE ASSEMBLY



Spindle—Hydraulics

GREASE LINE ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7060	WELDMENT, SPINDLE FRAME	1	
2	931-4605	PLATE, SPACER	4	
3	931-4608	WELDMENT, ROLLER SUPPORT - OP SIDE	1	
4	931-4609	WELDMENT, ROLLER SUPPORT, RIGHT	1	
5	912-1149	FITTING, GREASE	2	
6	912-1150	FITTING, GREASE, 1/8" NPT 90 DEG.	2	
7	926-9361	ELBOW, 04MJ X 02MP 90°	4	
8	926-3542	ADAPTER, 4MJ X 2MP	4	
9	H-02219	HOSE, GREASE LINE - LF	1	
10	H-02221	HOSE, GREASE LINE - LR	1	
11	H-02220	HOSE, GREASE LINE - RR	1	
12	H-02222	HOSE, GREASE LINE - RF	1	

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FOOTNOTES:

NOTE:

Notes:

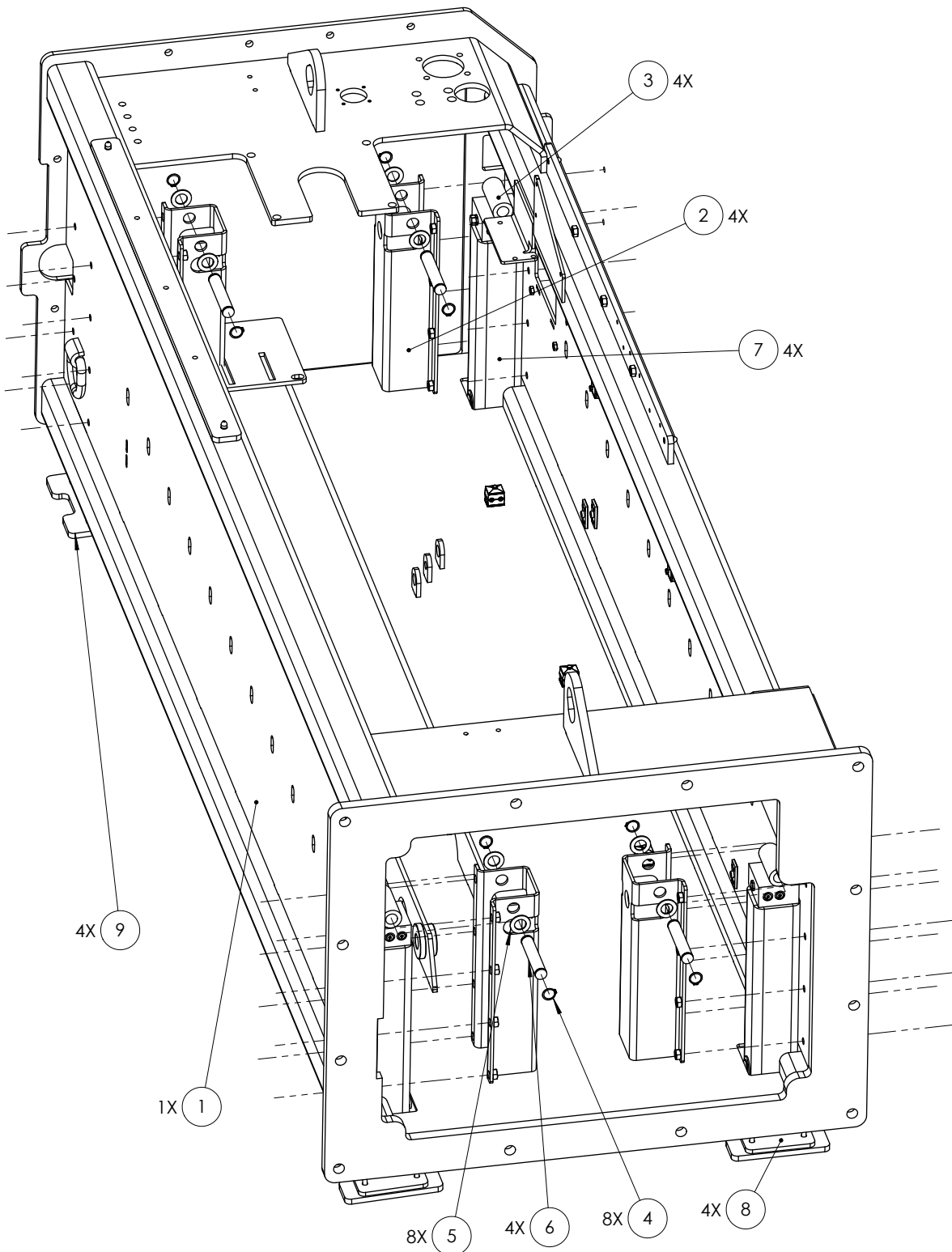
Stabilizers

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Stabilizers—Installation

VERTICAL STABILIZER INSTALLATION



Stabilizers—Installation

VERTICAL STABILIZER INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7101	STABILIZER SUPPORT WELDMENT	4	
3	923-0470	CYLINDER STABILIZER	4	
4	923-1749	RETAINING RING, 1" SHAFT"	8	
5	923-1747	WASHER, 1" MIL-SPEC"	8	
6	923-0318	SKI PIN, 1 X 5.5	4	
7	923-1714	LEG, SKI	4	
8	931-7099	FOOT, STABILIZER	4	
9	912-4238	LEVELING PAD	4	
10	08FW-SAE	WASHER, 1/2"	32	
11	08HH20	SCREW, 1/2-13 x 1.25 HHC - GR8	32	

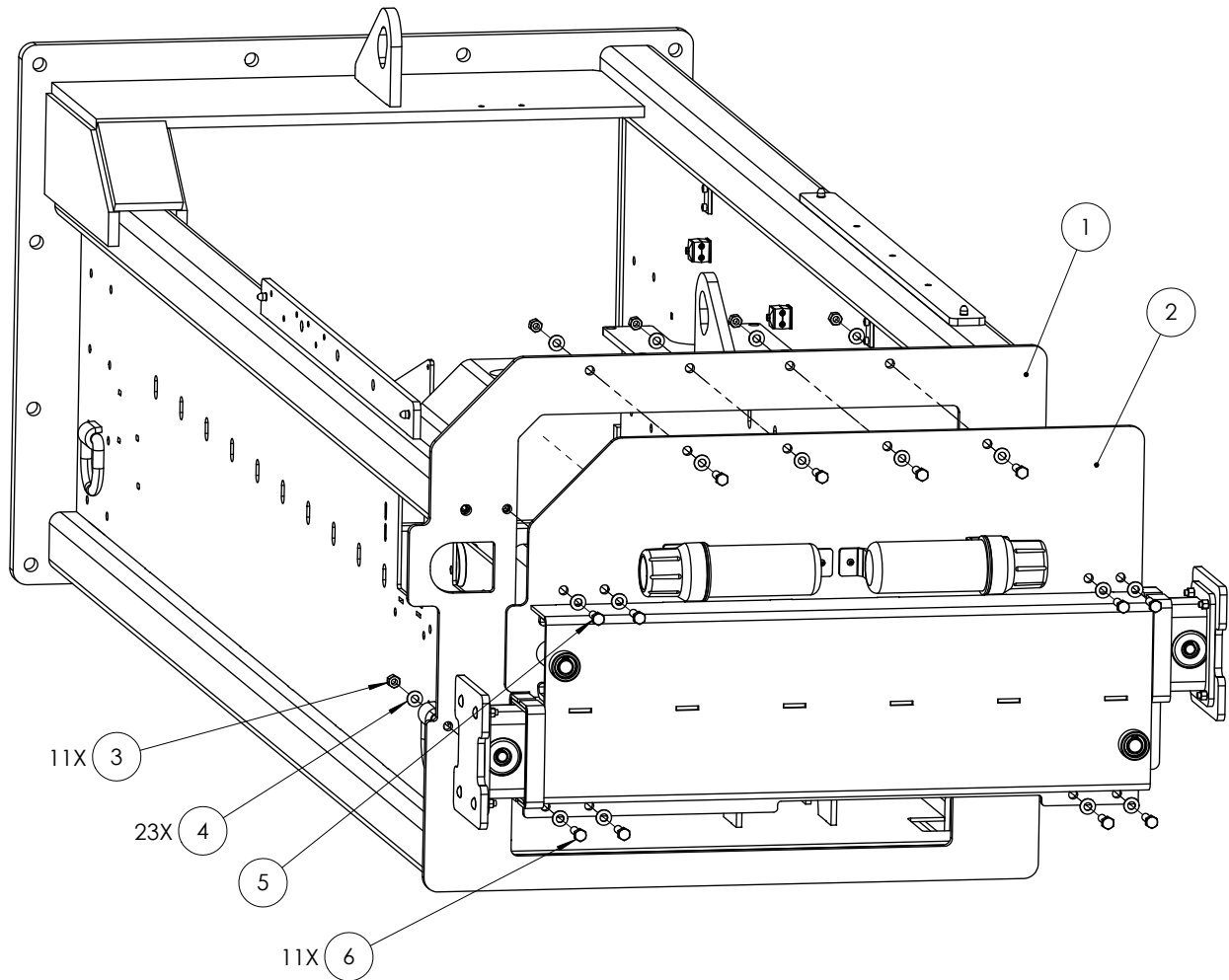
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FOOTNOTES:

NOTE:

Stabilizers—Installation

HORIZONTAL STABILIZER INSTALLATION



Stabilizers—Installation

HORIZONTAL STABILIZER INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7104	HORIZONTAL STABILIZER ASSEMBLY	1	
3	08TLN	NUT, 1/2-13 TOP LOCK	11	
4	08FW-SAE	WASHER, 1/2"	23	
5	08HH24	SCREW, 1/2-13 x 1.5 HHC - GR8	1	
6	08HH28	SCREW, 1/2-13 x 1.75 HHC - GR8	11	

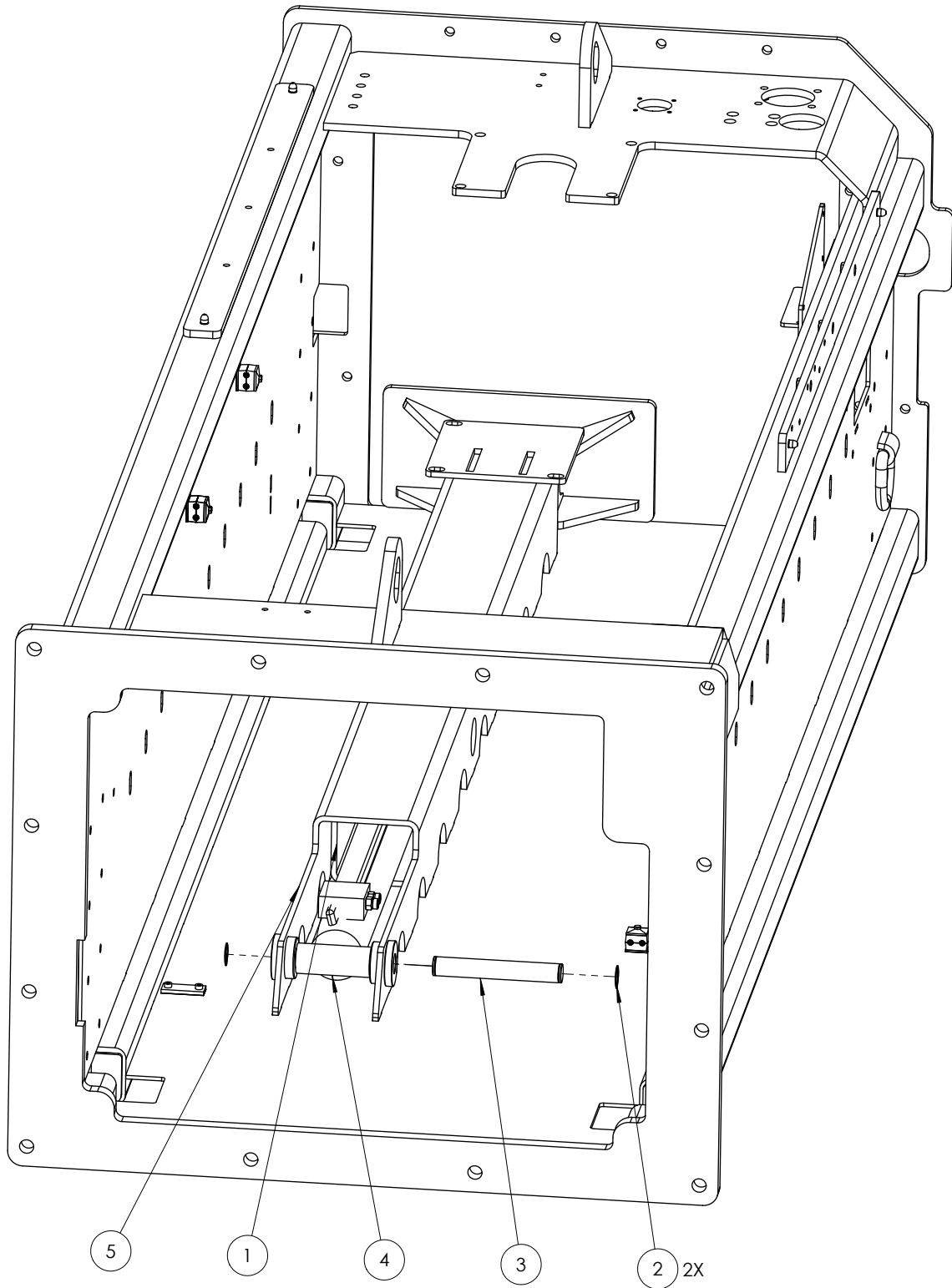
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FOOTNOTES:

NOTE:

Stabilizers—Installation

REAR OUTRIGGER STABILIZER INSTALLATION



Stabilizers—Installation

REAR OUTRIGGER STABILIZER INSTALLATION

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7100	OUTRIGGER	1	
2	930-5588	RETAINING RING, EXT, 1.25"	2	
3	931-7109	PIN, 1.25 X 8.5	1	
4	931-7107	REAR OUTRIGGER CYLINDER - 36IN	1	
5	931-7061	WELDMENT, HULL (RED)	1	

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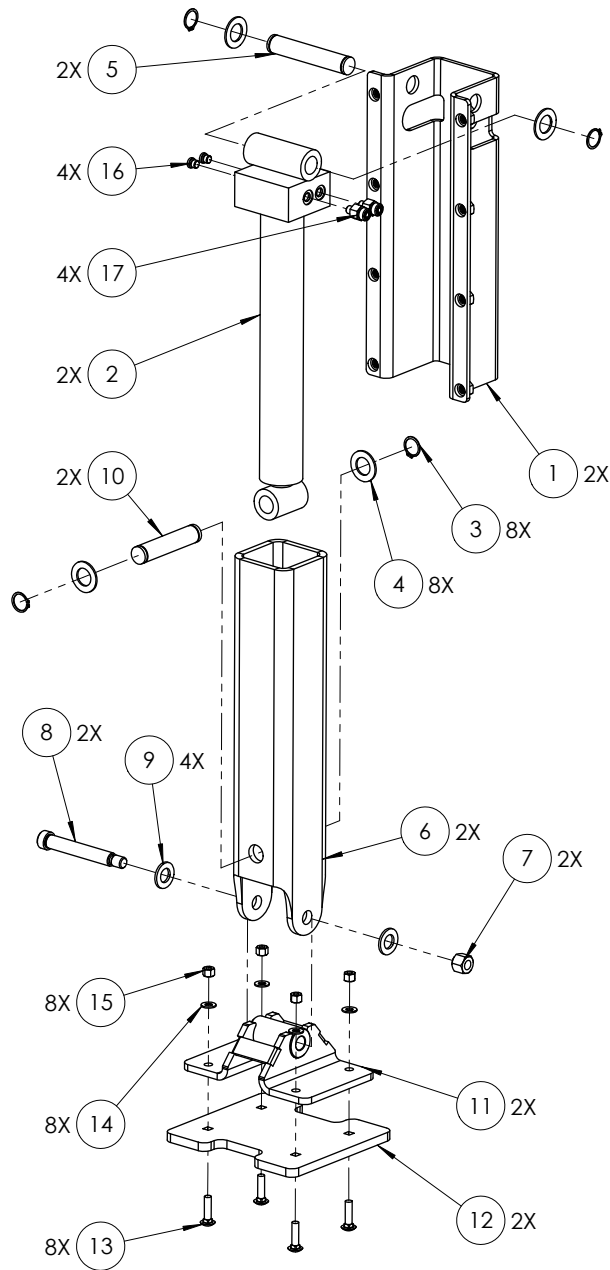
FOOTNOTES:

NOTE:

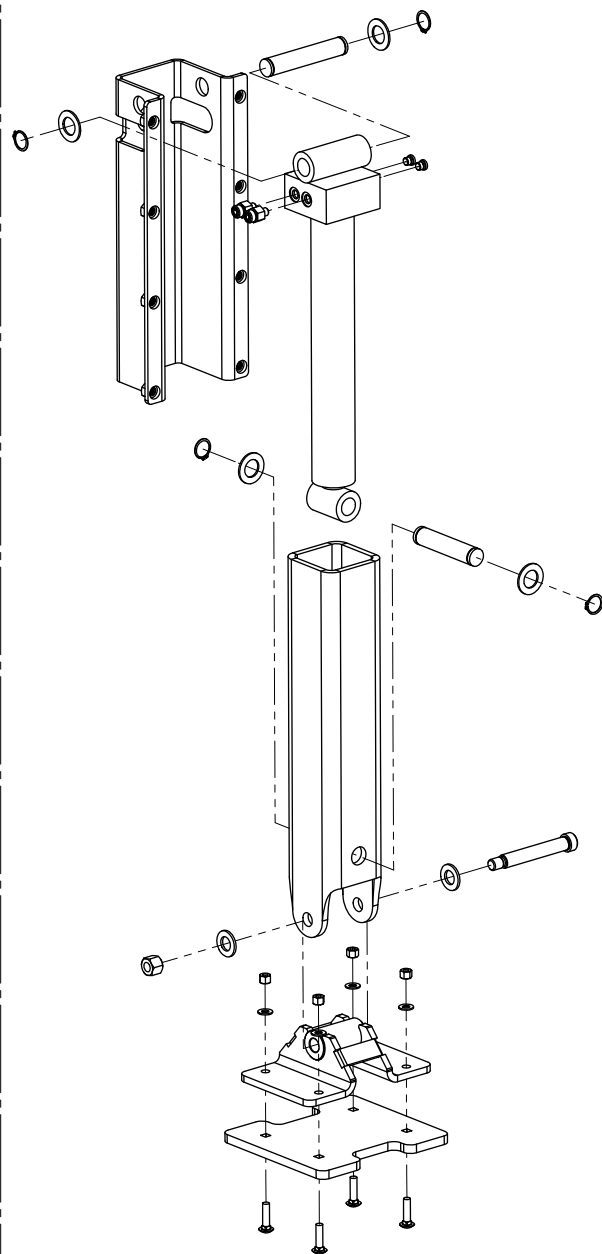
Stabilizers—Mechanical

FRONT VERTICAL STABILIZER ASSEMBLIES

FRONT LEFT



FRONT RIGHT



Stabilizers—Mechanical

FRONT VERTICAL STABILIZER ASSEMBLIES

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7101	STABILIZER SUPPORT WELDMENT	2	
2	923-0470	CYLINDER STABILIZER	2	
3	923-1749	RETAINING RING, 1" SHAFT"	8	
4	923-1747	WASHER, 1" MIL-SPEC"	8	
5	923-0318	SKI PIN, 1 X 5.5	2	
6	923-1714	LEG, SKI	2	
7	10TLN	NUT, 5/8-11 TOP LOCK	2	
8	12SS72	SCREW, 3/4 x 4.5 SHOULDER	2	
9	12FW-SAE	WASHER, 3/4"	4	
10	923-0309	SKI PIN, 1 X 4.75	2	
11	931-7099	FOOT, STABILIZER	2	
12	912-4238	LEVELING PAD	2	
13	06CB24	BOLT, 3/8-16 x 1.5 CARRIAGE	8	
14	06FW-SAE	WASHER, 3/8"	8	
15	06TLN	NUT, 3/8-16 TOP LOCK	8	
16	926-5500	PLUG, 4MB HOLLOW HEX	4	
17	926-2227	ADAPTER, 6MO X 4MB	4	

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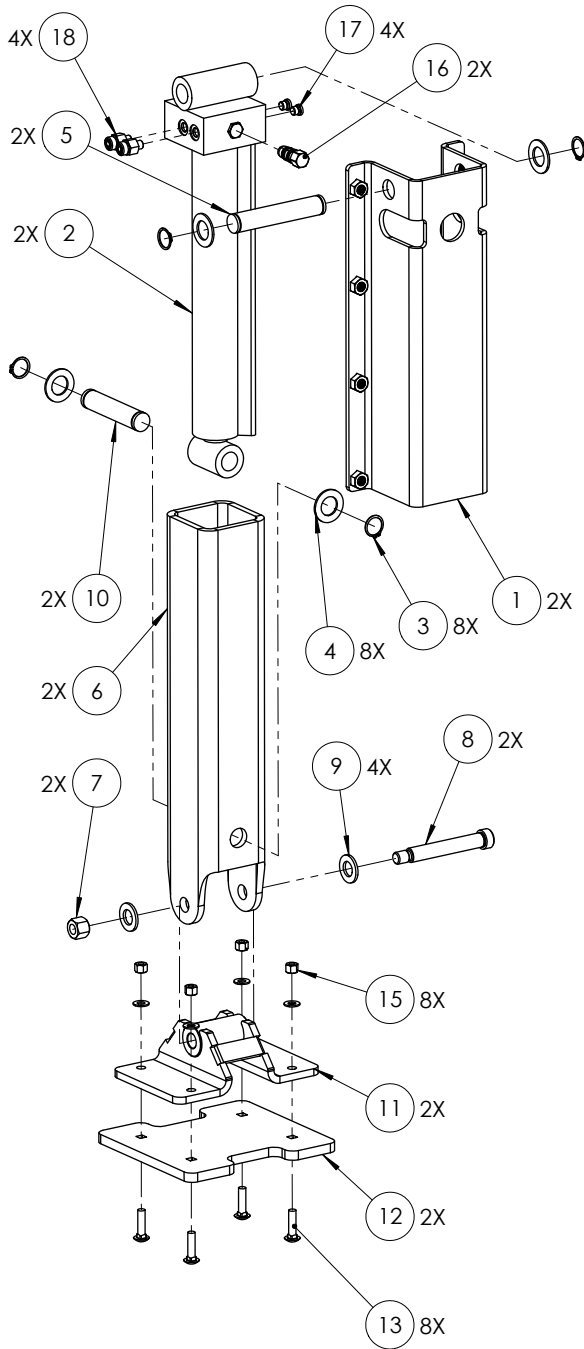
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NOTE:

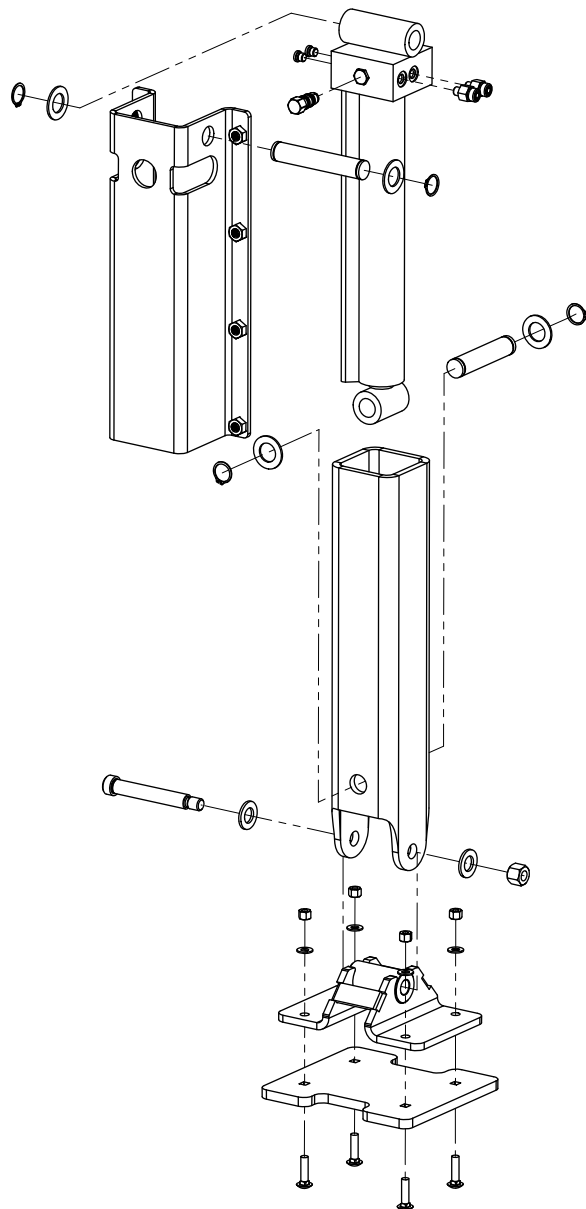
Stabilizers—Mechanical

REAR VERTICAL STABILIZER ASSEMBLIES

REAR LEFT



REAR RIGHT



Stabilizers—Mechanical

REAR VERTICAL STABILIZER ASSEMBLIES

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7101	STABILIZER SUPPORT WELDMENT	2	
2	923-0470	CYLINDER STABILIZER	2	
3	923-1749	RETAINING RING, 1" SHAFT"	8	
4	923-1747	WASHER, 1" MIL-SPEC"	8	
5	923-0318	SKI PIN, 1 X 5.5	2	
6	923-1714	LEG, SKI	2	
7	10TLN	NUT, 5/8-11 TOP LOCK	2	
8	12SS72	SCREW, 3/4 x 4.5 SHOULDER	2	
9	12FW-SAE	WASHER, 3/4"	4	
10	923-0309	SKI PIN, 1 X 4.75	2	
11	931-7099	FOOT, STABILIZER	2	
12	912-4238	LEVELING PAD	2	
13	06CB24	BOLT, 3/8-16 x 1.5 CARRIAGE	8	
14	06FW-SAE	WASHER, 3/8"	8	
15	06TLN	NUT, 3/8-16 TOP LOCK	8	
16	931-7174	CAVITY PLUG, T-163A	2	
17	926-5500	PLUG, 4MB HOLLOW HEX	4	
18	926-2227	ADAPTER, 6MO X 4MB	4	

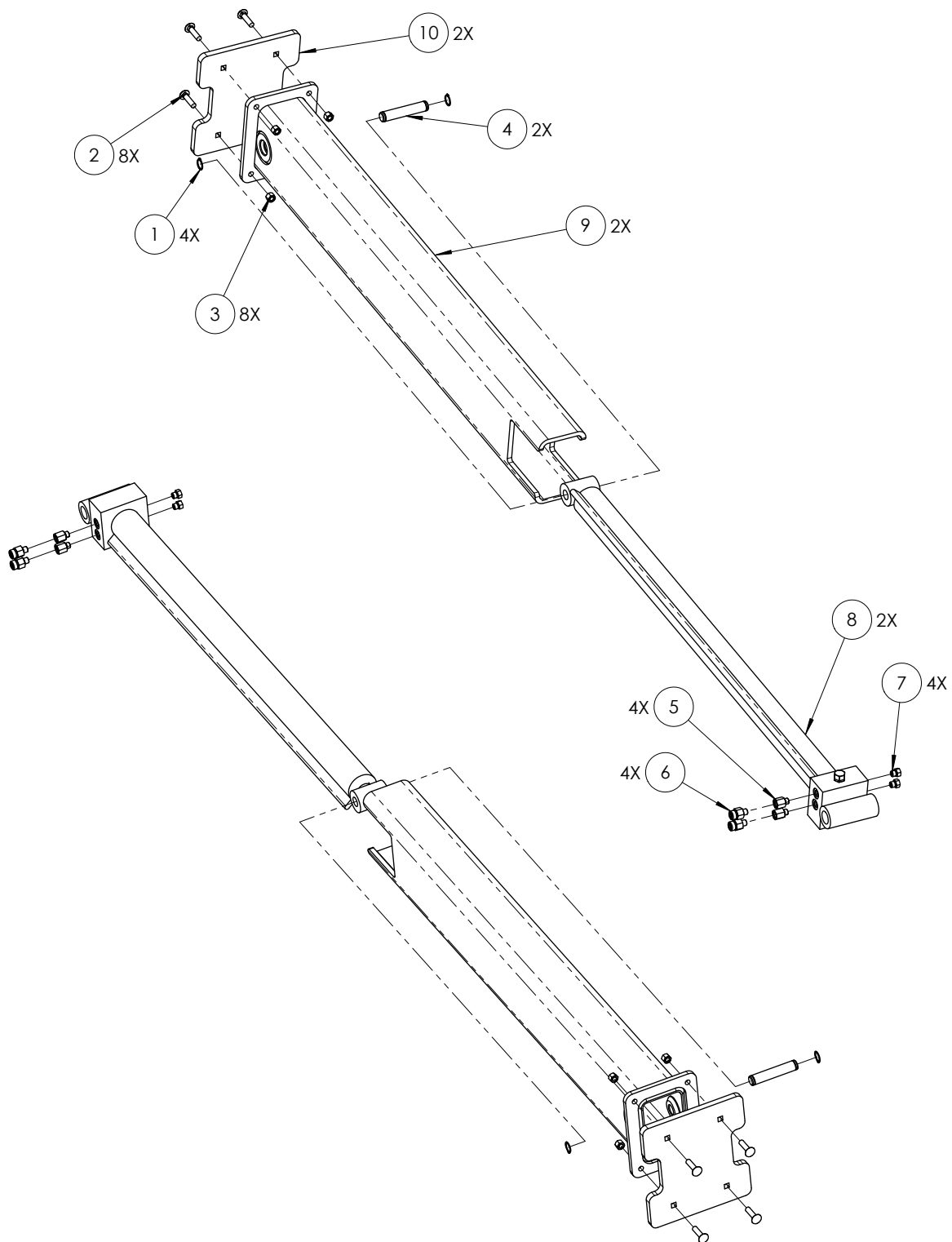
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FOOTNOTES:

NOTE:

Stabilizers—Mechanical

HORIZONTAL STABILIZER LEG ASSEMBLIES—2X



Stabilizers—Mechanical

HORIZONTAL STABILIZER LEG ASSEMBLIES-2X

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-5540	RETAINING RING, ϕ .75 - SHAFT	4	
2	06CB24	BOLT, 3/8-16 x 1.5 CARRIAGE	8	
3	06TLN	NUT, 3/8-16 TOP LOCK	8	
4	931-5539	PIN, .75 X 3.875	2	
5	926-3800	ADAPTER, 4MB X 4FB	4	
6	926-2227	ADAPTER, 6MO X 4MB	4	
7	926-4100	PLUG, 4MB HEX HEAD	4	
8	931-7105	HORIZONTAL STABILIZER CYLINDER - 36IN	2	
9	931-5538	LEG, SIDE STABILIZER	2	
10	912-4238	LEVELING PAD	2	

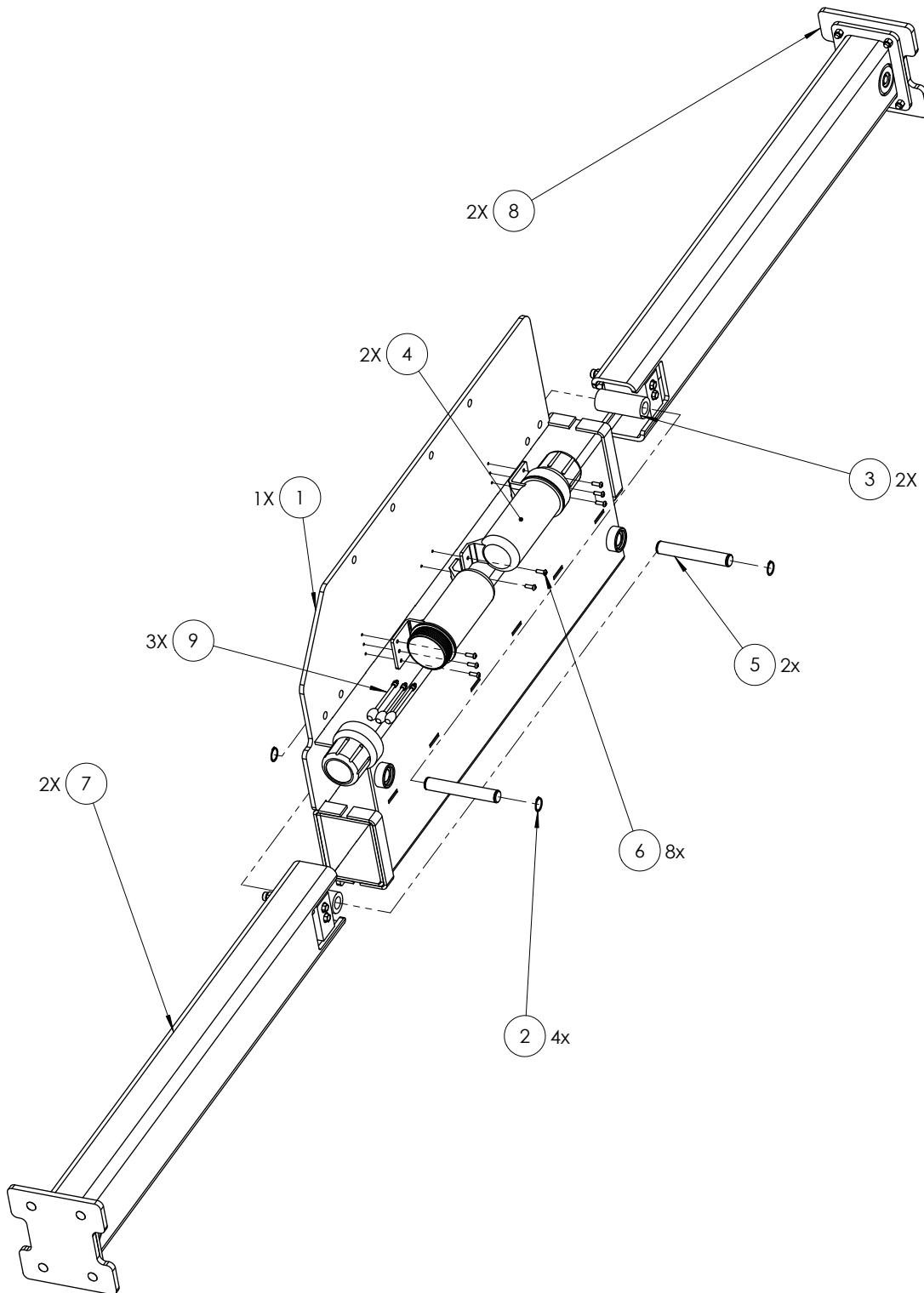
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FOOTNOTES:

NOTE:

Stabilizers—Mechanical

HORIZONTAL STABILIZER ASSEMBLY



Stabilizers—Mechanical

HORIZONTAL STABILIZER ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-5543	WELDMENT, HORIZONTAL STABILIZER	1	
2	923-1749	RETAINING RING, 1" SHAFT"	4	
3	931-7105	HORIZONTAL STABILIZER CYLINDER - 36IN	2	
4	362-2611	MANUAL COMPARTMENT	2	
5	931-5544	PIN, ø1.0 X 6.529	2	
6	04BH12	SCREW, 1/4-20x0.75 BHSC	8	
7	931-5538	LEG, SIDE STABILIZER	2	
8	912-4238	LEVELING PAD	2	
9	923-0483	HANDLE, SIZE 2	3	

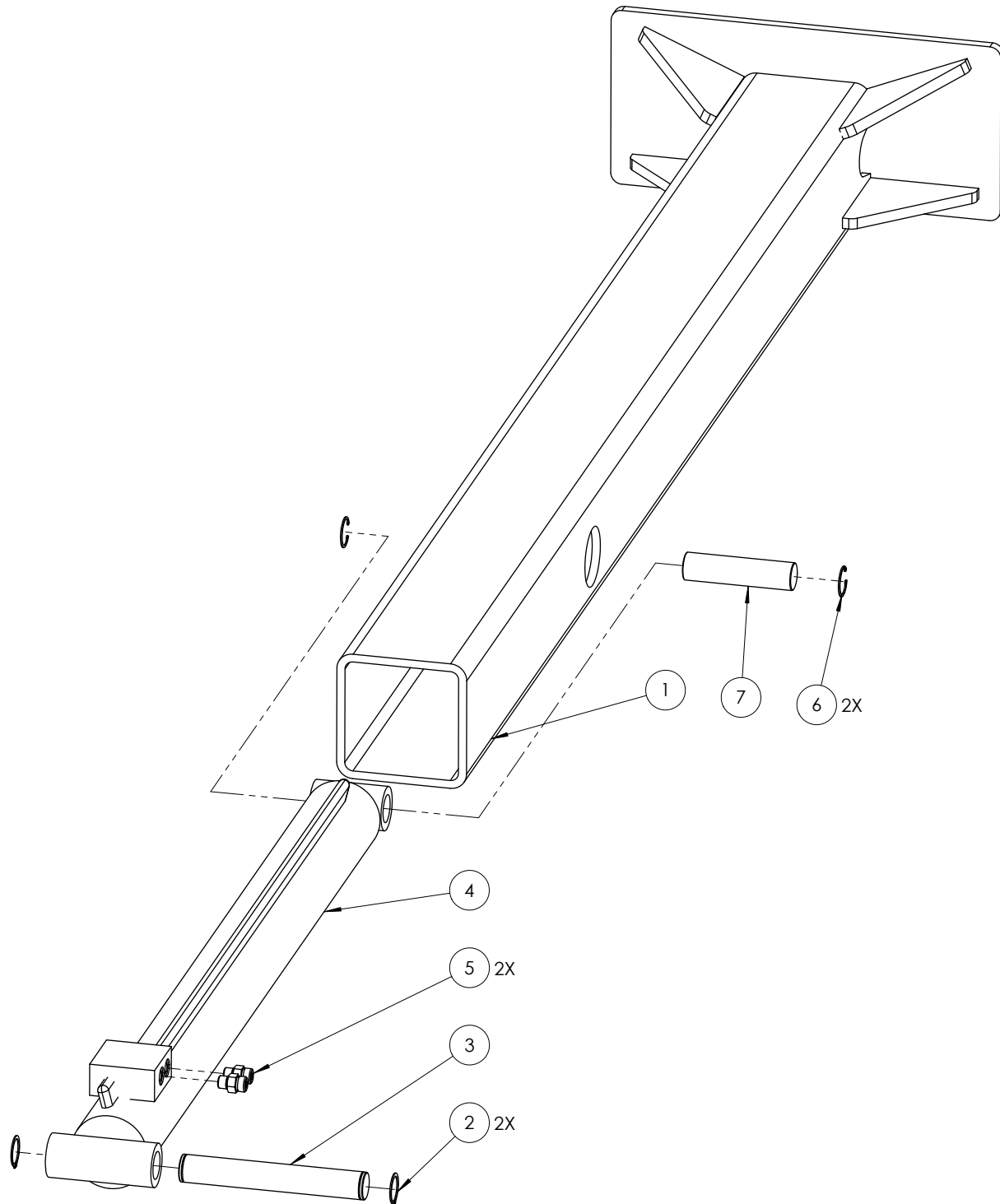
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FOOTNOTES:

NOTE:

Stabilizers—Mechanical

REAR OUTRIGGER ASSEMBLY



Stabilizers—Mechanical

REAR OUTRIGGER ASSEMBLY

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7100	OUTRIGGER	1	
2	930-5588	RETAINING RING, EXT, 1.25"	2	
3	931-7109	PIN, 1.25 X 8.5	1	
4	931-7107	REAR OUTRIGGER CYLINDER - 36IN	1	
5	926-2203	ADAPTER, 6MO X 6 MB	2	
6	931-1093	RETAINING RING, Ø1.25 BORE	2	
7	931-1033	PIN, 1.25 X 5	1	

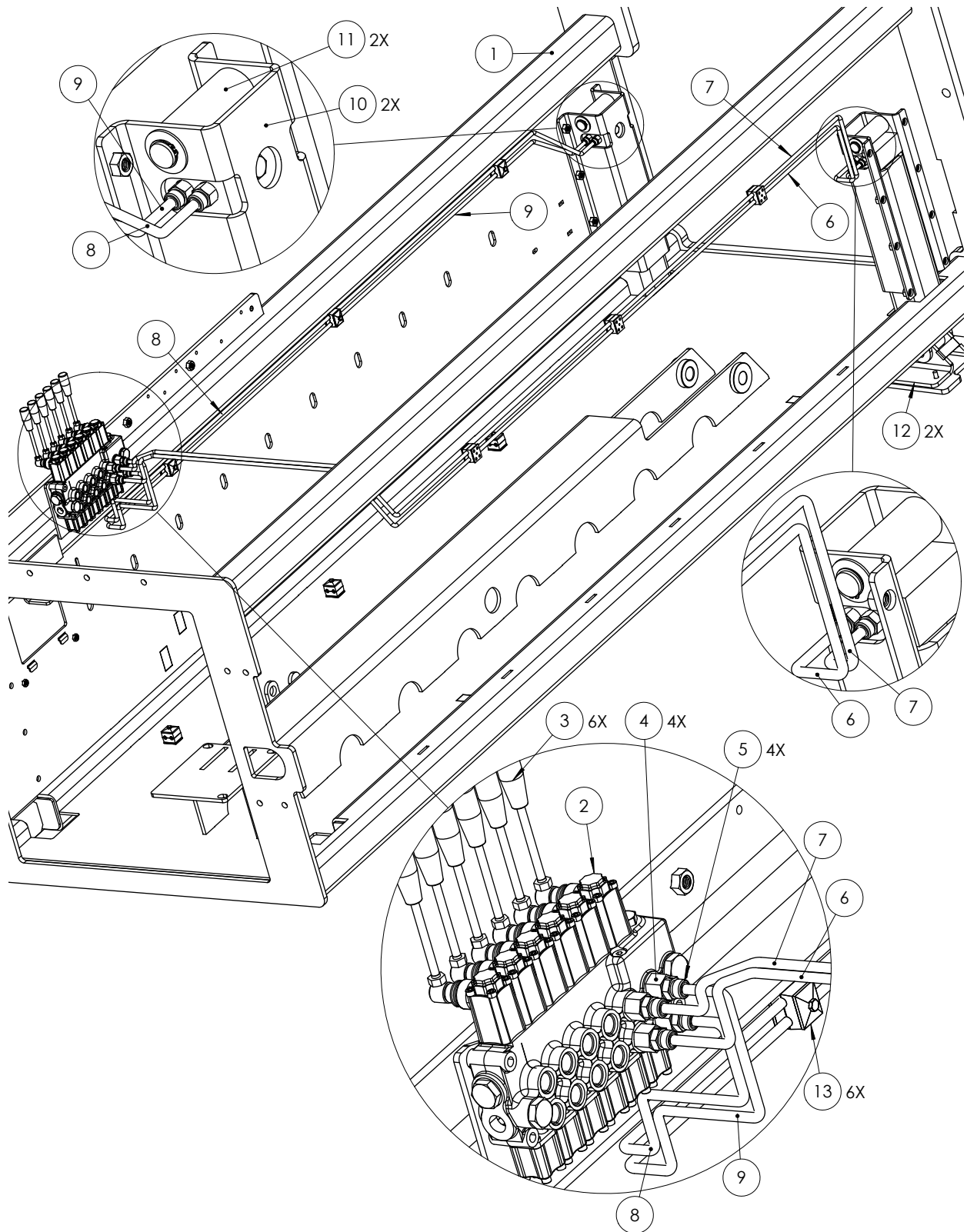
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FOOTNOTES:

NOTE:

Stabilizers—Hydraulics

FRONT VERTICAL STABILIZER HYDRAULICS



Stabilizers—Hydraulics

FRONT VERTICAL STABILIZER HYDRAULICS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7111	STABILIZER VALVE	1	
3	913-7436	LEVER M8 X 120MM	6	
4	926-3806	ADAPTER, 8MB X 6FB	4	
5	931-7220	VALVE, CHECK INLINE, 1906K .030	4	
6	931-2059	TUBE 40	1	
7	931-2060	TUBE 41	1	
8	931-2049	TUBE 30	1	
9	931-2050	TUBE 31	1	
10	931-7101	STABILIZER SUPPORT WELDMENT	2	
11	923-0470	CYLINDER STABILIZER	2	
12	931-7099	FOOT, STABILIZER	2	
13	931-7005	CLAMP, ø3/8 X 2	6	

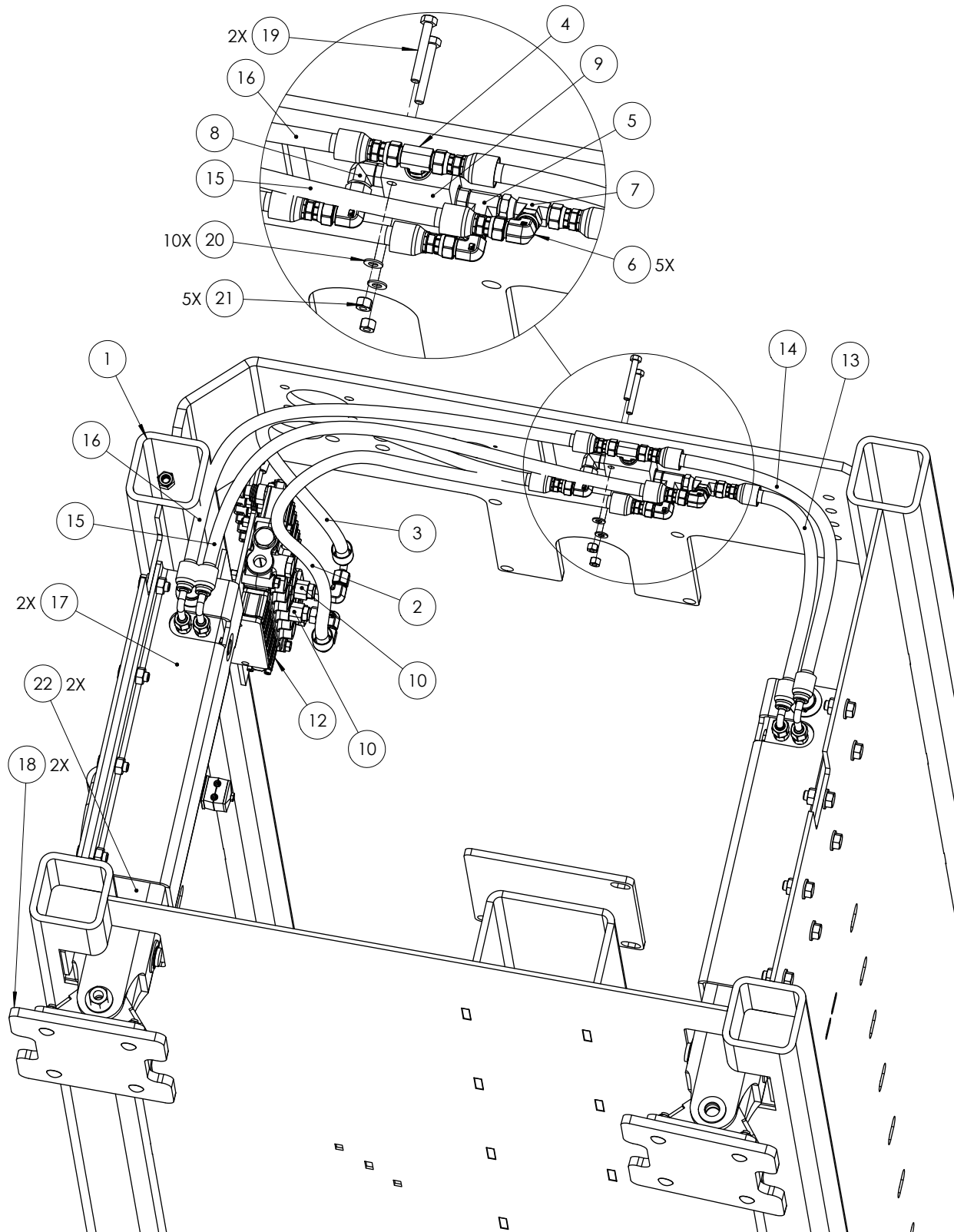
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FOOTNOTES:

NOTE:

Stabilizers—Hydraulics

REAR VERTICAL STABILIZER HYDRAULICS



Stabilizers—Hydraulics

REAR VERTICAL STABILIZER HYDRAULICS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	H-02227	HOSE, 6FO-6FO90 X 45	1	
3	H-02230	HOSE, 6FO-6FO90 X 41	1	
4	926-5202	TEE, 6MO X 6MO X 6MB BRANCH	1	
5	926-3902	TEE, 6MO X 6MB X 6MO RUN	1	
6	926-5701	ELBOW, 6MO X 6FO 90°	5	
7	926-3480	TEE, 6MO X 6FO X 6MO RUN	1	
8	926-2304	ELBOW, 6MO X 6MB 90°	1	
9	931-7218	PO CHECK VALVE, VERT OUTRIGGERS, 175XT	1	
10	926-3806	ADAPTER, 8MB X 6FB	2	
11	931-7221	VALVE, CHECK INLINE, 1906K .045	2	
12	931-7111	STABILIZER VALVE	1	
13	H-02229	HOSE, 6FO-6FO90 X 17	1	
14	H-02225	HOSE, 6FO-6FO90L X 30	1	
15	H-02228	HOSE, 6FO-6FO90L X 30	1	
16	H-02226	HOSE, 6FO-6FO90L X 36	1	
17	931-7101	STABILIZER SUPPORT WELDMENT	2	
18	912-4238	LEVELING PAD	2	
19	05HH36	SCREW, 5/16-18 x 2.25 HHC - GR8	2	
20	05FW-SAE	WASHER, 5/16"	4	
21	05TLN	NUT, 5/16-18 TOP LOCK	2	
22	923-1714	LEG, SKI	2	

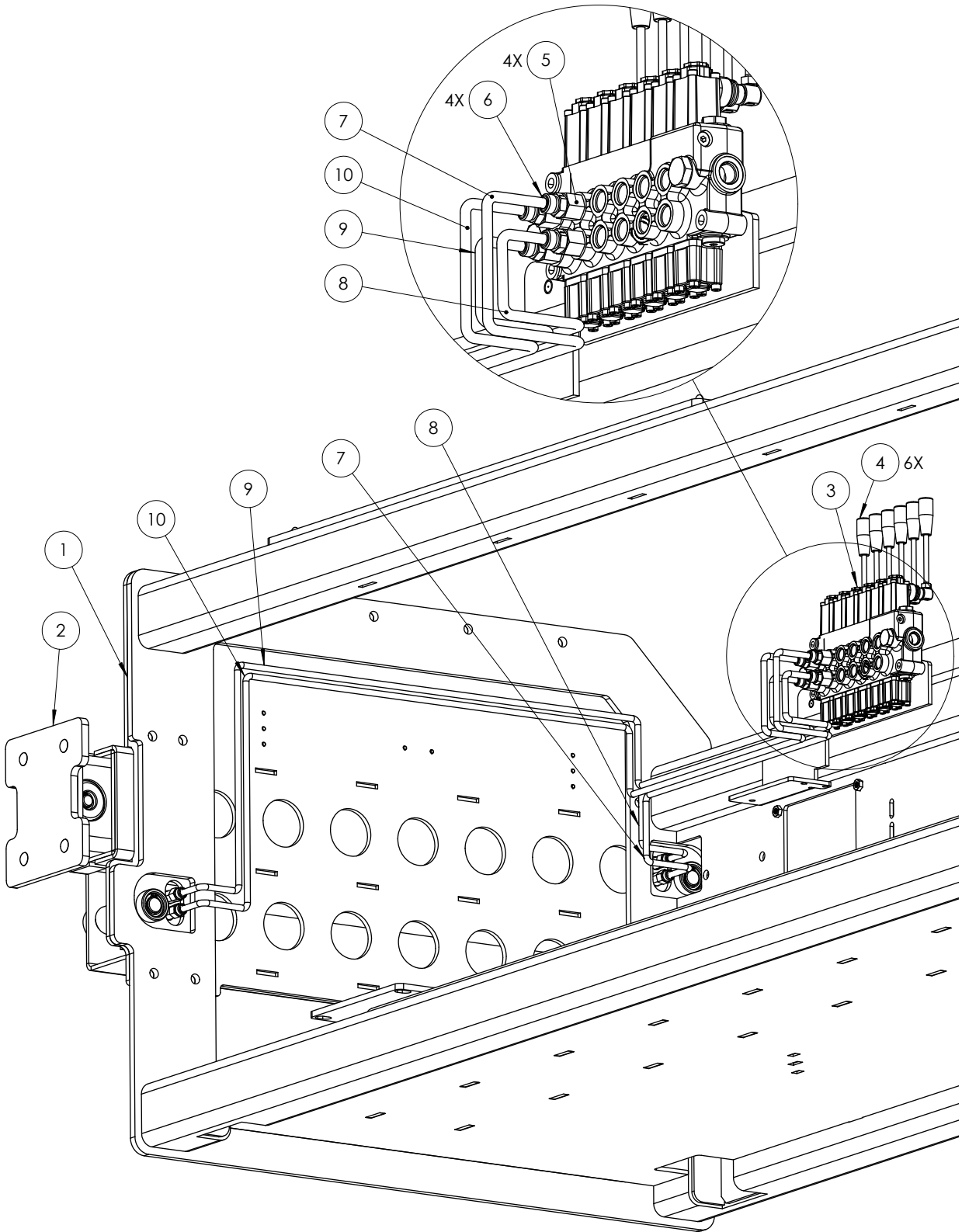
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FOOTNOTES:

NOTE:

Stabilizers—Hydraulics

HORIZONTAL STABILIZER HYDRAULICS



Stabilizers—Hydraulics

HORIZONTAL STABILIZER HYDRAULICS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7104	HORIZONTAL STABILIZER ASSEMBLY	1	
3	931-7111	STABILIZER VALVE	1	
4	913-7436	LEVER M8 X 120MM	6	
5	926-3806	ADAPTER, 8MB X 6FB	4	
6	931-7220	VALVE, CHECK INLINE, 1906K .030	4	
7	931-2043	TUBE 24	1	
8	931-2044	TUBE 25	1	
9	931-2045	TUBE 26	1	
10	931-2046	TUBE 27	1	

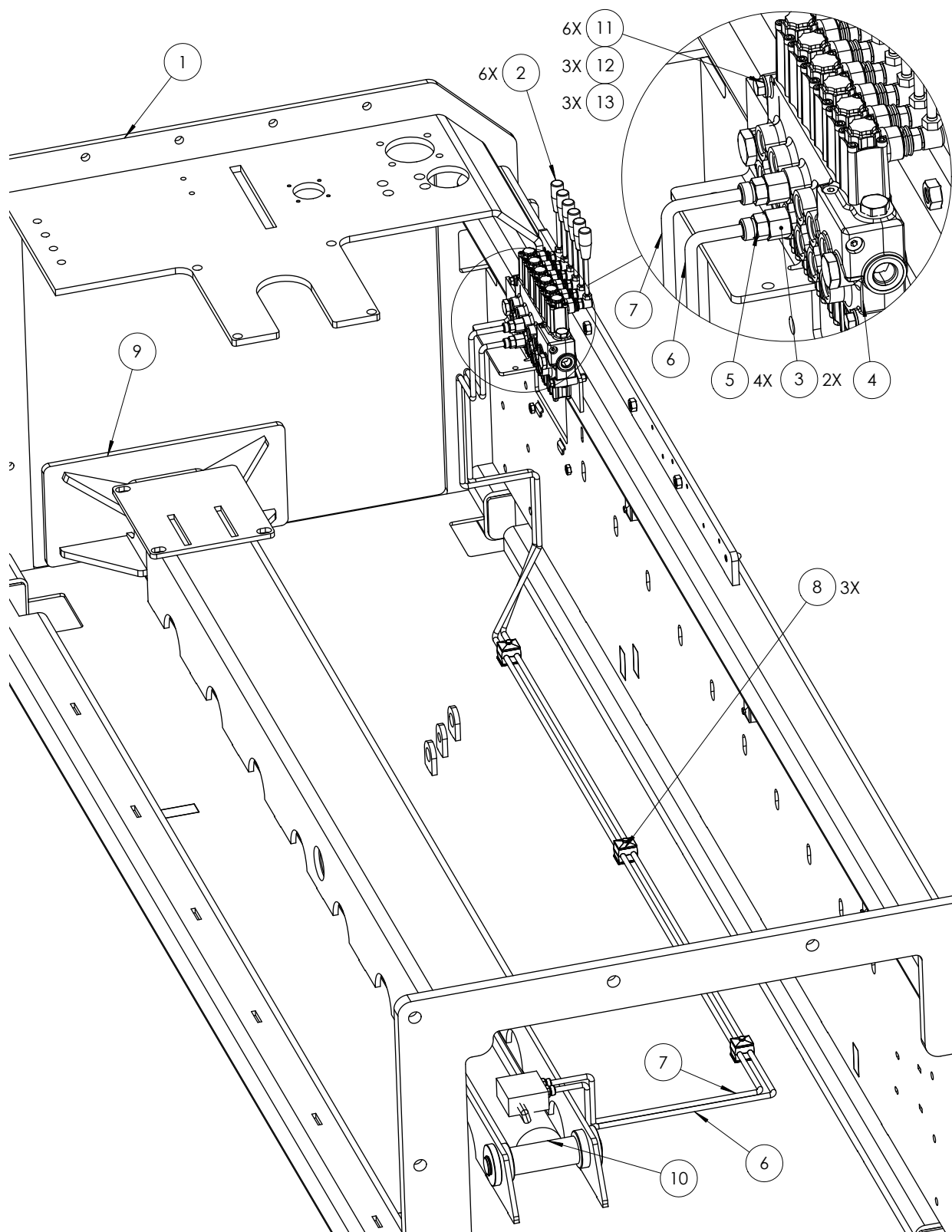
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FOOTNOTES:

NOTE:

Stabilizers—Hydraulics

REAR OUTRIGGER STABILIZER HYDRAULICS



Stabilizers—Hydraulics

REAR OUTRIGGER STABILIZER HYDRAULICS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	913-7436	LEVER M8 X 120MM	6	
3	926-3806	ADAPTER, 8MB X 6FB	2	
4	931-7111	STABILIZER VALVE	1	
5	926-2203	ADAPTER, 6MO X 6 MB	4	
6	931-2062	TUBE 43	1	
7	931-2063	TUBE 44	1	
8	931-7005	CLAMP, ø3/8 X 2	3	
9	931-7100	OUTRIGGER	1	
10	931-7107	REAR OUTRIGGER CYLINDER - 36IN	1	
11	05FW-SAE	WASHER, 5/16"	6	
12	05HH40	SCREW, 5/16-18 x 2.5 HHC - GR8	3	
13	05TLN	NUT, 5/16-18 TOP LOCK	3	

NOT SHOWN:

FOOTNOTES:

NOTE:

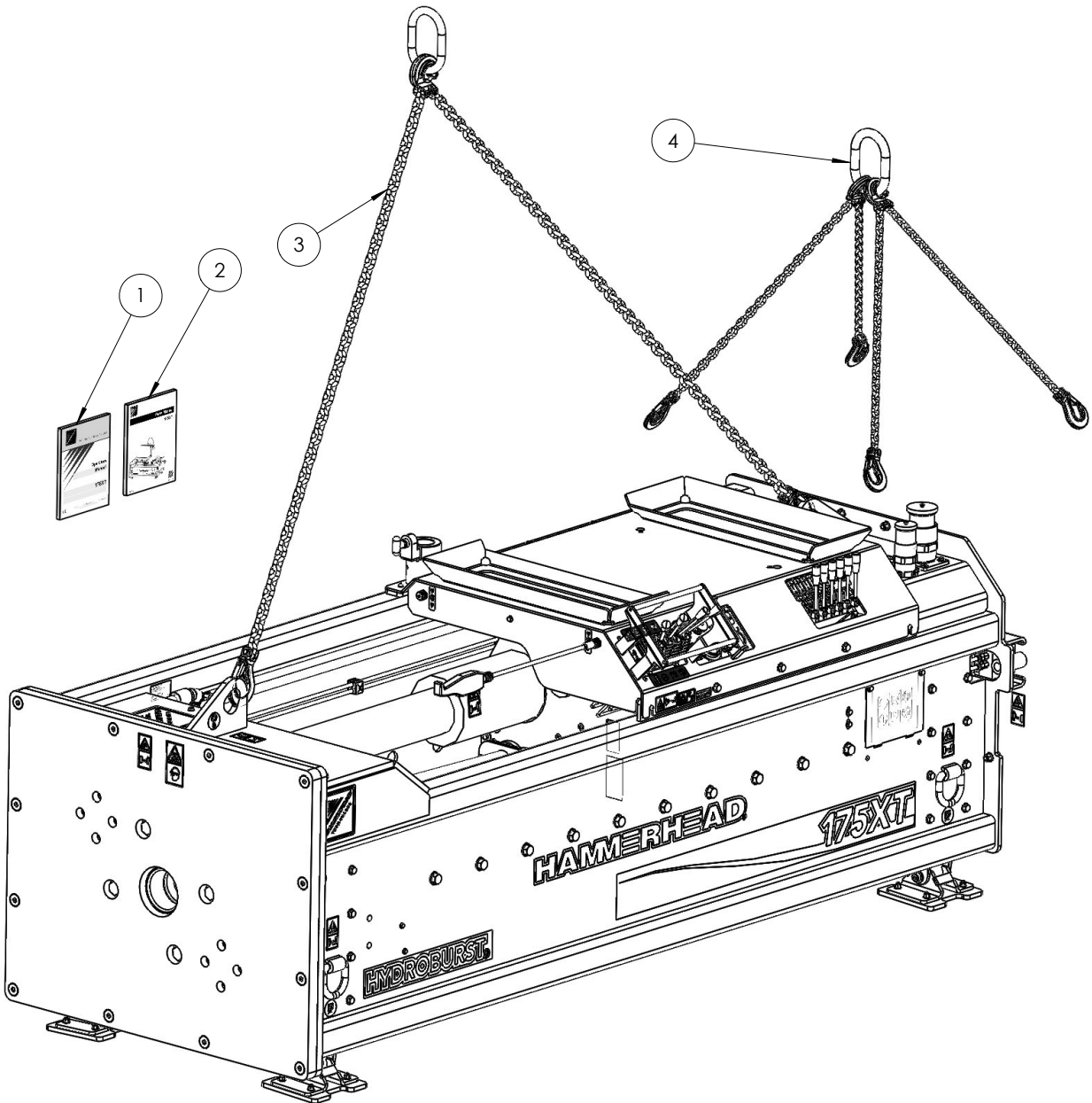
Notes:

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Miscellaneous Items



Miscellaneous Items

R-
EF
N-
O.

PART
NUMBER

DESCRIPTION

QTY

REMARKS

1	960-1138	OPERATOR'S MANUAL, 175XT	1	
2	960-1026	PARTS BOOK, 175XT	1	
3	913-9010	CHAIN SLING, 10mm DOS CE	1	
4	923-4075	CHAIN SLING, 8mm X 40" CE	1	

NOT SHOWN:

FOOTNOTES:

NOTE:

Notes:

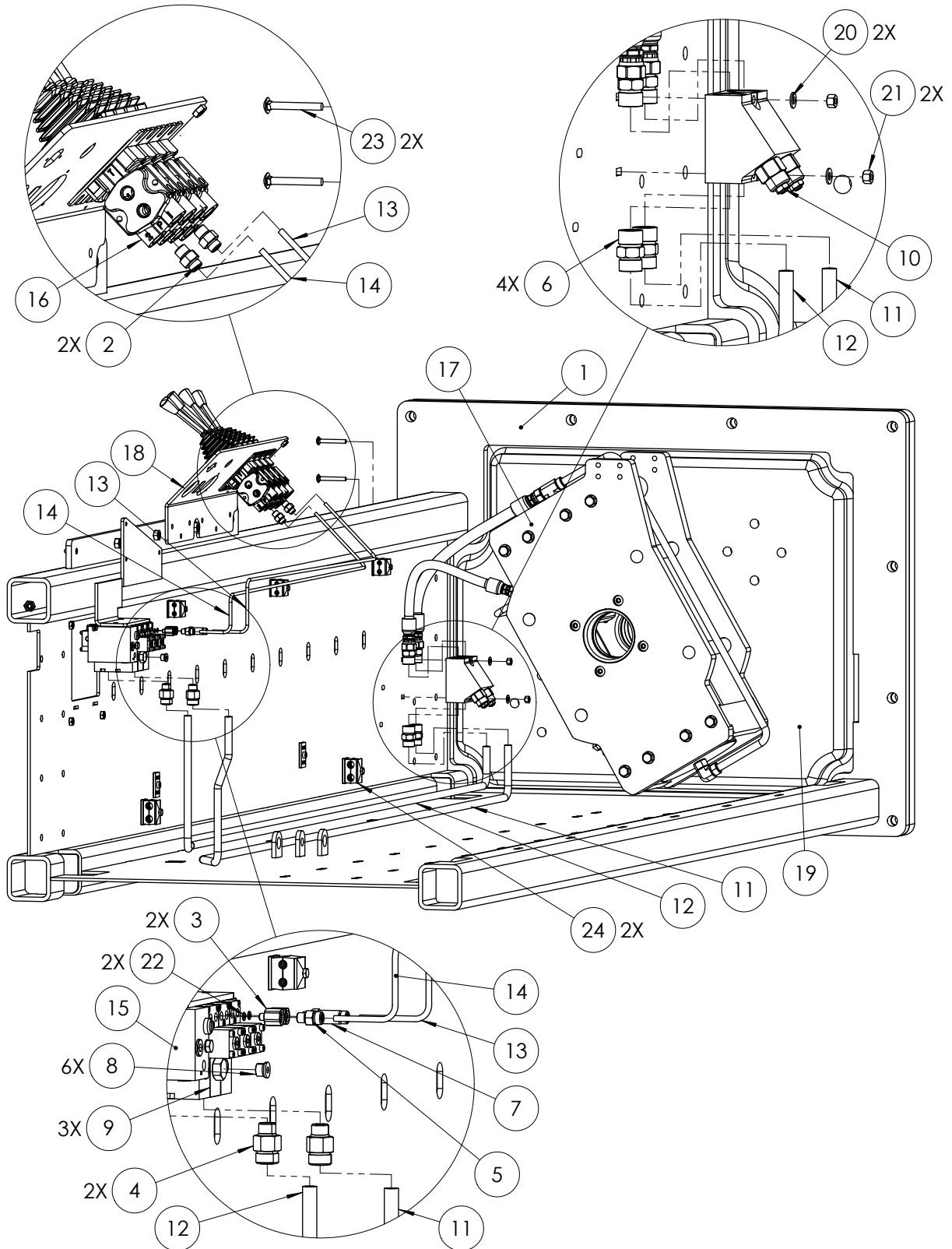
Machine Hydraulics_____

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Hydraulics-Bungee Vise

HYDRAULICS-BUNGEE VISE



Hydraulics-Bungee Vise

HYDRAULICS-BUNGEE VISE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	926-2201	ADAPTER, 4MO X 6MB	2	
3	931-7166	ADAPTER, 2MB X 4 FB	2	
4	926-2211	ADAPTER, 10MO X 08MB	2	
5	926-2200	ADAPTER, 4MO X 4MB	1	
6	926-2230	ADAPTER, 10MO x 12MB	4	
7	926-8700	ADAPTER, 4MO X 4MB LONG	1	
8	926-5501	PLUG, 6MB HOLLOW HEX	6	
9	931-7054	ANCILLARY BLOCK	3	
10	931-7227	CB VALVE, BUNGEE, HB175XT	1	
11	931-2029	TUBE 10	1	
12	931-2030	TUBE 11	1	
13	931-2053	TUBE 34	1	
14	931-2054	TUBE 35	1	
15	931-7112	MAIN VALVE, 175XT	1	
16	931-7114	VALVE, CONTROL 175XT	1	
17	931-7062	BUNGEE VISE ASSEMBLY	1	
18	931-7156	WELDMENT, CONTROL PANEL	1	
19	931-7057	FRONT PLATE	1	
20	05FW-SAE	WASHER, 5/16"	2	
21	05TLN	NUT, 5/16-18 TOP LOCK	2	
22	926-5900	O-RING, —2 SAE PORT	2	
23	05CB40	BOLT, 5/16-18 x 2.5 CARRIAGE	2	
24	931-7006	CLAMP, ø5/8 X 2	2	

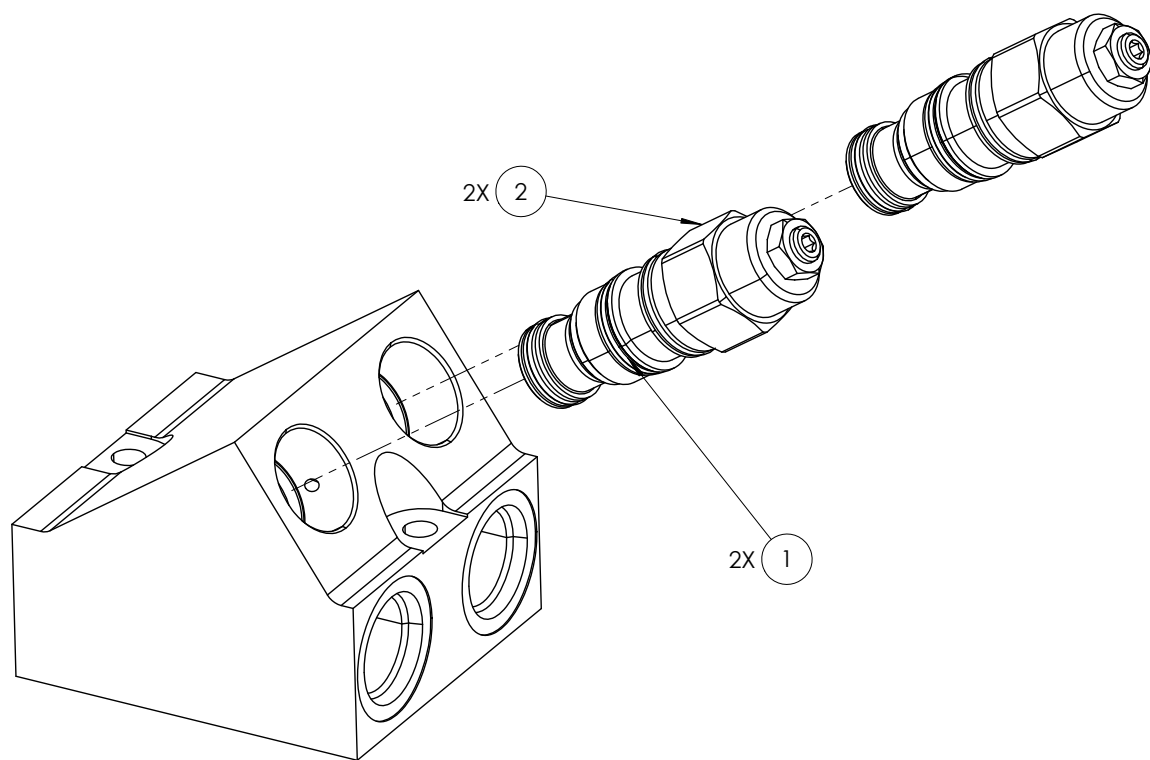
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FOOTNOTES:

NOTE:

Hydraulics-Bungee Vise

BUNGEE VISE CB VALVE (931-7227)



Hydraulics-Bungee Vise

BUNGEE VISE CB VALVE (931-7227)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7190	CARTRIDGE SEAL KIT, T-2A CAVITY	2	
2	931-7226	VALVE, COUNTERBALANCE, 4.5:1, CBEG	2	

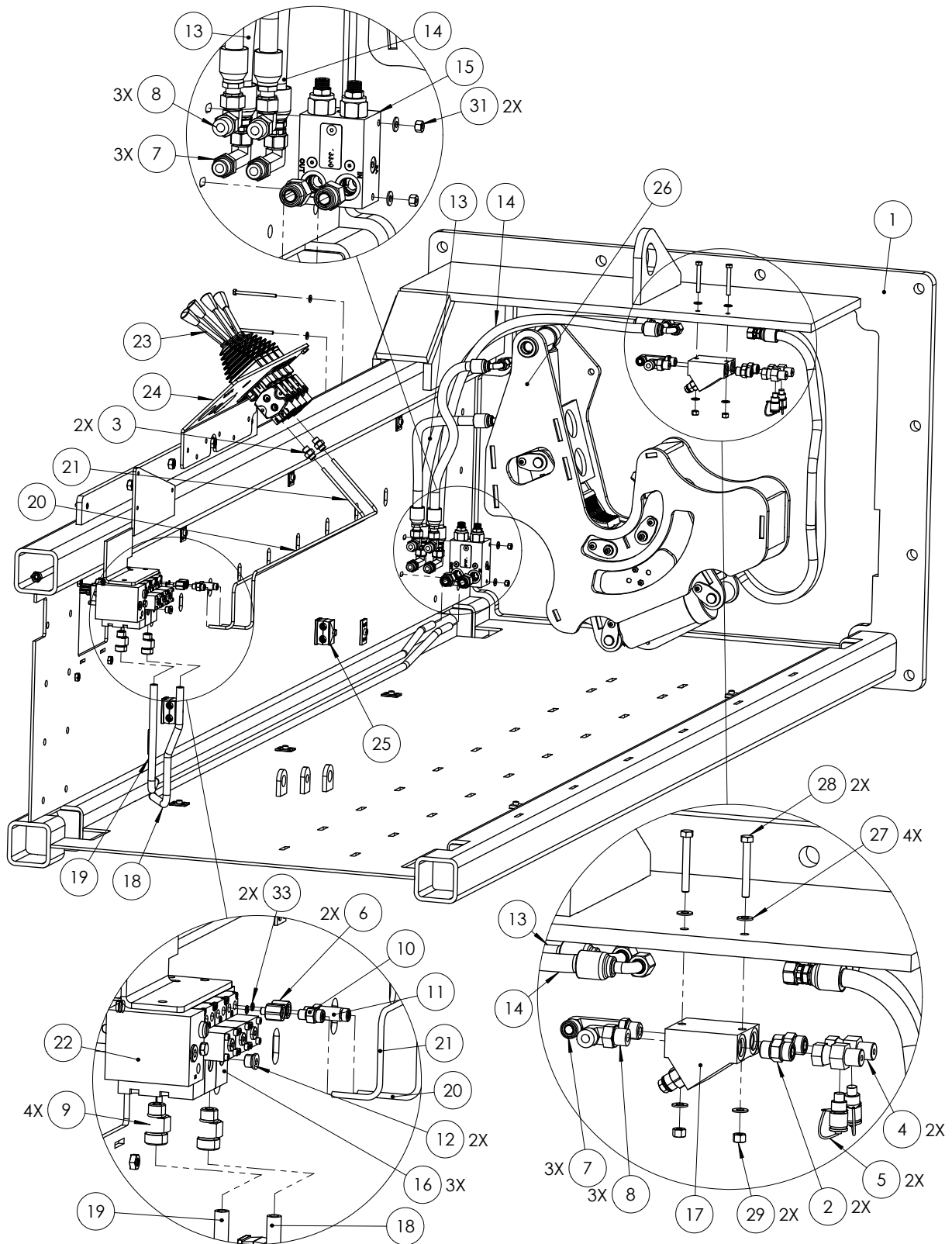
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FOOTNOTES:

NOTE:

Hydraulics-Breakout Vice

HYDRAULICS-BREAKOUT VISE



Hydraulics-Breakout Vise

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	926-2206	ADAPTER, 8MO X 8MB	2	
3	926-2201	ADAPTER, 4MO X 6MB	2	
4	926-6602	GAUGE PORT TEE, 8MO X 8FO X 4FB	2	
5	926-7504	TEST PORT COUPLING	2	
6	931-7166	ADAPTER, 2MB X 4 FB	2	
7	926-2162	ELBOW, 08MO X 08MB 90° LONG	3	
8	926-2307	ELBOW, 8MO X 8MB 90°	3	
9	926-2211	ADAPTER, 10MO X 08MB	4	
10	926-2200	ADAPTER, 4MO X 4MB	1	
11	926-8700	ADAPTER, 4MO X 4MB LONG	1	
12	926-5501	PLUG, 6MB HOLLOW HEX	1	
13	H-02241	HOSE, 8FO-8FO90 X 37	1	
14	H-02240	HOSE, 8FO-8FO90 X 36	1	
15	931-7117	VALVE, SEQUENCE, 175XT	1	
16	931-7054	ANCILLARY BLOCK	3	
17	931-7217	CB VALVE, BREAKOUT VISE, 175XT	1	
18	931-2047	TUBE 28	1	
19	931-2048	TUBE 29	1	
20	931-2055	TUBE 36	1	
21	931-2056	TUBE 37	1	
22	931-7112	MAIN VALVE, 175XT	1	
23	931-7114	VALVE, CONTROL 175XT	1	
24	931-7156	WELDMENT, CONTROL PANEL	1	
25	931-7006	CLAMP, ø5/8 X 2	2	
26	931-7103	BREAKOUT VISE ASSEMBLY	1	
27	05FW-SAE	WASHER, 5/16"	4	
28	05HH40	SCREW, 5/16-18 x 2.5 HHC - GR8	2	
29	05TLN	NUT, 5/16-18 TOP LOCK	2	
30	04FW-SAE	WASHER, 1/4"	4	
31	04TLN	NUT, 1/4-20 TOP LOCK	2	
32	04HH60	SCREW, 1/4-20 x 3.75 HHC - GR8	2	
33	926-5900	O-RING, -2 SAE PORT	2	

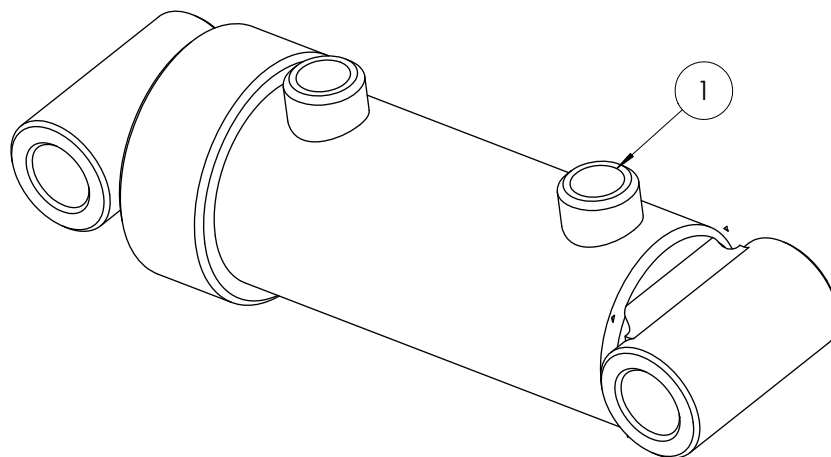
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FOOTNOTES:

NOTE:

Hydraulics-Breakout Vise

BREAKOUT VISE CYLINDER (913-7600)



Hydraulics-Breakout Vise

BREAKOUT VISE CYLINDER (913-7600)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	913-8354	SEAL KIT, 2-1/2 X 3-1/2 CYLINDER	1	

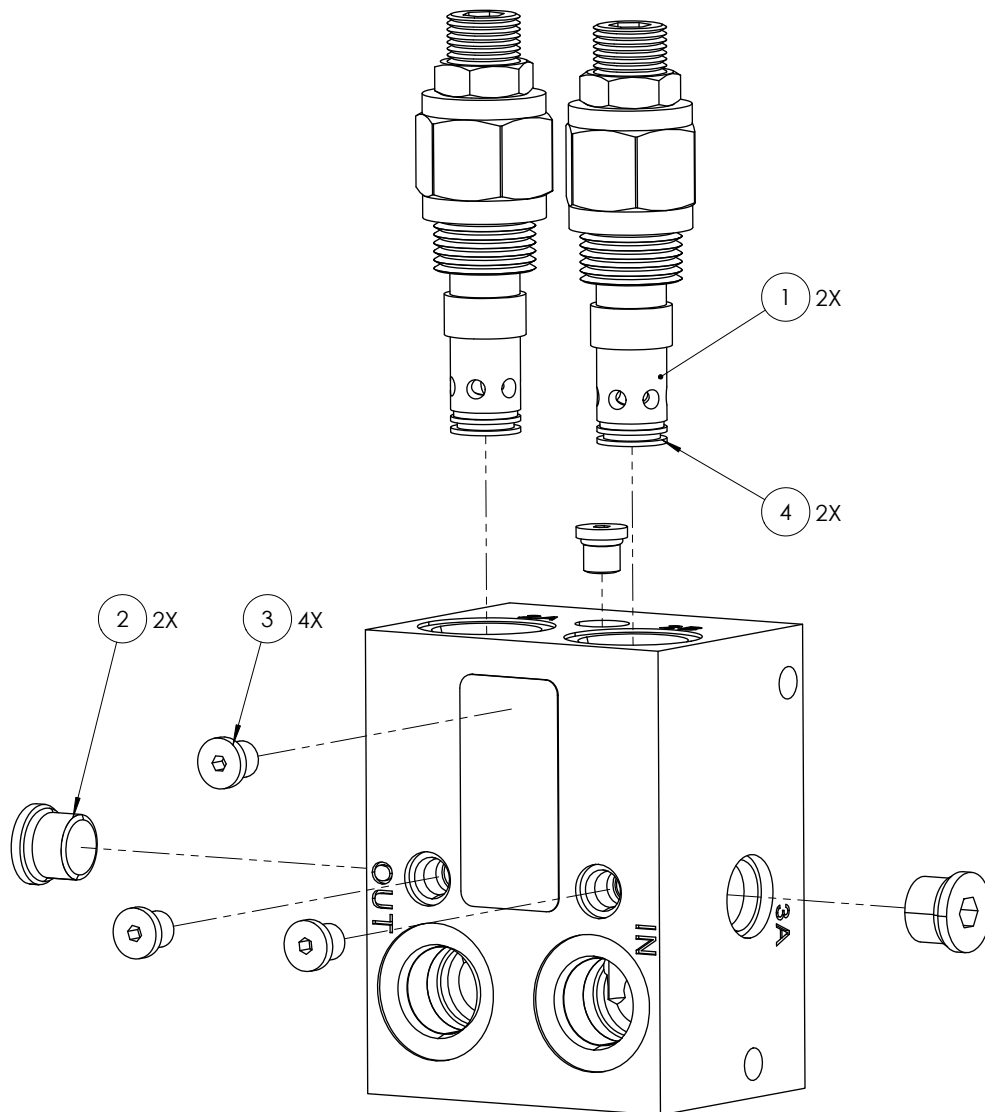
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FOOTNOTES:

NOTE:

Hydraulics-Breakout Vise

BREAKOUT VISE SEQUENCE VALVE (931-7117)



Hydraulics-Breakout Vise

BREAKOUT VISE SEQUENCE VALVE (931-7117)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	913-7965	CARTRIDGE, PRESSURE SEQUENCE	2	
2	926-5501	PLUG, 6MB HOLLOW HEX	2	
3	926-5508	PLUG, 2MB HOLLOW HEX	4	
4	931-7150	CARTRIDGE SEAL KIT, T-11A CAVITY	2	SEAL KIT FOR 913-7965

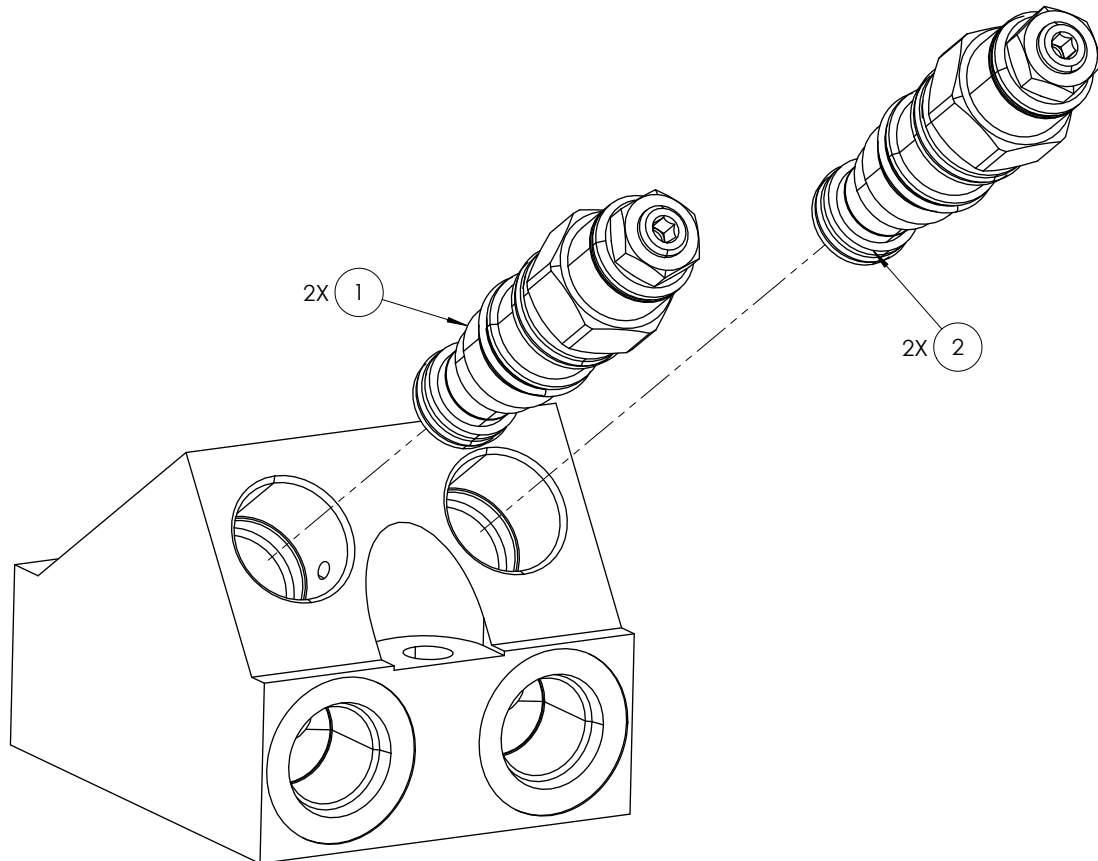
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FOOTNOTES:

NOTE:

Hydraulics-Breakout Vise

BREAKOUT VISE CB VALVE (931-7217)



Hydraulics-Breakout Vise

BREAKOUT VISE CB VALVE (931-7217)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7222	VALVE, COUNTERBALANCE, 10:1 PILOT, CBCH	2	
2	931-7150	CARTRIDGE SEAL KIT, T11-A CAVITY	2	SEAL KIT FOR 931-7222

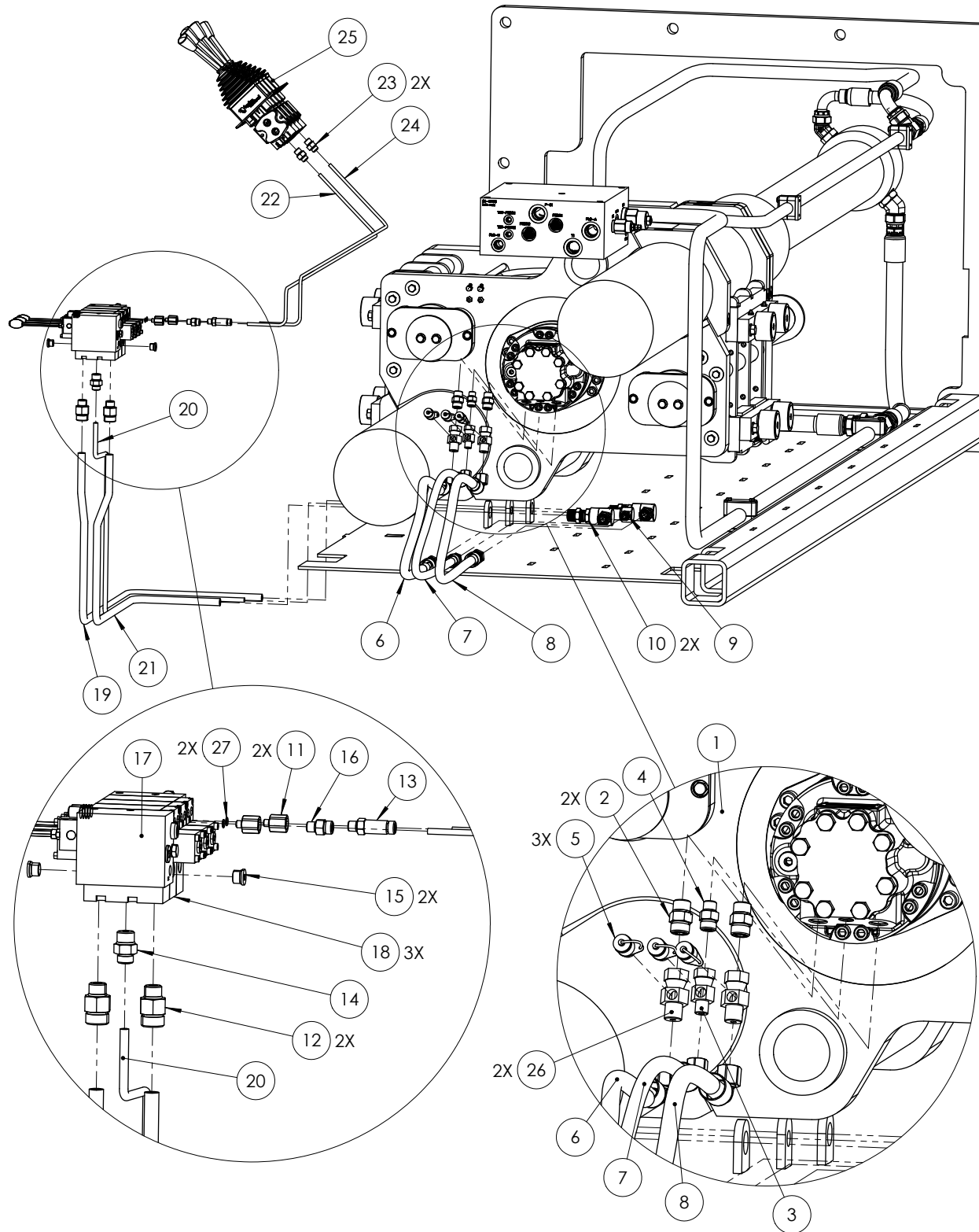
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FOOTNOTES:

NOTE:

Hydraulics-Spindle

HYDRAULICS-SPINDLE REAR



Hydraulics-Spindle

HYDRAULICS-SPINDLE REAR

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7093	SPINDLE ASSEMBLY	1	
2	926-2206	ADAPTER, 8MO X 8MB	2	
3	926-6601	GAUGE PORT TEE, 6MO X 6FO X 4FB	3	
4	926-2203	ADAPTER, 6MO X 6 MB	1	
5	926-7504	TEST PORT COUPLING	3	
6	H-02206	HOSE, 10FO X 8FO90S X 40	1	
7	H-02205	HOSE, 6FO X 6FO90S X 42	1	
8	H-02204	HOSE, 10FO X 8FO90S X 44	1	
9	926-4950	ELBOW, 06MO BH X 6MO, 90°, SUPER SWIVEL	1	
10	926-4951	ELBOW, 10MO BH X 10MO, 90°, SUPER SWIVEL	2	
11	931-7166	ADAPTER, 2MB X 4 FB	2	
12	926-2211	ADAPTER, 10MO X 08MB	2	
13	926-8700	ADAPTER, 4MO X 4MB LONG	1	
14	926-2204	ADAPTER, 6MO X 8MB	1	
15	926-5501	PLUG, 6MB HOLLOW HEX	2	
16	926-2200	ADAPTER, 4MO X 4MB	1	
17	931-7112	MAIN VALVE, 175XT	1	
18	931-7054	ANCILLARY BLOCK	3	
19	931-2027	TUBE 8	1	
20	931-2028	TUBE 9	1	
21	931-2026	TUBE 7	1	
22	931-2051	TUBE 32	1	
23	926-2201	ADAPTER, 4MO X 6MB	2	
24	931-2052	TUBE 33	1	
25	931-7114	VALVE, CONTROL 175XT	1	
26	926-6602	GAUGE PORT TEE, 8MO X 8FO X 4FB	2	
27	926-5900	O-RING, -2 SAE PORT	2	

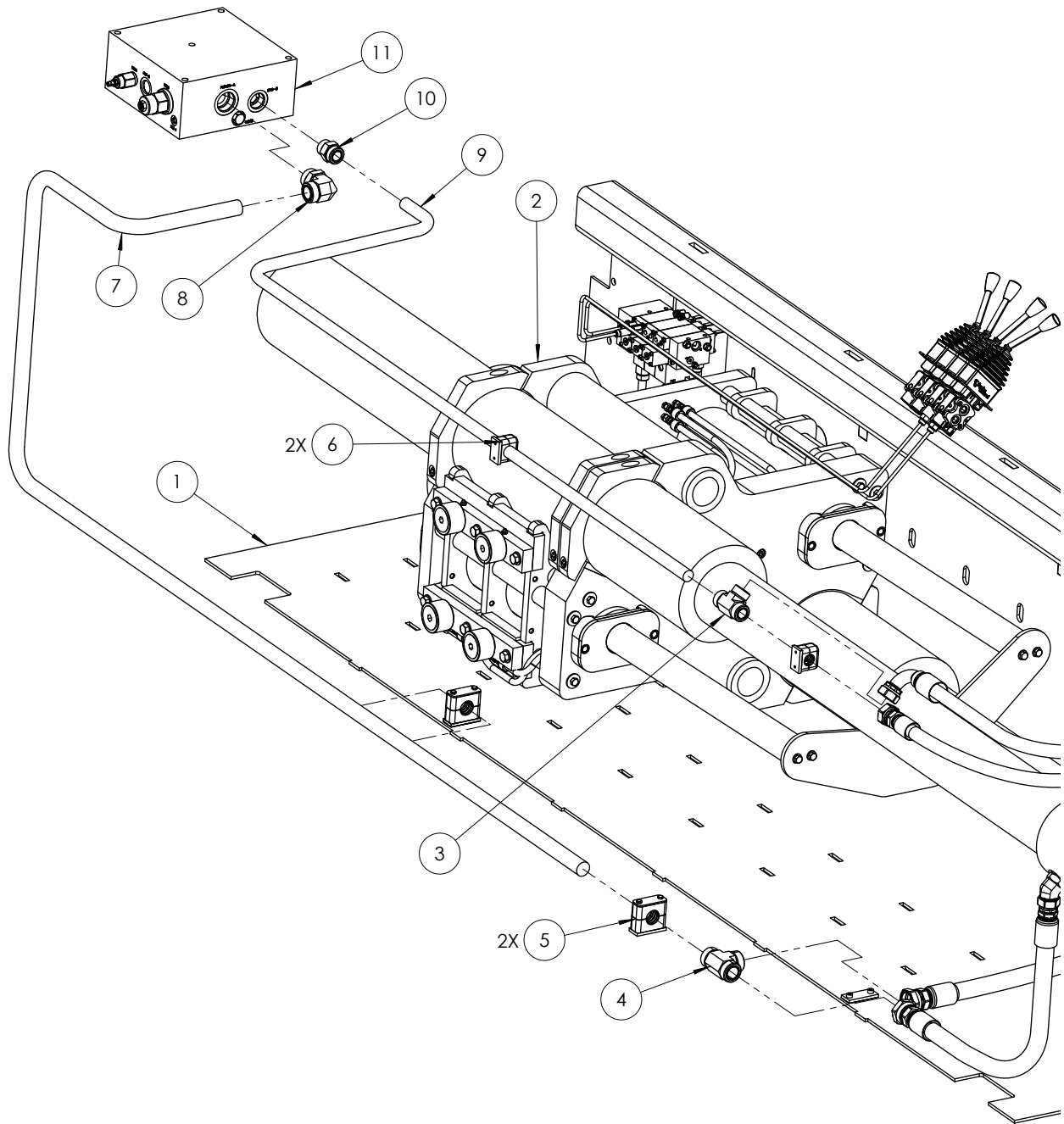
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FOOTNOTES:

NOTE:

Hydraulics-Spindle

HYDRAULICS-SPINDLE FRONT



Hydraulics-Spindle

HYDRAULICS-SPINDLE FRONT

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7093	SPINDLE ASSEMBLY	1	
3	926-3705	TEE, 16MO X 16MO X 16MO	1	
4	926-3706	TEE, 20MO X 20MO X 20MO UNION	1	
5	931-7003	CLAMP, ø1 1/4	2	
6	931-7002	CLAMP, ø1	2	
7	931-2073	TUBE 54	1	
8	926-2317	ELBOW, 20MO X 20MB 90°	1	
9	931-2074	TUBE 55	1	
10	926-2216	ADAPTER, 16MO X 16MB	1	
11	931-7113	MANIFOLD, 175XT	1	

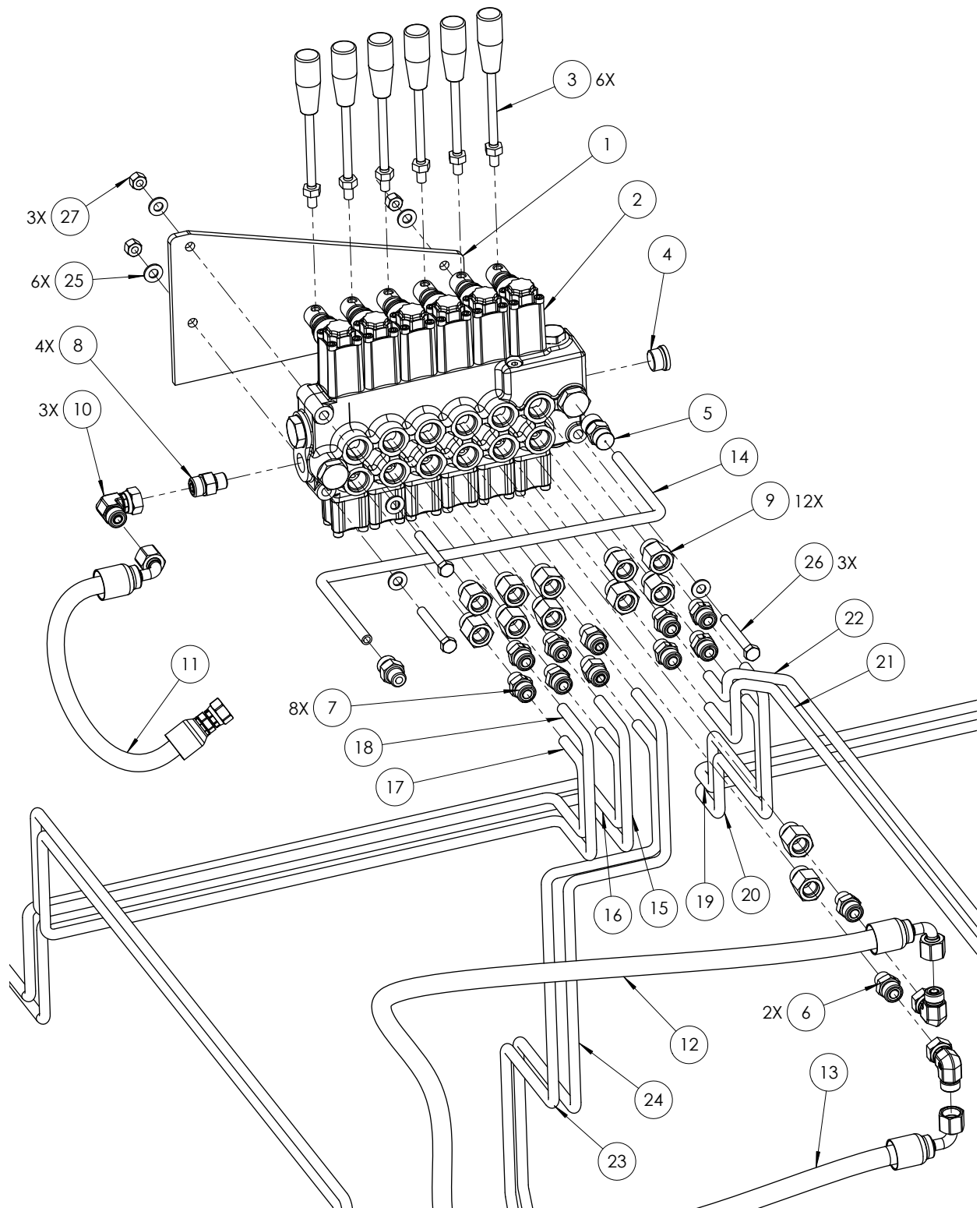
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

HYDRAULIC STABILIZER VALVE



Hydraulics-Stabilizers

HYDRAULIC STABILIZER VALVE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7111	STABILIZER VALVE	1	
3	913-7436	LEVER M8 X 120MM	6	
4	926-5502	PLUG, 8MB HOLLOW HEX	1	
5	926-7603	ORIFICE, 6MO X 8MB, .050	1	
6	931-7221	VALVE, CHECK INLINE, 1906K .045	2	
7	931-7220	VALVE, CHECK INLINE, 1906K .030	8	
8	926-2203	ADAPTER, 6MO X 6 MB	4	
9	926-3806	ADAPTER, 8MB X 6FB	12	
10	926-5701	ELBOW, 6MO X 6FO 90°	3	
11	H-02239	HOSE, 6FO-6FO90 X 20	1	
12	H-02230	HOSE, 6FO-6FO90 X 41	1	
13	H-02227	HOSE, 6FO-6FO90 X 45	1	
14	931-2035	TUBE 16	1	
15	931-2043	TUBE 24	1	
16	931-2044	TUBE 25	1	
17	931-2045	TUBE 26	1	
18	931-2046	TUBE 27	1	
19	931-2049	TUBE 30	1	
20	931-2050	TUBE 31	1	
21	931-2059	TUBE 40	1	
22	931-2060	TUBE 41	1	
23	931-2062	TUBE 43	1	
24	931-2063	TUBE 44	1	
25	05FW-SAE	WASHER, 5/16"	6	
26	05HH40	SCREW, 5/16-18 x 2.5 HHC - GR8	3	
27	05TLN	NUT, 5/16-18 TOP LOCK	3	

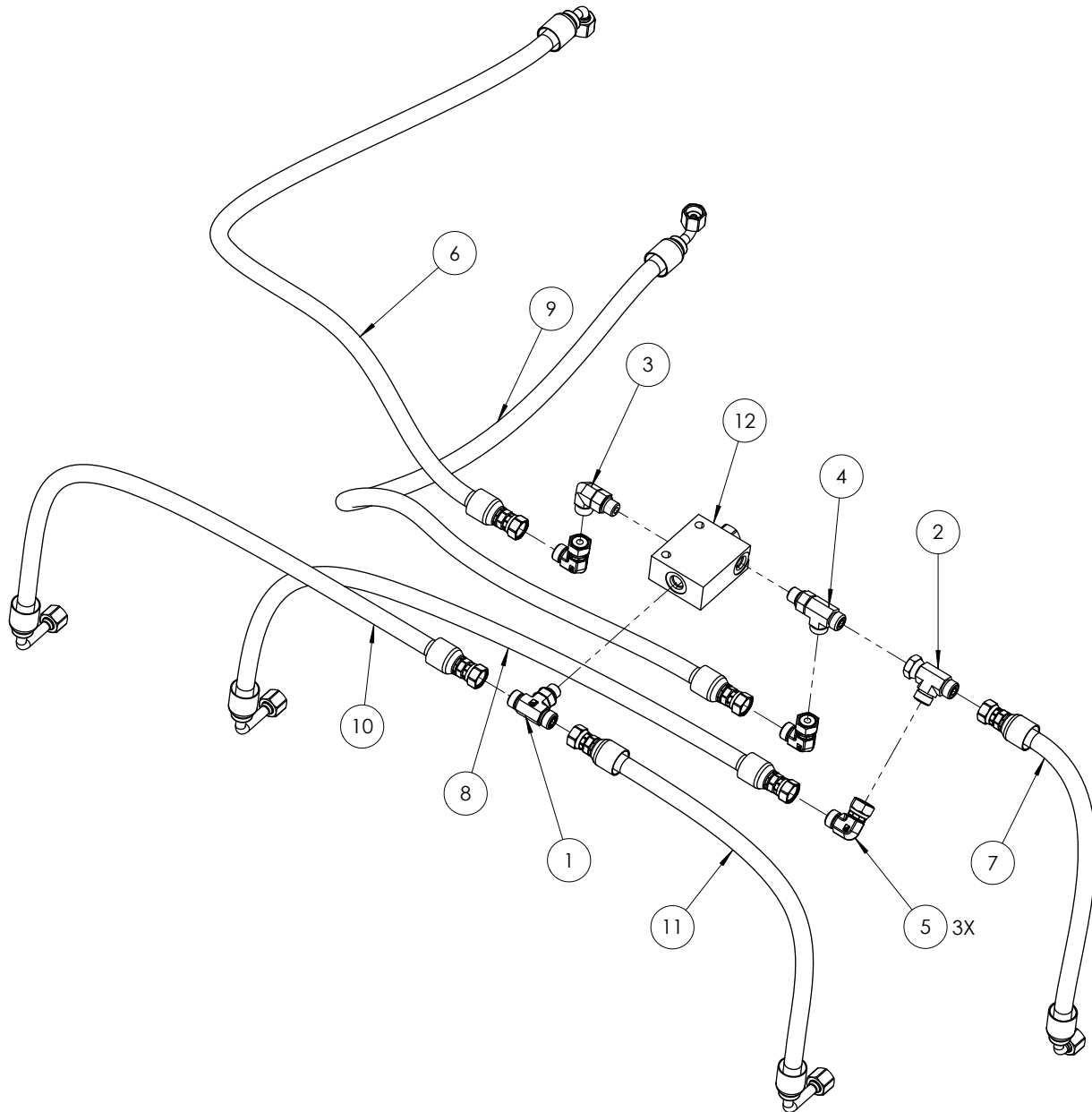
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

REAR VERTICAL STABILIZER HYDRAULICS



Hydraulics-Stabilizers

REAR VERTICAL STABILIZER HYDRAULICS

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	926-5202	TEE, 6MO X 6MO X 6MB BRANCH	1	
2	926-3480	TEE, 6MO X 6FO X 6MO RUN	1	
3	926-2304	ELBOW, 6MO X 6MB 90°	1	
4	926-3902	TEE, 6MO X 6MB X 6MO RUN	1	
5	926-5701	ELBOW, 6MO X 6FO 90°	3	
6	H-02230	HOSE, 6FO-6FO90 X 41	1	
7	H-02229	HOSE, 6FO-6FO90 X 17	1	
8	H-02228	HOSE, 6FO-6FO90L X 30	1	
9	H-02227	HOSE, 6FO-6FO90 X 45	1	
10	H-02226	HOSE, 6FO-6FO90L X 36	1	
11	H-02225	HOSE, 6FO-6FO90L X 30	1	
12	931-7218	PO CHECK VALVE, VERT OUTRIGGERS, 175XT	1	

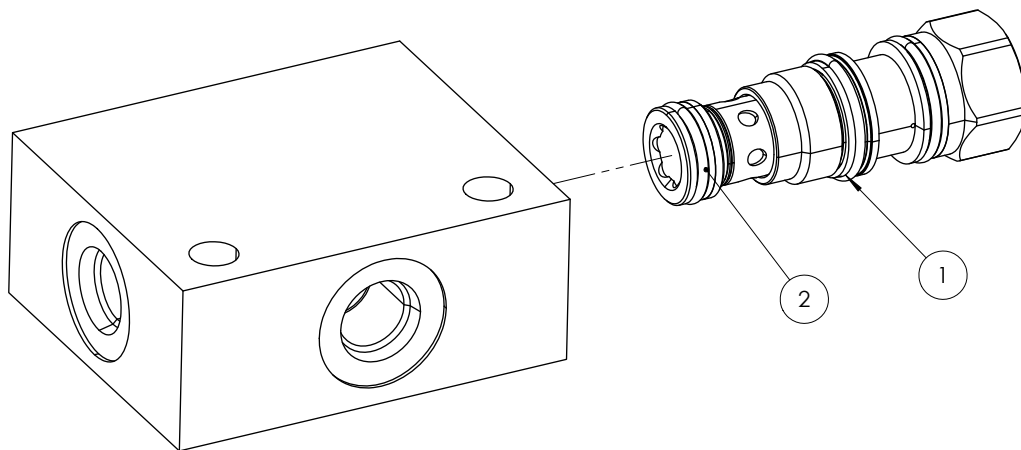
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

PO CHECK VALVE (931–7218)



Hydraulics-Stabilizers

PO CHECK VALVE (931-7218)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7216	PO CHECK VALVE, 3:1, CKCB	1	
2	931-7150	CARTRIDGE SEAL KIT, T-11A CAVITY	2	SEAL KIT FOR 931-7216

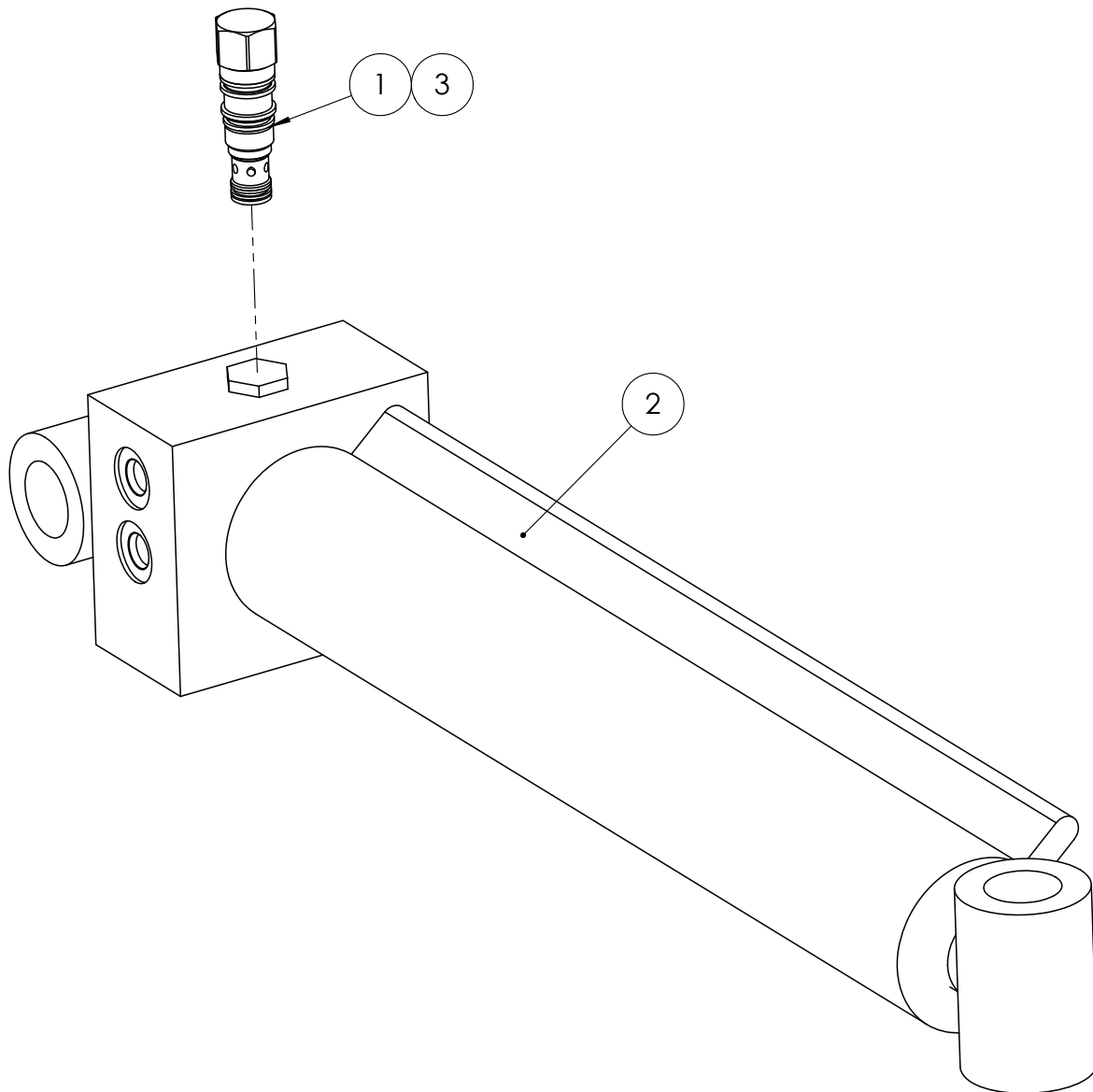
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

VERTICAL STABILIZER CYLINDER (923-0470)



Hydraulics-Stabilizers

VERTICAL STABILIZER CYLINDER (923-0470)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-1695	VALVE, PO CHECK	1	
2	923-1696	SEAL KIT, STABILIZER CYLINDER	1	
3	912-6518	SEAL KIT, SUN T163A	1	

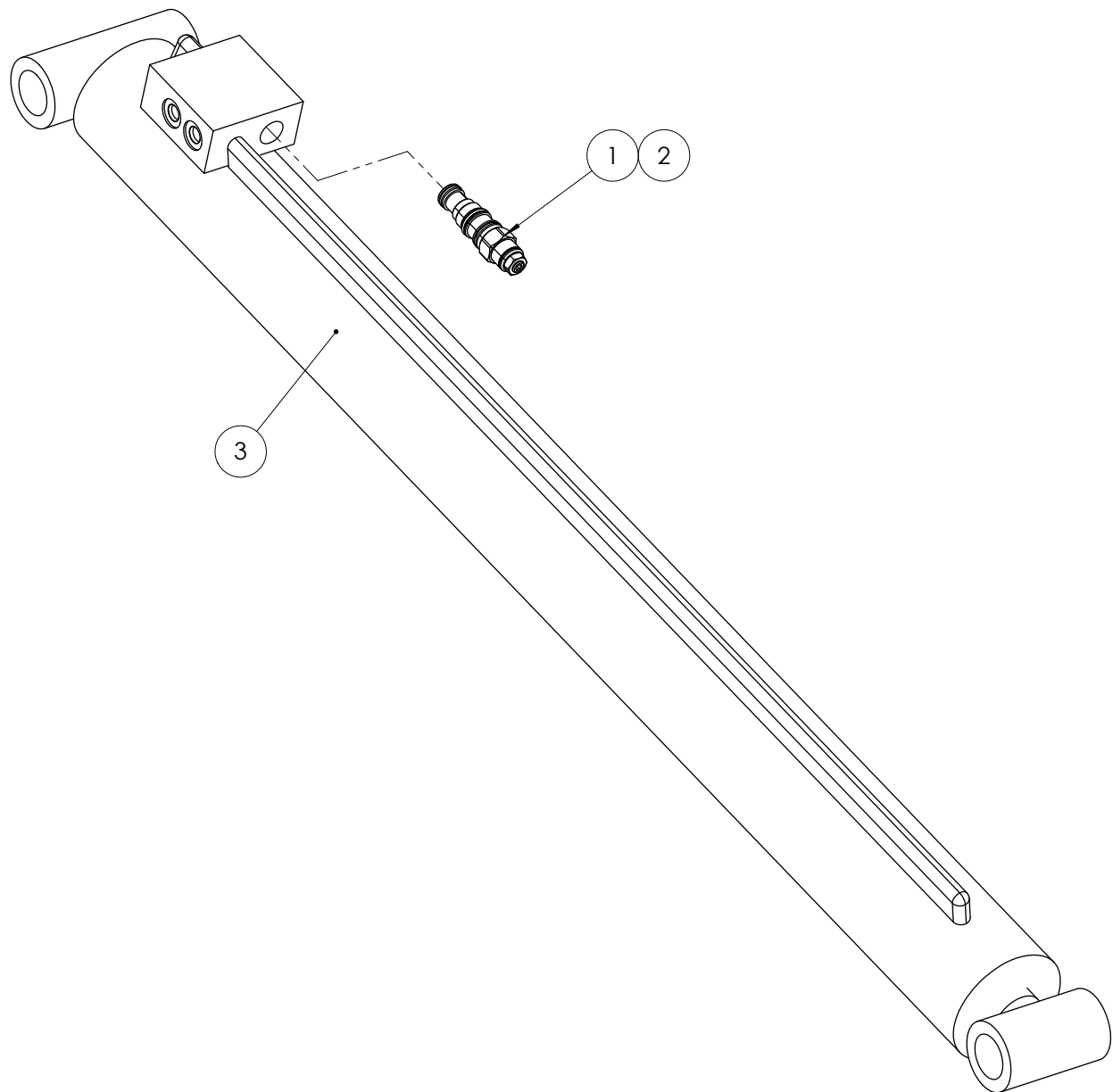
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

REAR OUTRIGGER CYLINDER (931-7107)



Hydraulics-Stabilizers

REAR OUTRIGGER CYLINDER (931-7107)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7150	CARTRIDGE SEAL KIT, T-11A CAVITY	1	
2	931-7164	VALVE, COUNTERBALANCE	1	
3	931-7108	SEAL KIT, STABILIZER CYLINDER	1	

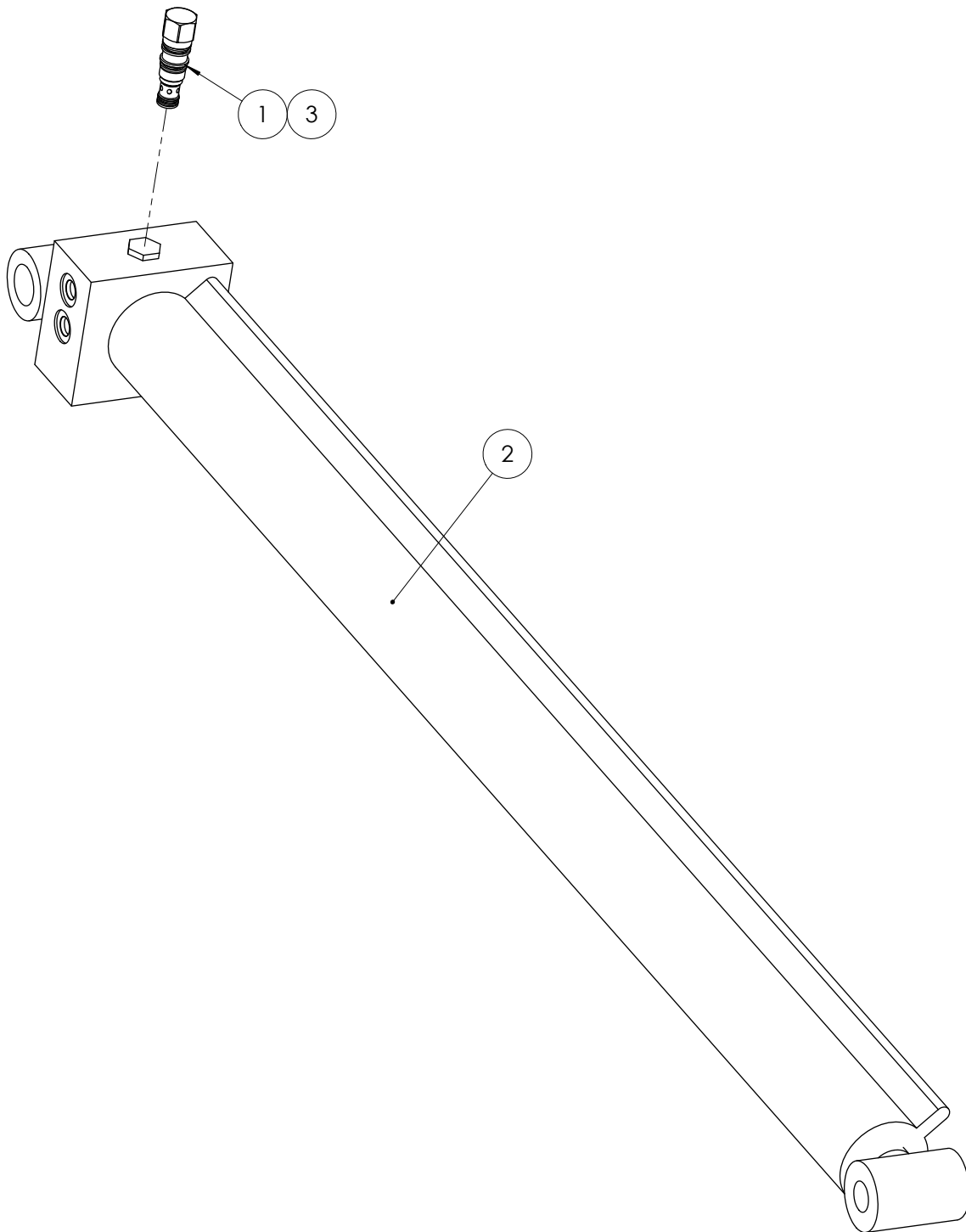
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FOOTNOTES:

NOTE:

Hydraulics-Stabilizers

HORIZONTAL STABILIZER CYLINDER (931-7105)



Hydraulics-Stabilizers

HORIZONTAL STABILIZER CYLINDER (931-7105)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-1695	VALVE, PO CHECK	1	
2	923-1696	SEAL KIT, STABILIZER CYLINDER	1	
3	912-6518	SEAL KIT, SUN T163A	1	

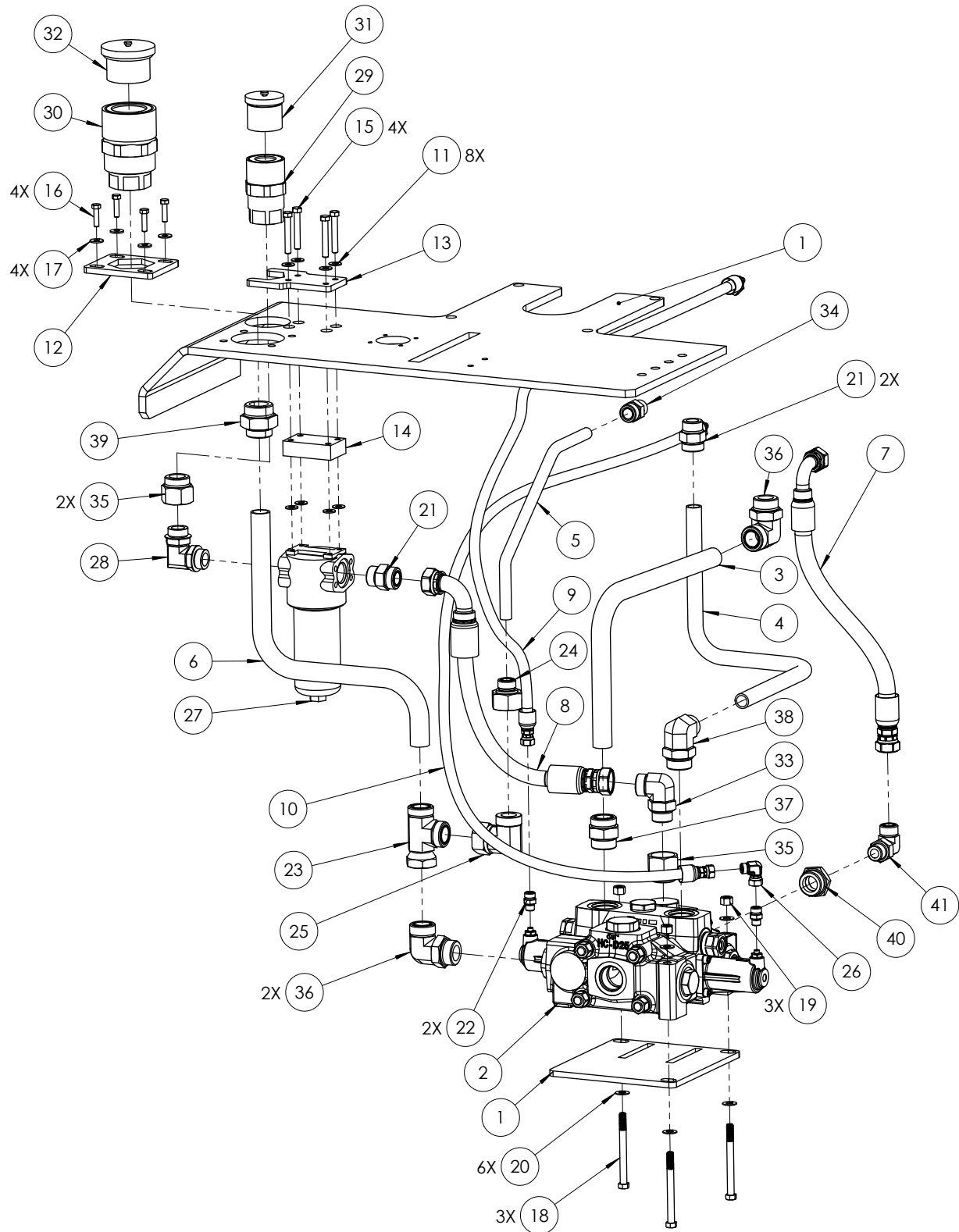
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FOOTNOTES:

NOTE:

Hydraulics-Pilot Valve

HYDRAULICS-PILOT VALVE



Hydraulics-Pilot Valve

HYDRAULICS-PILOT VALVE

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7215	PILOT VALVE, 175XT	1	
3	931-2082	TUBE 63	1	
4	931-2083	TUBE 64	1	
5	931-2084	TUBE 65	1	
6	931-0291	TUBE 72	1	
7	H-02242	HOSE, 12FO-12FO90 X 17	1	
8	H-02223	HOSE, 16FO X 16FO90 X 26	1	
9	H-02231	HOSE, 6FO-6FO90 X 64	1	
10	H-02232	HOSE, 6FO-6FO90 X 82	1	
11	06FW-SAE	WASHER, 3/8"	8	
12	931-7008	BOLT PLATE, RETURN LINE	1	
13	931-7009	BOLT PLATE, PRESSURE LINE	1	
14	931-7045	PLATE, SPACER	1	
15	06HH40	SCREW, 3/8-16 x 2.5 HHC - GR8	4	
16	05HH20	SCREW, 5/16-18 x 1.25 HHC - GR8	4	
17	05FW-USS	WASHER, 5/16" - USS	4	
18	931-7219	SCREW, 7/16-14 X 4.75 HHC - GR 8	3	
19	07TLN	NUT, TOP LOCK 7/16-14	3	
20	07FW-SAE	WASHER, 7/16"	6	
21	926-2216	ADAPTER, 16MO X 16MB	2	
22	931-7221	VALVE, CHECK INLINE, 1906K .045	2	
23	926-3485	TEE, 20MO X 20FO X 20MO RUN	1	
24	926-3413	ADAPTER, 20FO X 12MO	1	
25	926-5706	ELBOW, 20MO X 20FO 90°	1	
26	926-5701	ELBOW, 6MO X 6FO 90°	1	
27	923-0475	PRESSURE FILTER HOUSING, 100XT	1	
28	6807-16X16	ELBOW, 16MB x 16MB 90°	1	
29	930-2005	COUPLER, FEMALE 1-1/4 ORB	1	
30	930-2004	COUPLER, FEMALE 1-1/2 ORB	1	
31	913-8635	PLUG, FEMALE	1	
32	930-2007	PLUG, FEMALE	1	
33	926-2315	ELBOW, 16MO X 16MB 90°	1	
34	931-7232	CHECK VALVE, INLINE, 1912K	1	
35	926-3822	ADAPTER, 20MB X 16FB	2	
36	926-2317	ELBOW, 20MO X 20MB 90°	2	
37	926-2219	ADAPTER, 20MO X 20MB	1	
38	926-2323	ELBOW, 16MO X 20MB 90°	1	
39	926-2231	ADAPTER, 20MO X 24MB	1	
40	926-3821	REDUCER, 20MB X 12FB	1	
41	926-2313	ELBOW, 12MO X 12MB 90°	1	

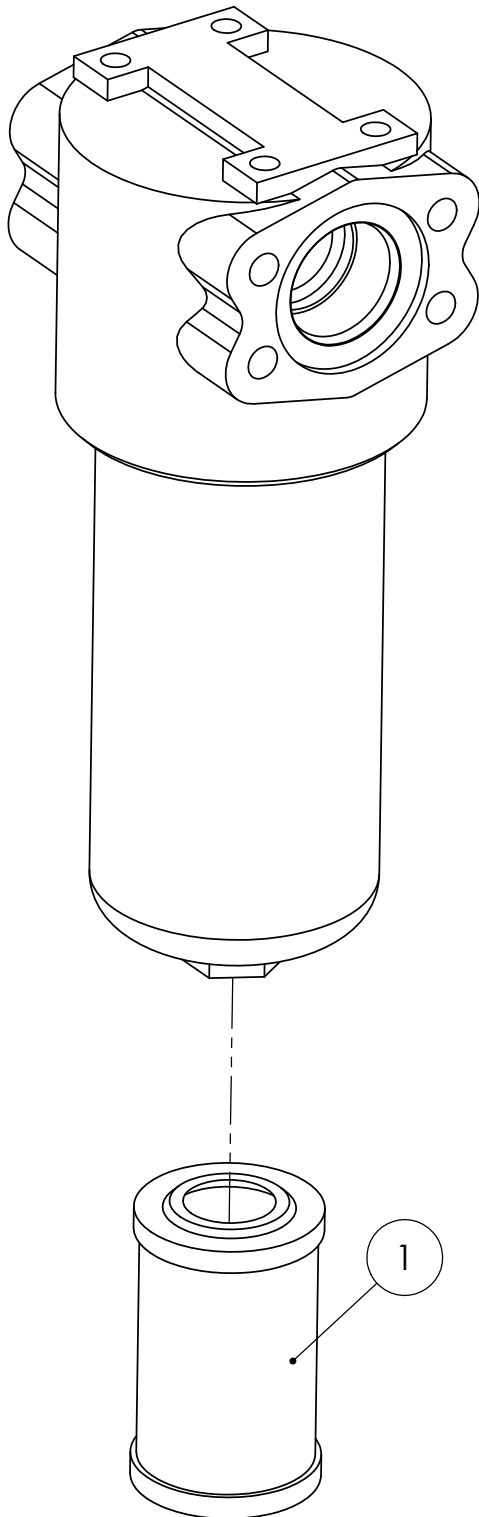
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FOOTNOTES:

NOTE:

Hydraulics-Pilot Valve

PRESSURE FILTER (923-0475)



Hydraulics-Pilot Valve

PRESSURE FILTER (923-0475)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	923-0476	FILTER ELEMENT, HB100XT	1	

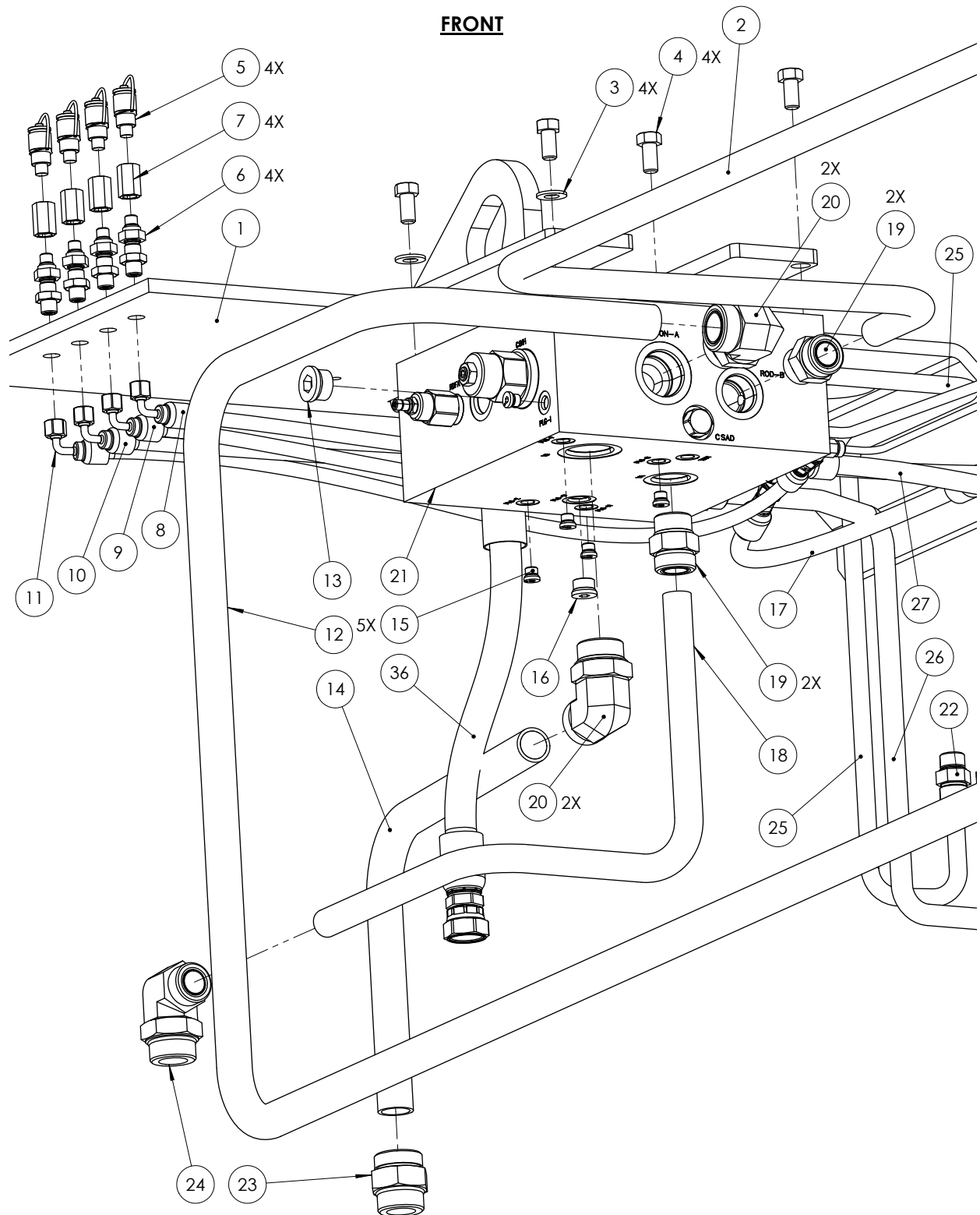
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FOOTNOTES:

NOTE:

Hydraulics-Manifold

HYDRAULICS-MANIFOLD FRONT



Hydraulics-Manifold

HYDRAULICS-MANIFOLD FRONT

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-2074	TUBE 55	1	
3	08FW-SAE	WASHER, 1/2"	4	
4	08HH16	SCREW, 1/2-13 x 1.0 HHC - GR8	4	
5	926-7504	TEST PORT COUPLING	4	
6	926-7125	ADAPTER, 4MO X 4MB BH	4	
7	926-8630	ADAPTER, 4FB X 4FB	4	
8	H-02236	HOSE, 4FO-4FO90 X 20	1	
9	H-02235	HOSE, 4FO-4FO90 X 20	1	
10	H-02234	HOSE, 4FO-4FO90 X 27	1	
11	H-02233	HOSE, 4FO-4FO90 X 35	1	
12	931-2073	TUBE 54	1	
13	926-5504	PLUG, 12MB HOLLOW HEX	1	
14	931-2082	TUBE 63	1	
15	926-5500	PLUG, 4MB HOLLOW HEX	5	
16	926-5502	PLUG, 8MB HOLLOW HEX	1	
17	H-02239	HOSE, 6FO-6FO90 X 20	1	
18	931-2083	TUBE 64	1	
19	926-2216	ADAPTER, 16MO X 16MB	2	
20	926-2317	ELBOW, 20MO X 20MB 90°	2	
21	931-7113	MANIFOLD, 175XT	1	
22	926-2209	ADAPTER, 10MO X 10MB	1	
23	926-2219	ADAPTER, 20MO X 20MB	1	
24	926-2323	ELBOW, 16MO X 20MB 90°	1	
25	931-2020	TUBE 1	1	
26	931-2021	TUBE 2	1	
27	H-02237	HOSE, 6FO-6FO X 46	1	

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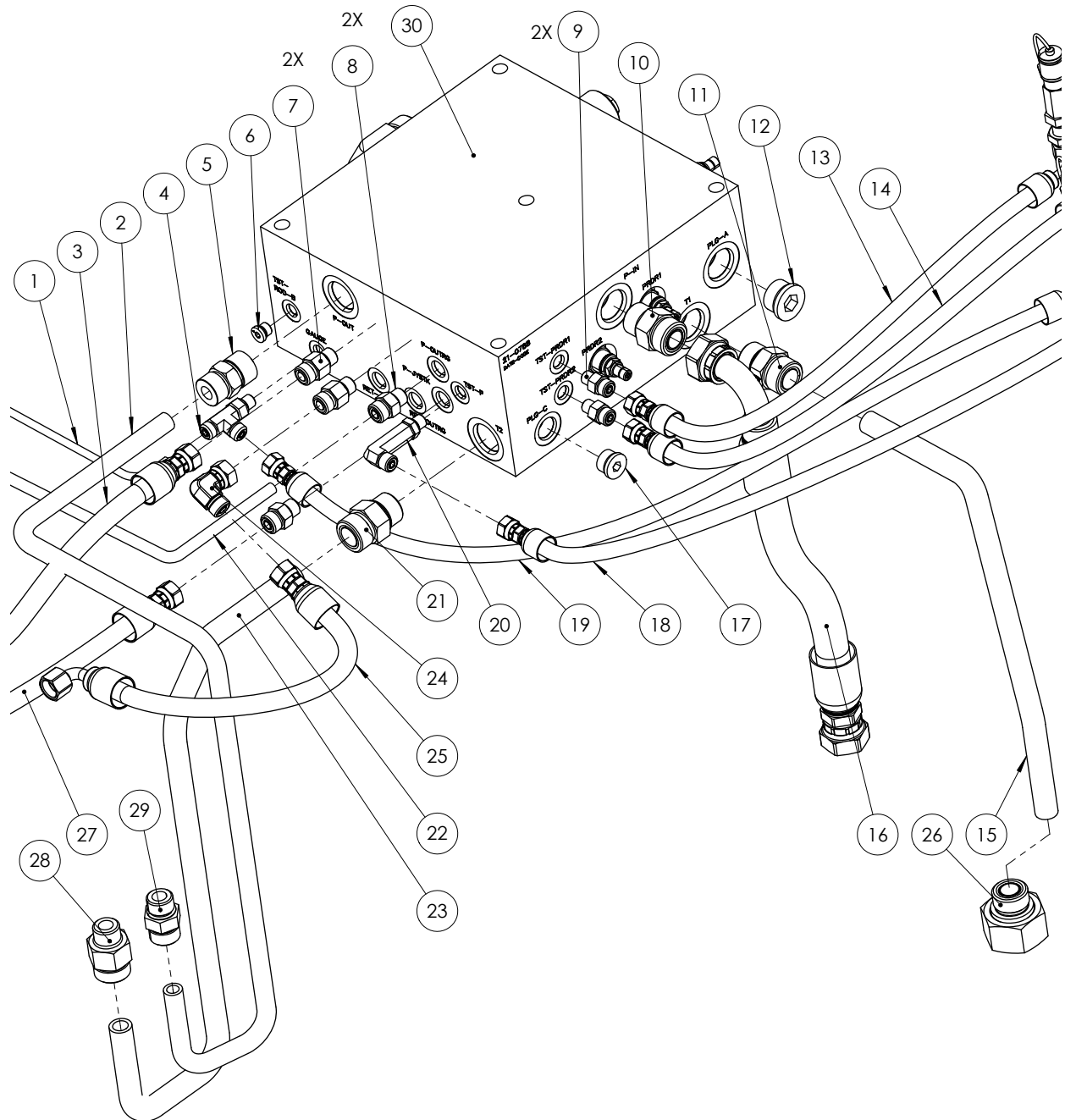
FOOTNOTES:

NOTE:

Hydraulics-Manifold

HYDRAULICS-MANIFOLD REAR

BACK



Hydraulics-Manifold

HYDRAULICS-MANIFOLD REAR

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-2061	TUBE 42	1	
2	931-2020	TUBE 1	1	
3	H-02237	HOSE, 6FO-6FO X 46	1	
4	926-3900	TEE, 4MO X 4MB X 4MO RUN	1	
5	926-2230	ADAPTER, 10MO x 12MB	1	
6	926-5500	PLUG, 4MB HOLLOW HEX	1	
7	931-7210	CHECK VALVE, INLINE, 1906J	2	
8	926-2203	ADAPTER, 6MO X 6 MB	2	
9	926-2200	ADAPTER, 4MO X 4MB	2	
10	926-2212	ADAPTER, 12MO X 12MB	1	
11	931-7232	CHECK VALVE, INLINE, 1912K	1	
12	926-5504	PLUG, 12MB HOLLOW HEX	1	
13	H-02236	HOSE, 4FO-4FO90 X 20	1	
14	H-02235	HOSE, 4FO-4FO90 X 20	1	
15	931-2084	TUBE 65	1	
16	H-02242	HOSE, 12FO-12FO90 X 17	1	
17	926-5502	PLUG, 8MB HOLLOW HEX	1	
18	H-02234	HOSE, 4FO-4FO90 X 27	1	
19	H-02233	HOSE, 4FO-4FO90 X 35	1	
20	926-2160	ELBOW, 4MO X 4MB 90° LONG	1	
21	931-7211	CHECK VALVE, INLINE, 1912J	1	
22	931-2035	TUBE 16	1	
23	931-2021	TUBE 2	1	
24	926-5701	ELBOW, 6MO X 6FO 90°	1	
25	H-02239	HOSE, 6FO-6FO90 X 20	1	
26	926-3413	ADAPTER, 20FO X 12MO	1	
27	H-02238	HOSE, 6FO-6FO X 46	1	
28	926-2214	ADAPTER, 12MO X 10MB	1	
29	926-2209	ADAPTER, 10MO X 10MB	1	
30	931-7113	MANIFOLD, 175XT	1	

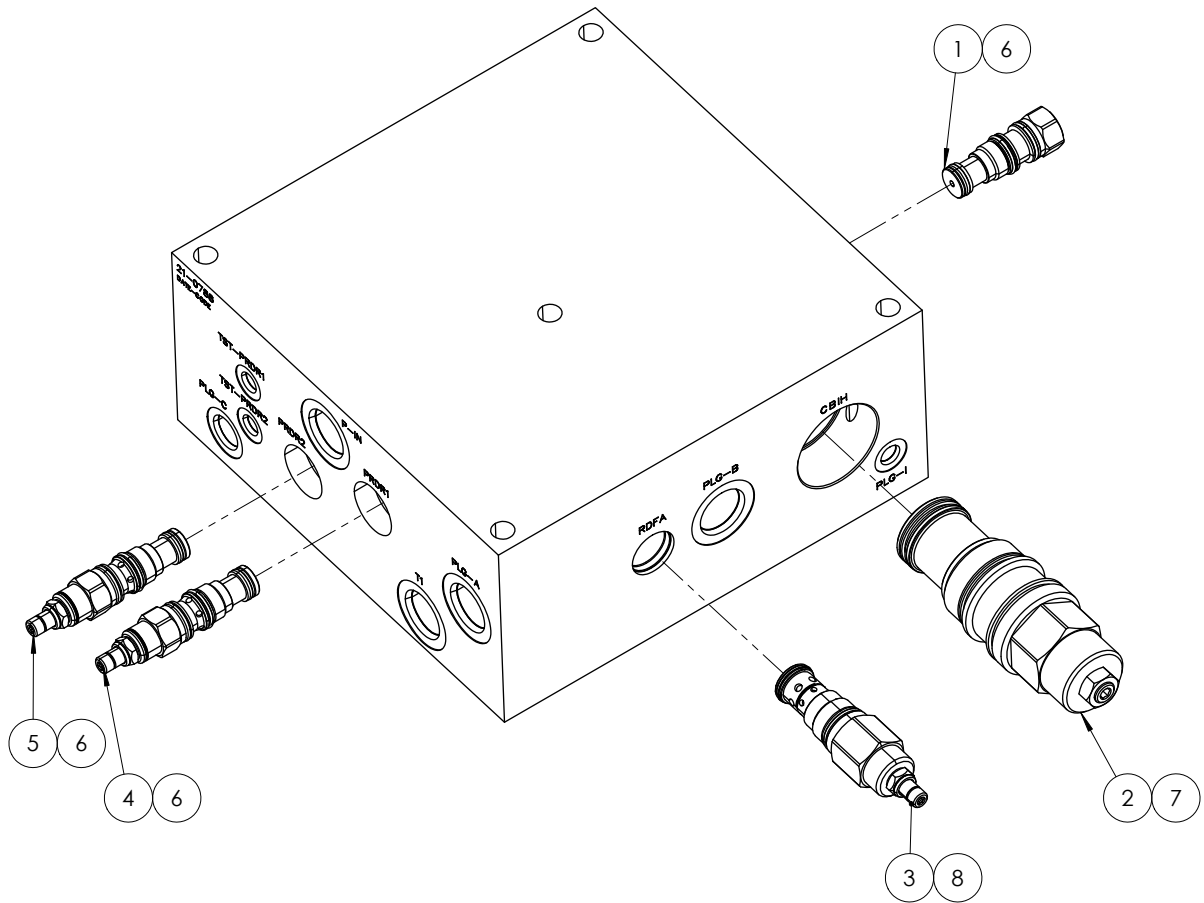
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FOOTNOTES:

NOTE:

Hydraulics-Manifold

MANIFOLD ASSEMBLY (913–7113)



Hydraulics-Manifold

MANIFOLD ASSEMBLY (913–7113)

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7138	VALVE, SHUTTLE	1	
2	923-0473	COUNTER BALANCE VALVE, 10:1	1	
3	931-7223	VALVE, RELIEF, DIRECT-ACTING, RDFA	1	
4	931-7229	VALVE, PRESSURE RED/REL, PPDB- LAN	1	
5	931-7230	VALVE, PRESSURE RED/REL, PPDB- LDN	1	

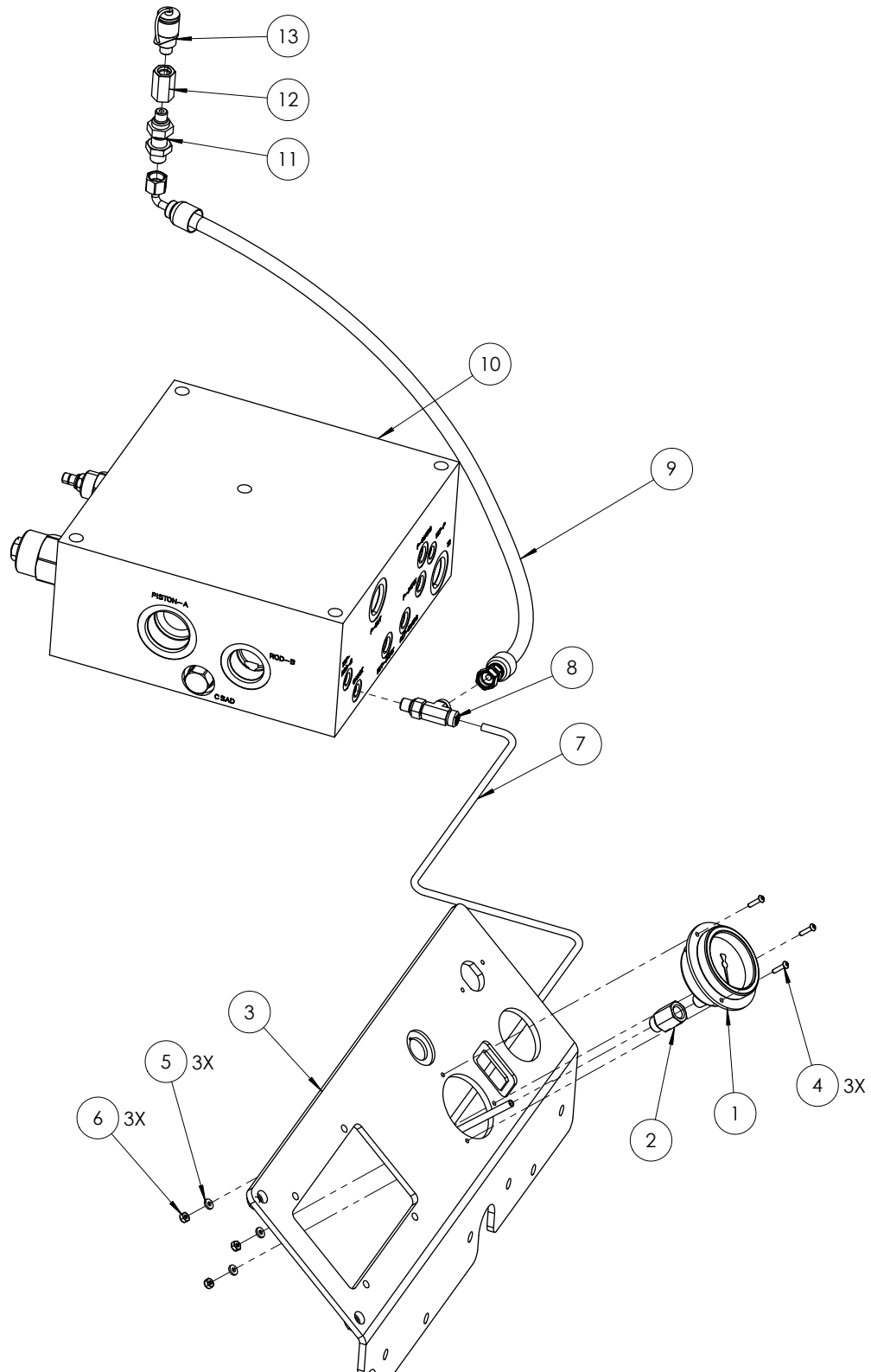
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FOOTNOTES:

NOTE:

Hydraulics-Manifold

HYDRAULIC PRESSURE



Hydraulics-Manifold

HYDRAULIC PRESSURE

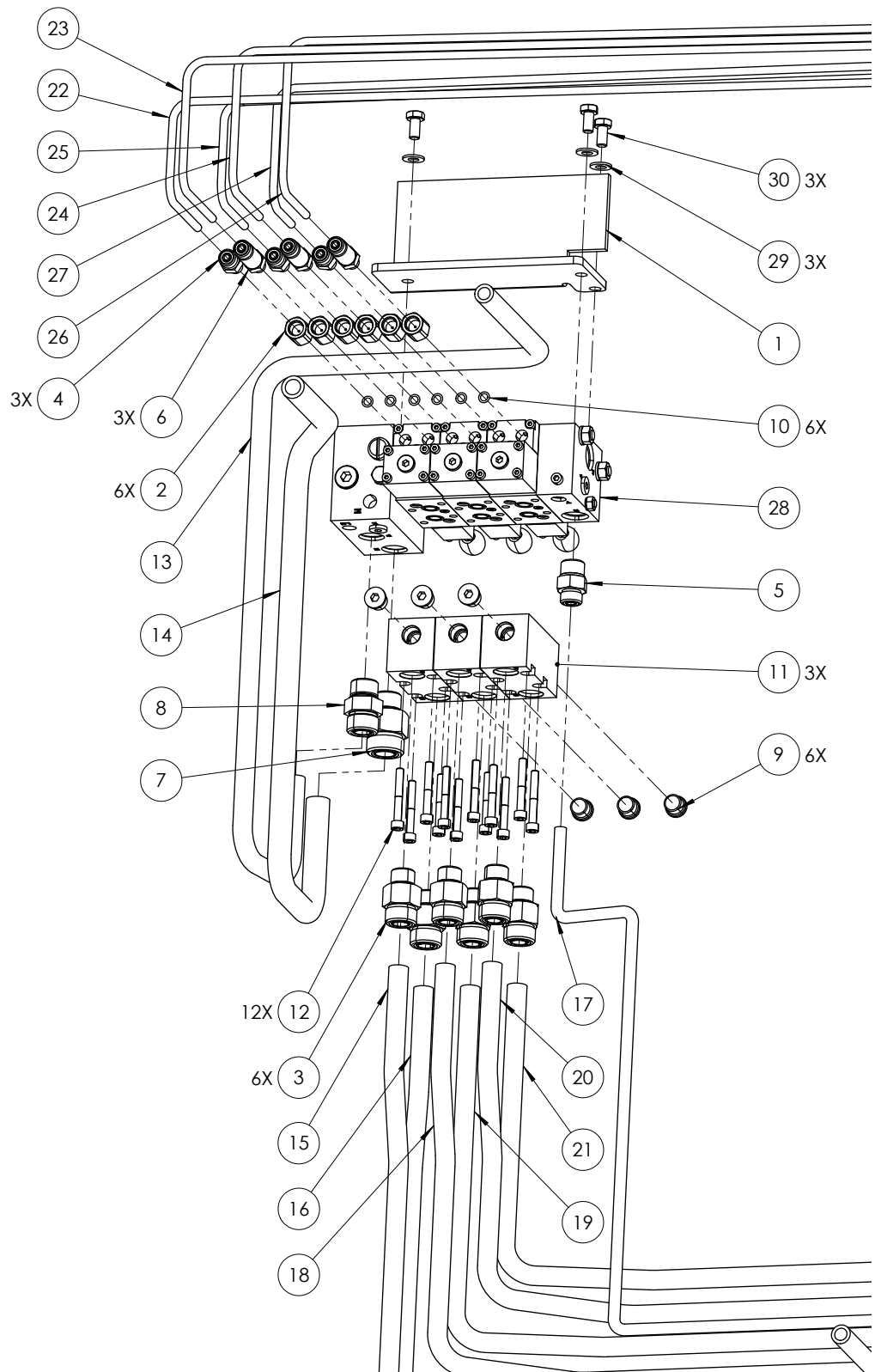
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	930-2059	PRESSURE GAUGE, 5000 PSI	1	
2	926-6300	ADAPTER, 4MO X 4FP	1	
3	931-7156	WELDMENT, CONTROL PANEL	1	
4	#6BH10	SCREW, #6-32 X .625 BHSC	3	
5	#6FW-SAE	WASHER, #6 SAE	3	
6	#6NLN	NUT, #6-32 NYLON INSERT LOCK	3	
7	931-2061	TUBE 42	1	
8	926-3900	TEE, 4MO X 4MB X 4MO RUN	1	
9	H-02233	HOSE, 4FO-4FO90 X 35	1	
10	931-7113	MANIFOLD, 175XT	1	
11	926-7125	ADAPTER, 4MO X 4MB BH	1	
12	926-8630	ADAPTER, 4FB X 4FB	1	
13	926-7504	TEST PORT COUPLING	1	

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FOOTNOTES:

NOTE:

Hydraulics-Main Valve



Hydraulics-Main Valve

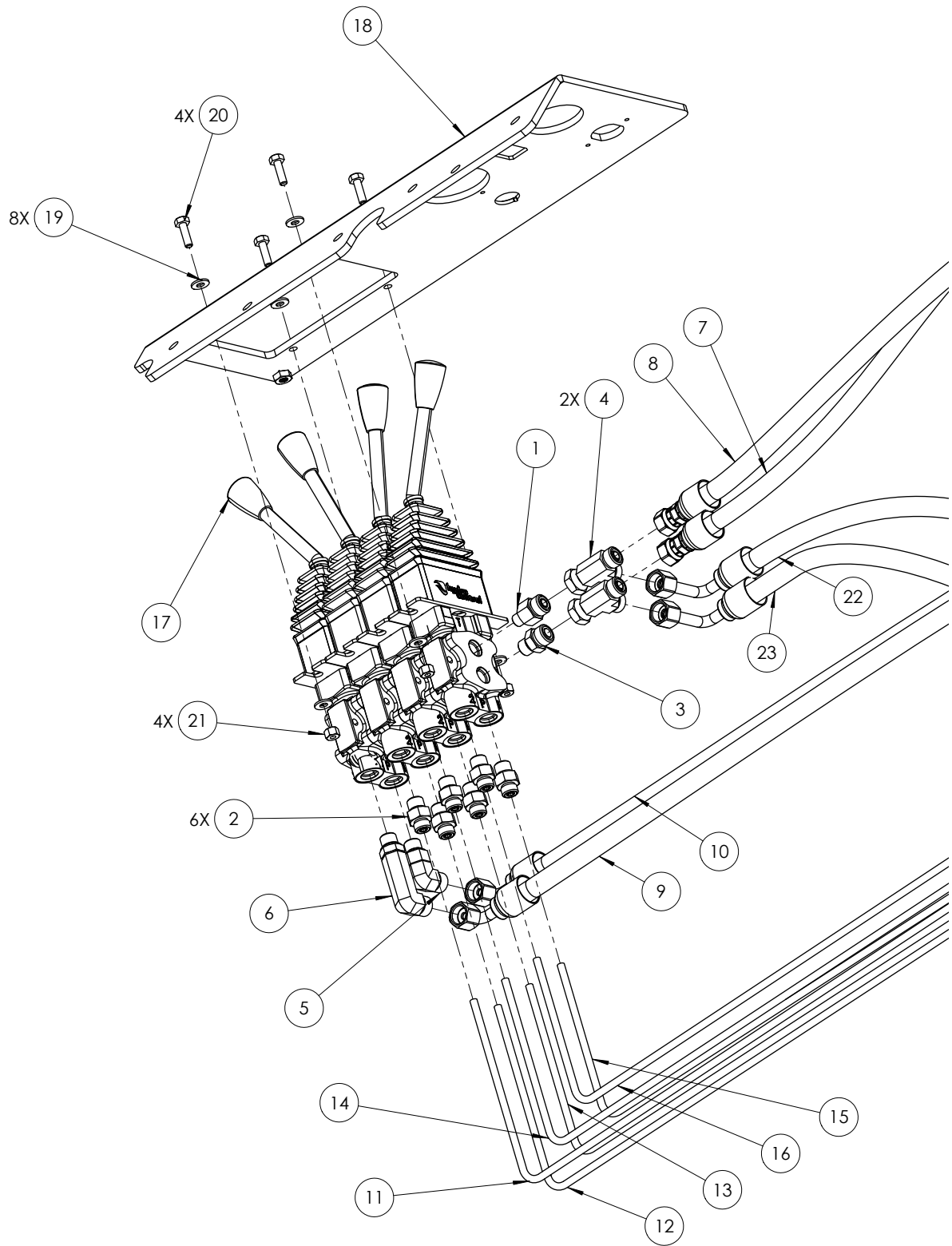
REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	931-7061	WELDMENT, HULL (RED)	1	
2	931-7166	ADAPTER, 2MB X 4 FB	6	
3	926-2211	ADAPTER, 10MO X 08MB	6	
4	926-2200	ADAPTER, 4MO X 4MB	3	
5	926-2204	ADAPTER, 6MO X 8MB	1	
6	926-8700	ADAPTER, 4MO X 4MB LONG	3	
7	926-2214	ADAPTER, 12MO X 10MB	1	
8	926-2209	ADAPTER, 10MO X 10MB	1	
9	926-5501	PLUG, 6MB HOLLOW HEX	6	
10	926-5900	O-RING, -2 SAE PORT	6	
11	931-7054	ANCILLARY BLOCK	3	
12	931-7178	SCREW, M6-1.0mm X 45mm SHC	12	
13	931-2020	TUBE 1	1	
14	931-2021	TUBE 2	1	
15	931-2026	TUBE 7	1	
16	931-2027	TUBE 8	1	
17	931-2028	TUBE 9	1	
18	931-2029	TUBE 10	1	
19	931-2030	TUBE 11	1	
20	931-2047	TUBE 28	1	
21	931-2048	TUBE 29	1	
22	931-2051	TUBE 32	1	
23	931-2052	TUBE 33	1	
24	931-2053	TUBE 34	1	
25	931-2054	TUBE 35	1	
26	931-2055	TUBE 36	1	
27	931-2056	TUBE 37	1	
28	931-7112	MAIN VALVE, 175XT	1	
29	05FW-SAE	WASHER, 5/16"	3	
30	M08HH16	SCREW, M8-1.25mm x 16mm HHC	3	

NOT SHOWN:

FOOTNOTES:

NOTE:

Hydraulics-Joystick



Hydraulics-Joystick

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	926-2227	ADAPTER, 6MO X 4MB	1	
2	926-2201	ADAPTER, 4MO X 6MB	6	
3	931-7233	VALVE, CHECK INLINE, 1906K .020	1	
4	926-3480	TEE, 6MO X 6FO X 6MO RUN	2	
5	926-2304	ELBOW, 6MO X 6MB 90°	1	
6	926-2161	ELBOW, 6MO X 6MB LONG	1	
7	H-02238	HOSE, 6FO-6FO X 46	1	
8	H-02237	HOSE, 6FO-6FO X 46	1	
9	H-02232	HOSE, 6FO-6FO90 X 82	1	
10	H-02231	HOSE, 6FO-6FO90 X 64	1	
11	931-2051	TUBE 32	1	
12	931-2052	TUBE 33	1	
13	931-2053	TUBE 34	1	
14	931-2054	TUBE 35	1	
15	931-2055	TUBE 36	1	
16	931-2056	TUBE 37	1	
17	931-7114	VALVE, CONTROL 175XT	1	
18	931-7156	WELDMENT, CONTROL PANEL	1	
19	04FW-SAE	WASHER, 1/4"	8	
20	04HH14	SCREW, 1/4-20 x .875 HHC - GR8	4	
21	04TLN	NUT, 1/4-20 TOP LOCK	4	
22	H-02213	HOSE, 6FO X 6FO90L X 29	1	
23	H-02218	HOSE, 6FO X 6FO90L X 26	1	

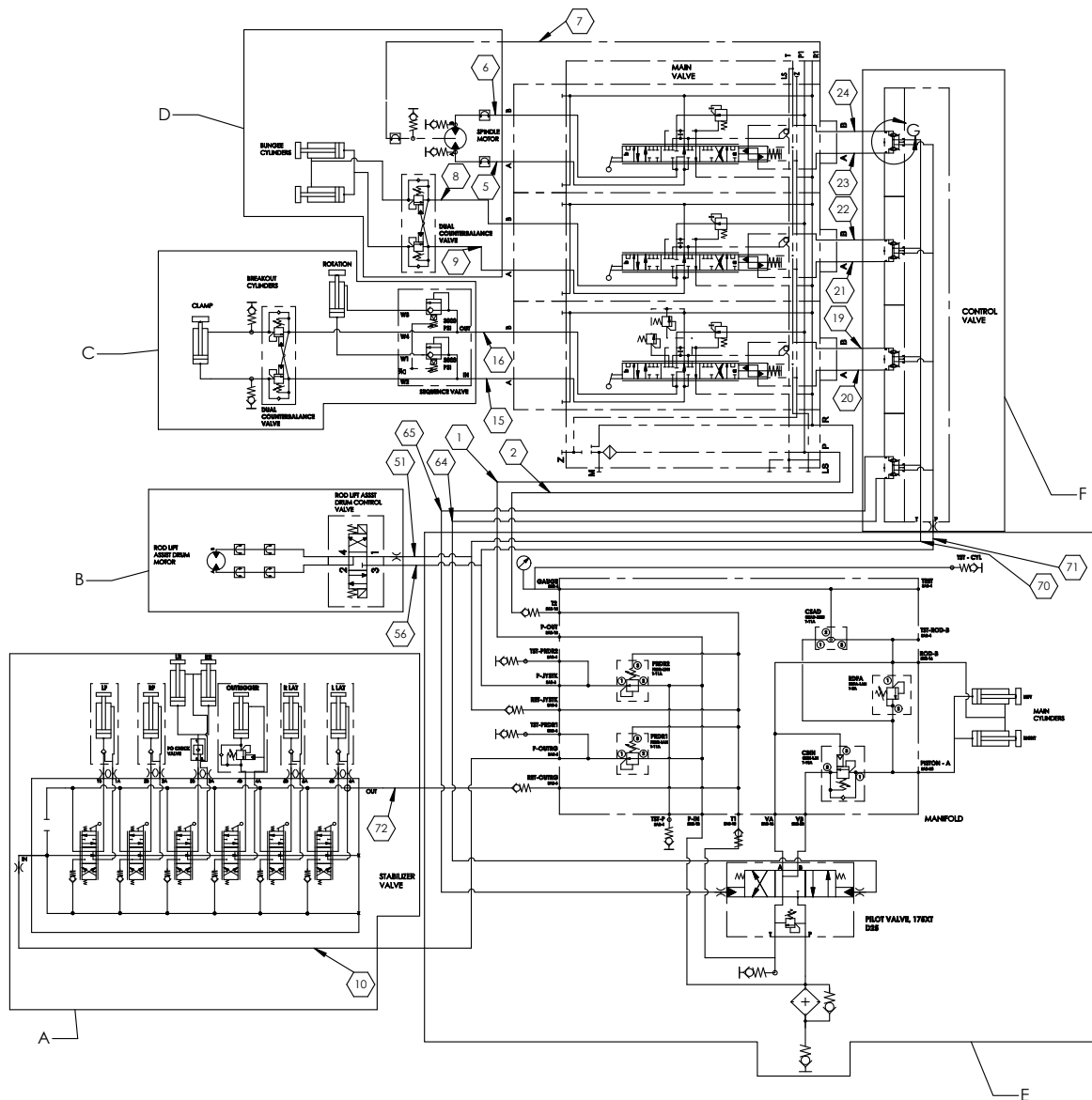
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FOOTNOTES:

NOTE:

Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 1 OF 7



HYDRAULIC SETTINGS

MAIN PRESSURE RELIEF (D25)	4800 PSI
SPINNER - BREAKOUT	4500 PSI
SPINNER - MAKEUP	2500 PSI
BREAKOUT SEQUENCE VALVES	3000 PSI
RELIEF VALVE (ROD SIDE - MAIN)	1800 PSI
STABILIZER PRESSURE (TST-PRDR1)	3000 PSI
PILOT SYSTEM / DRUM (TST-PRDR2)	700 PSI
MAIN SYSTEM PRESSURE (TST-P)	4500 PSI
SPINNER SPEED	100 RPM
COUNTERBALANCE VALVE (BASE SIDE - MAIN)	4800 PSI

Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 2 OF 7

TUBES AND HOSES

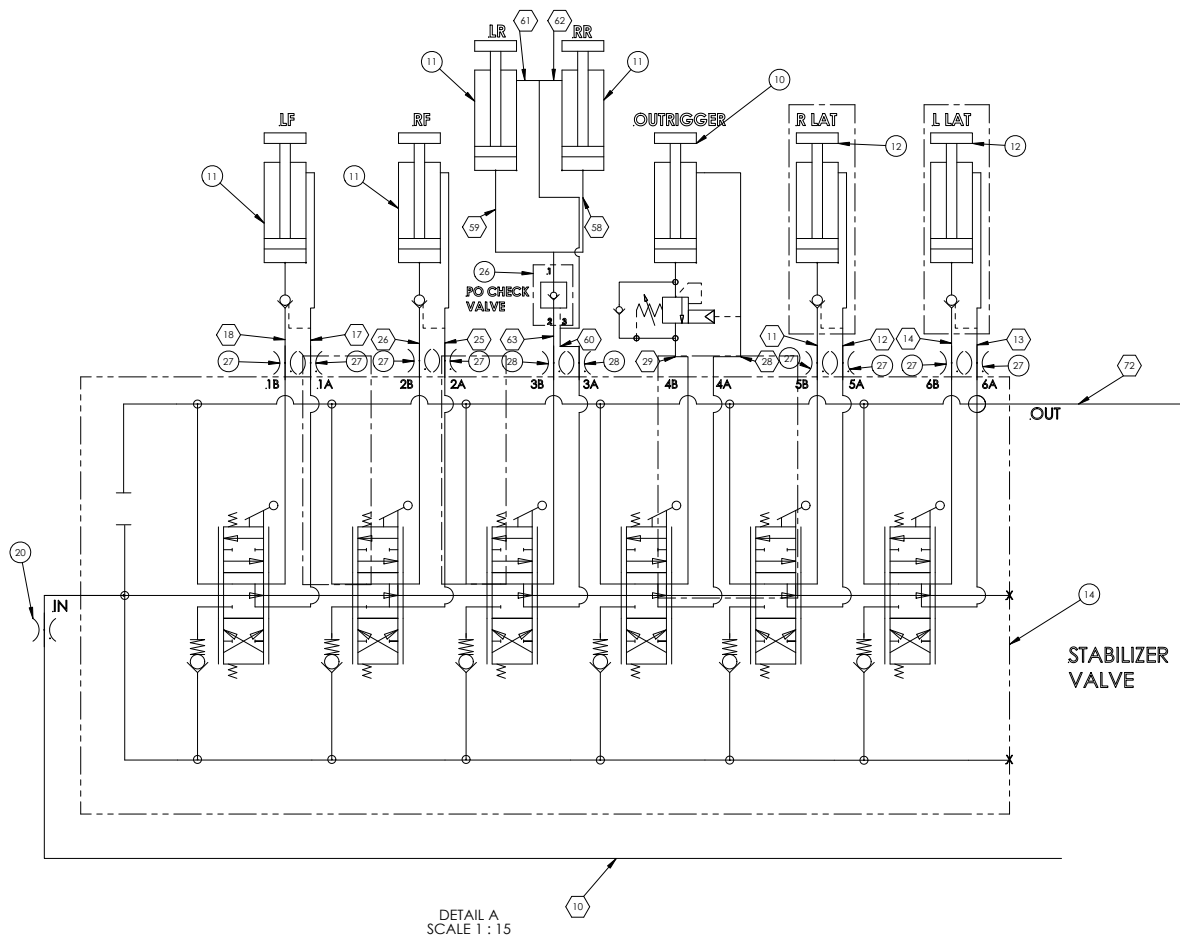
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	931-2020	TUBE 1	1
2	931-2021	TUBE 2	1
3	931-2022	TUBE 3	1
4	931-2023	TUBE 4	1
5	931-2026	TUBE 7	1
6	931-2027	TUBE 8	1
7	931-2028	TUBE 9	1
8	931-2029	TUBE 10	1
9	931-2030	TUBE 11	1
10	931-2035	TUBE 16	1
11	931-2043	TUBE 24	1
12	931-2044	TUBE 25	1
13	931-2045	TUBE 26	1
14	931-2046	TUBE 27	1
15	931-2047	TUBE 28	1
16	931-2048	TUBE 29	1
17	931-2049	TUBE 30	1
18	931-2050	TUBE 31	1
19	931-2051	TUBE 32	1
20	931-2052	TUBE 33	1
21	931-2053	TUBE 34	1
22	931-2054	TUBE 35	1
23	931-2055	TUBE 36	1
24	931-2056	TUBE 37	1
25	931-2059	TUBE 40	1
26	931-2060	TUBE 41	1
27	931-2061	TUBE 42	1
28	931-2062	TUBE 43	1
29	931-2063	TUBE 44	1
30	931-2066	TUBE 47	1
31	931-2067	TUBE 48	1
32	931-2073	TUBE 54	1
33	931-2074	TUBE 55	1
34	931-2082	TUBE 63	1
35	931-2083	TUBE 64	1
36	931-2084	TUBE 65	1
37	931-2091	TUBE 72	1
38	H-02200	HOSE, 16FO X 20FO X 26	1
39	H-02201	HOSE, 16FO X 12FO90S X 25	1
40	H-02202	HOSE, 12FO X 16FO90S X 57	1
41	H-02203	HOSE, 20FO X 16FO90S X 35	1
42	H-02204	HOSE, 10FO X 8FO90S X 44	1
43	H-02205	HOSE, 6FO X 6FO90S X 42	1
44	H-02206	HOSE, 10FO X 8FO90S X 40	1
45	H-02207	HOSE, 10FO X 10FO X 19	1
46	H-02208	HOSE, 10FO X 8FO X 17	1
47	H-02209	HOSE, 8FO X 8FO X 44	1
48	H-02210	HOSE, 8FO X 8FO90S X 16	1
49	H-02211	HOSE, 8FO X 8FO X 49	1
50	H-02212	HOSE, 8FO X 8FO90S X 16	1
51	H-02213	HOSE, 6FO X 6FO90L X 29	1
52	H-02214	HOSE, 6FO X 6FO90S X 42	1
53	H-02215	HOSE, 6FO X 6FO90S X 43	1
54	H-02216	HOSE, 6FO X 6FO X 40	1
55	H-02217	HOSE, 6FO X 6FO X 44	1
56	H-02218	HOSE, 6FO X 6FO90L X 26	1
57	H-02223	HOSE, 16FO X 16FO90 X 26	1
58	H-02225	HOSE, 6FO X 6FO90L X 30	1
59	H-02226	HOSE, 6FO X 6FO90L X 36	1
60	H-02227	HOSE, 6FO X 6FO90 X 45	1
61	H-02228	HOSE, 6FO X 6FO90L X 30	1
62	H-02229	HOSE, 6FO X 6FO90 X 17	1
63	H-02230	HOSE, 6FO X 6FO90 X 41	1
64	H-02231	HOSE, 6FO X 6FO90 X 64	1
65	H-02232	HOSE, 6FO X 6FO90 X 82	1
66	H-02233	HOSE, 4FO X 4FO90 X 35	1
67	H-02234	HOSE, 4FO X 4FO90 X 27	1
68	H-02235	HOSE, 4FO X 4FO90 X 20	1
69	H-02236	HOSE, 4FO X 4FO90 X 20	1
70	H-02237	HOSE, 6FO X 6FO X 46	1
71	H-02238	HOSE, 6FO X 6FO X 46	1
72	H-02239	HOSE, 6FO X 6FO90 X 20	1
73	H-02240	HOSE, 8FO X 8FO90 X 36	1
74	H-02241	HOSE, 8FO X 8FO90 X 37	1
75	H-02242	HOSE, 12FO X 12FO90 X 17	1

HYDRAULIC COMPONENTS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	931-7114	VALVE, CONTROL - 175XT	1
2	931-7112	MAIN VALVE, 175XT	1
3	926-4951	ELBOW, 10MO BH X 10MO, 90°, SUPER SWIVEL	2
4	926-7504	TEST PORT COUPLING	9
5	931-7137	MOTOR, RADIAL PISTON - 24.3 CID	1
6	931-2001	CYLINDER, BUNGEE VISE	2
7	931-7117	VALVE, SEQUENCE, 175XT	1
8	913-7600	CYLINDER, 2-1/2x3-1/2	2
9	926-4950	ELBOW, 06MO BH X 6MO, 90°, SUPER SWIVEL	1
10	931-7107	REAR OUTRIGGER CYLINDER - 36IN	1
11	923-0470	CYLINDER STABILIZER	4
12	931-7105	HORIZONTAL STABILIZER CYLINDER - 36IN	2
13	931-7215	PILOT VALVE, 175XT	1
14	931-7111	STABILIZER VALVE	1
15	930-2004	COUPLER, FEMALE 1-1/2 ORB	1
16	930-2005	COUPLER, FEMALE 1-1/4 ORB	1
17	923-0475	PRESSURE FILTER HOUSING, 100XT	1
18	912-4162	VALVE, 4-WAY 3-POSITION	1
19	931-7113	MAIFOLD, 175XT	1
20	926-7603	ORIFICE, 6MO X 8MB, .045	1
21	930-2059	PRESSURE GAUGE, 5000 PSI	1
22	931-2002	CYLINDER, MAIN	2
23	926-4953	ADAPTER, 06MO X 06FO, SUPER SWIVEL	2
24	926-4952	ADAPTER, 06MO BH X 06MO, SUPER SWIVEL	2
25	931-7087	MOTOR, HYD. 3 CU IN/REV	1
26	931-7218	PO CHECK VALVE, VERT OUTRIGGERS, 175XT	1
27	931-7220	VALVE, CHECK INLINE, 1906K .030	8
28	931-7221	VALVE, CHECK INLINE, 1906K .045	4
29	931-7217	CB VALVE, BREAKOUT VISE, 175XT	1
30	931-7227	CB VALVE, BUNGEE, HB175XT	1
31	931-7232	CHECK VALVE, INLINE, 1912K	1
32	931-7211	CHECK VALVE, INLINE, 1912J	1
33	931-7210	CHECK VALVE, INLINE, 1906J	2
34	931-7233	VALVE, CHECK INLINE, 1906K .020	1
35	931-7235	VALVE, CHECK INLINE, 1906J .045	1

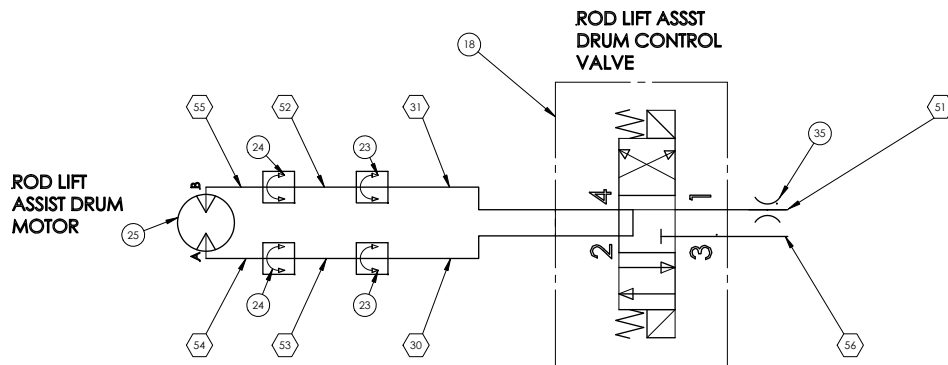
Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 3 OF 7

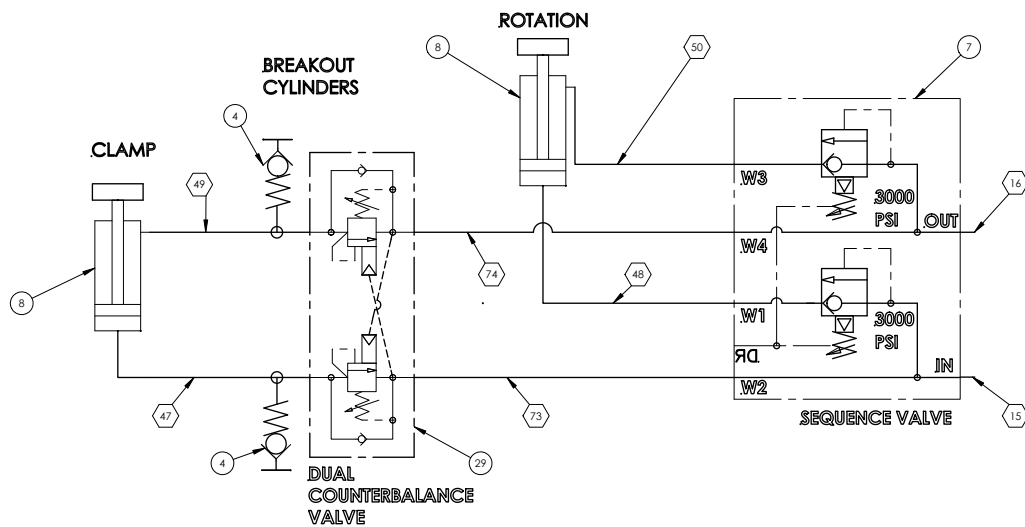


Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 4 OF 7



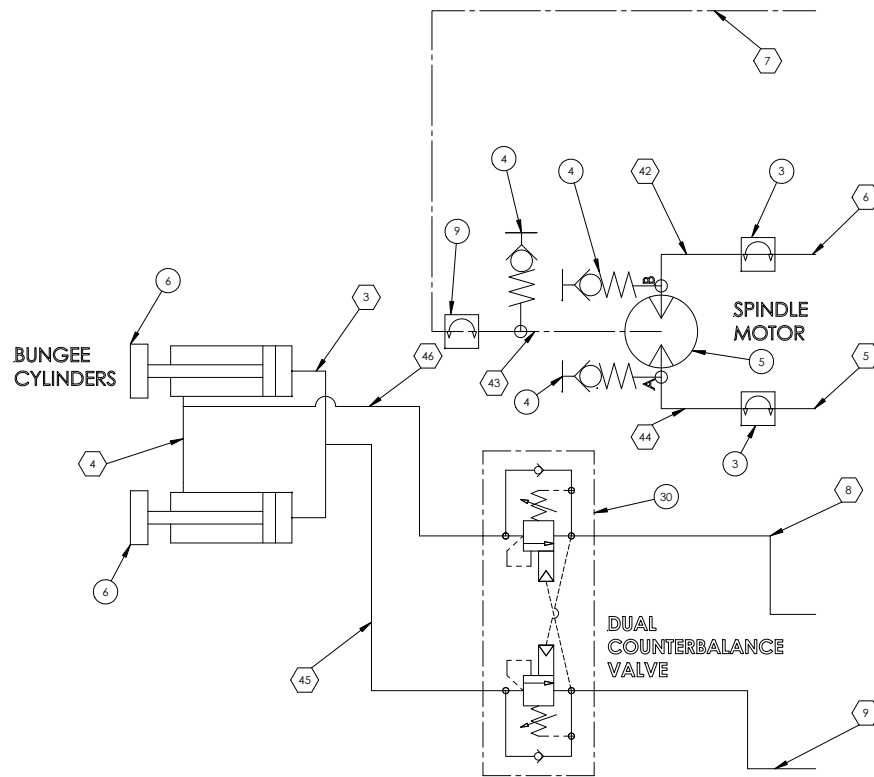
DETAIL B
SCALE 1 : 15



DETAIL C
SCALE 1:15

Hydraulic Schematic (931-7180)

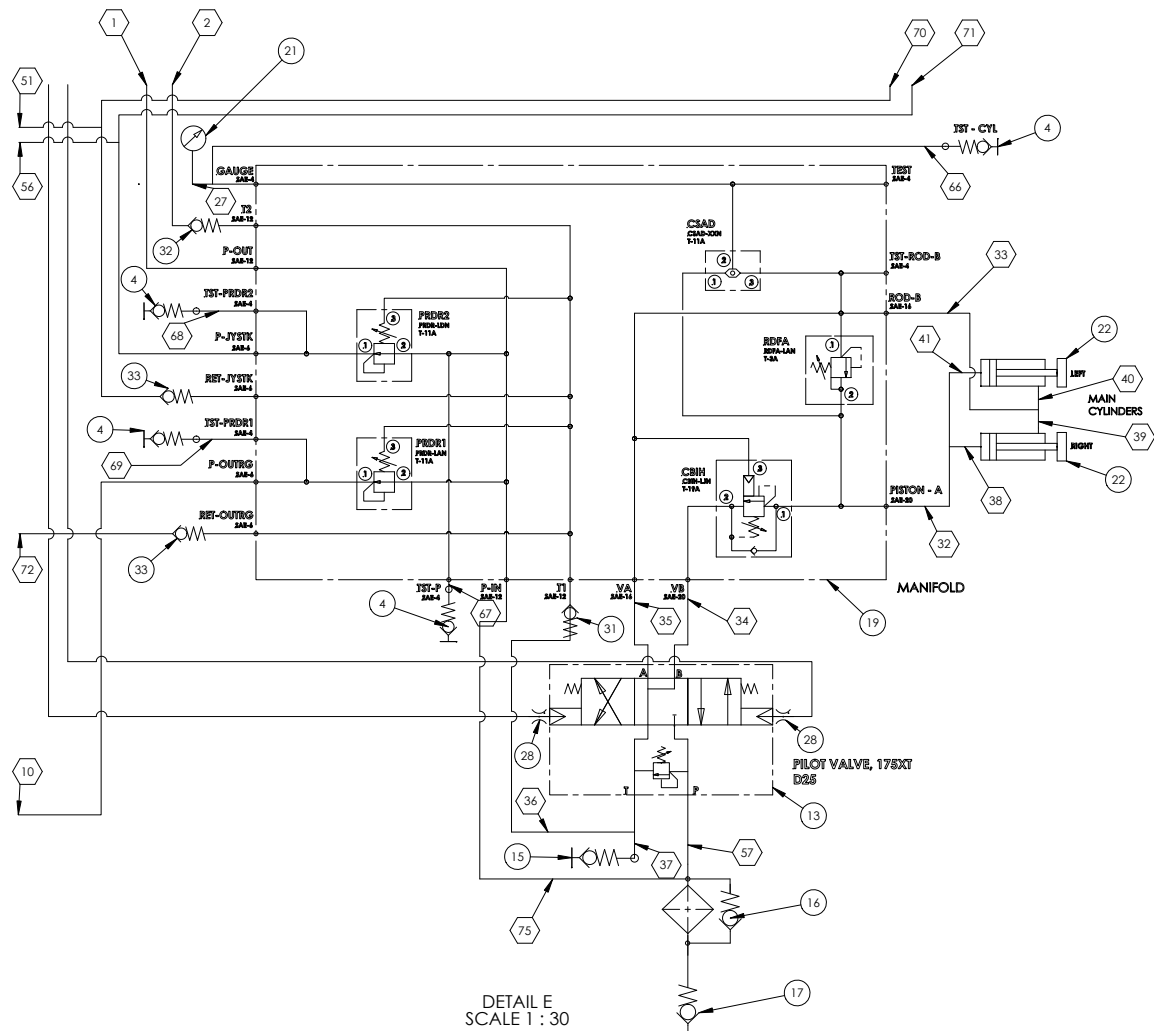
SCHEMATIC SHEET 5 OF 7



DETAIL D
SCALE 1 : 15

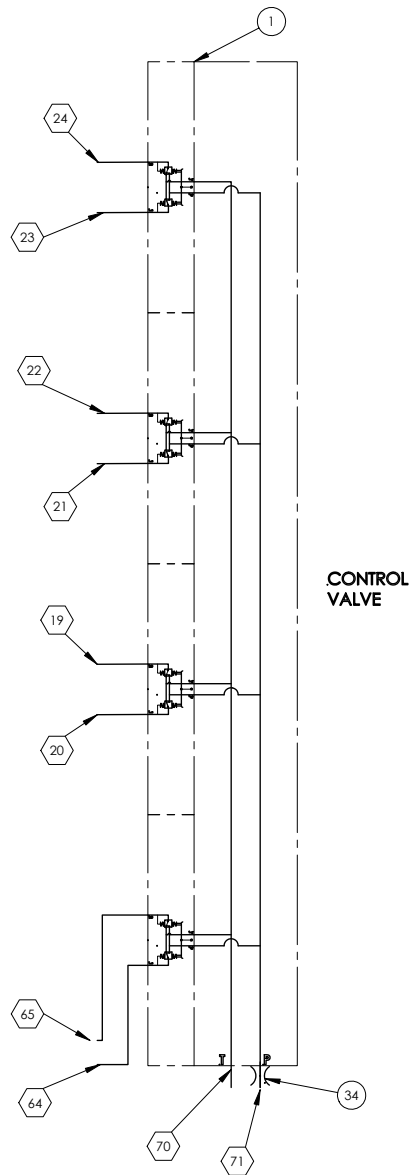
Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 6 OF 7

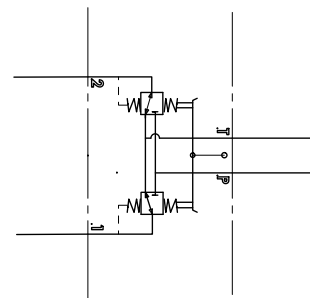


Hydraulic Schematic (931-7180)

SCHEMATIC SHEET 7 OF 7



DETAIL F
SCALE 1:25



DETAIL G
SCALE 1 : 8
4X

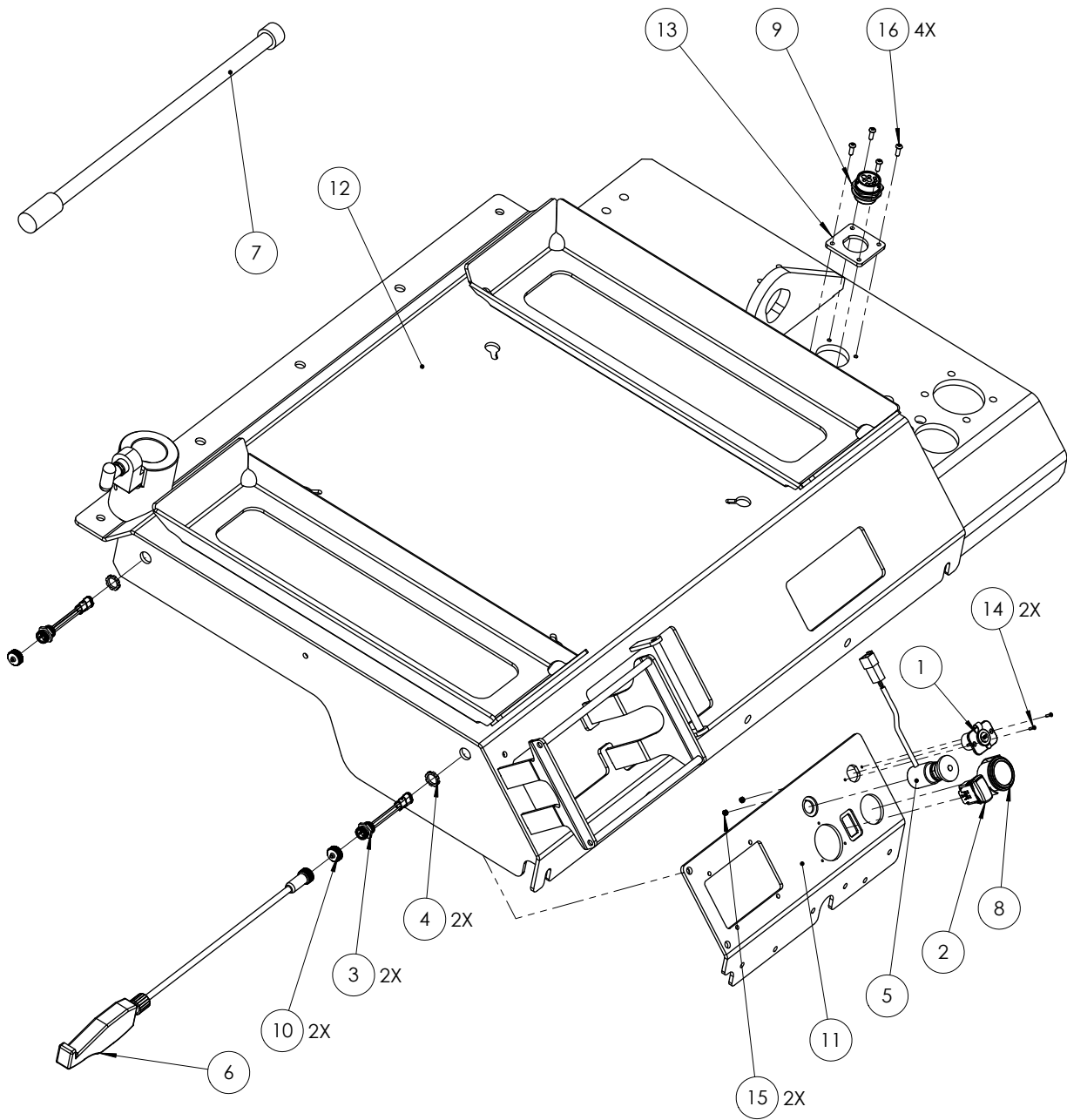
Electrical ---

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Electrical Assembly

BILL OF MATERIAL



Electrical Assembly

BILL OF MATERIAL

REF NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1	941-7382	SOCKET, 12V FLANGED	1	
2	215-1789	ROCKER SWITCH (TC) ON-ON	1	
3	931-7172	REMOTE CONNECTOR ASSEMBLY - 4"	2	
4	912-3664	NUT, CONDUIT 1/2"	2	
5	215-2096	PUSH-PULL SWITCH (DPST)	1	
6	931-7173	PENDANT ASSEMBLY, 175XT	1	
7	923-6003	UMBILICAL CORD, 100XT MAIN	1	
8	215-2594	HOUR METER ASSY.	1	
9	931-7170	WIRE HARNESS, 175XT	1	
10	912-6292	CAP, RECEPTACLE	2	
11	931-7156	WELDMENT, CONTROL PANEL	1	
12	931-7059	WELDMENT, ROD BOX TRAY	1	
13	931-7058	PLATE, RECEPTACLE ADAPTER	1	
14	941-7716	SCREW, #6-32 X 1/2 FHP	2	
15	#6NLN	NUT, #6-32 NYLON INSERT LOCK	2	
16	04BH12	SCREW, 1/4-20X0.75 BHSC	4	

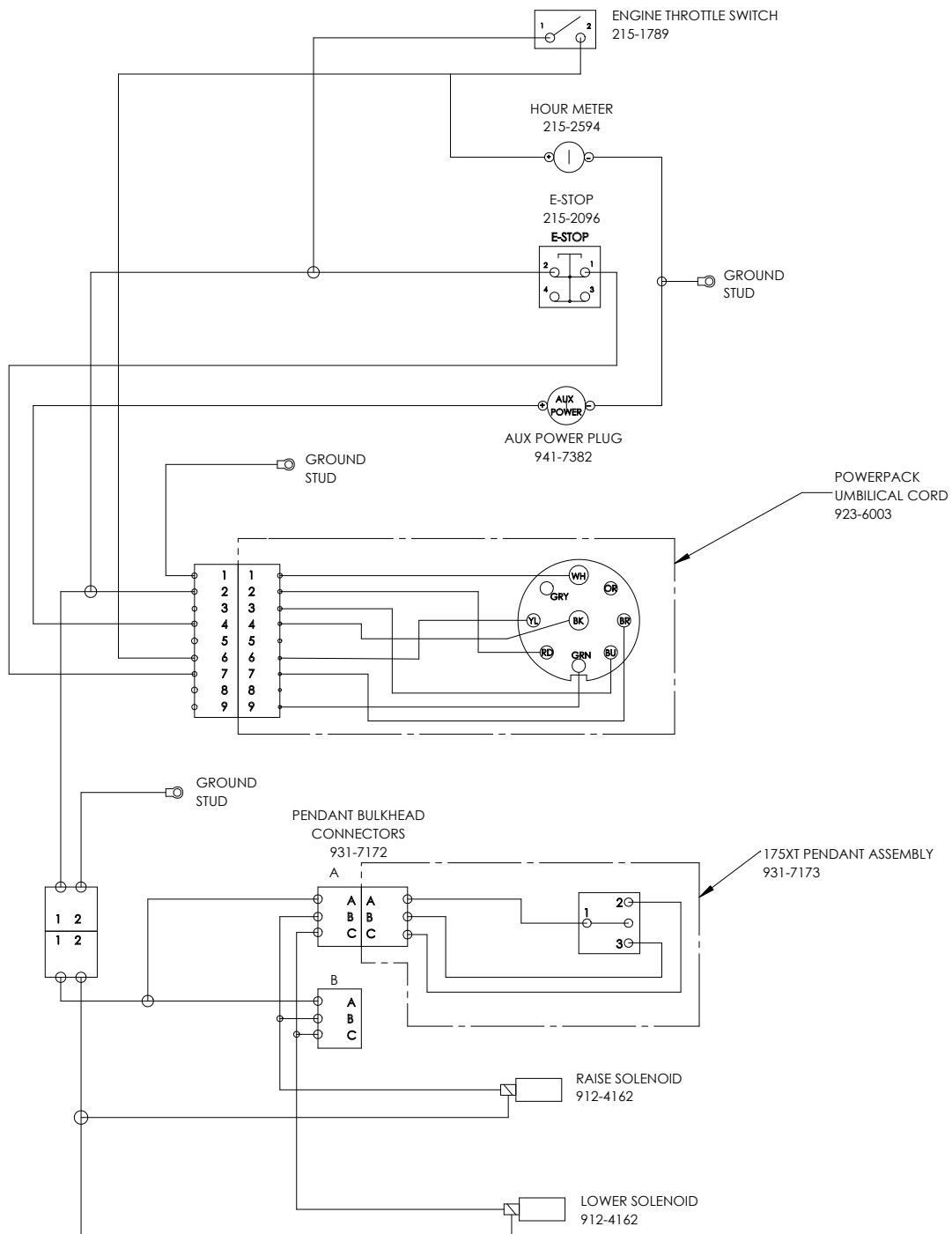
NOT SHOWN:

FOOTNOTES:

NOTE:

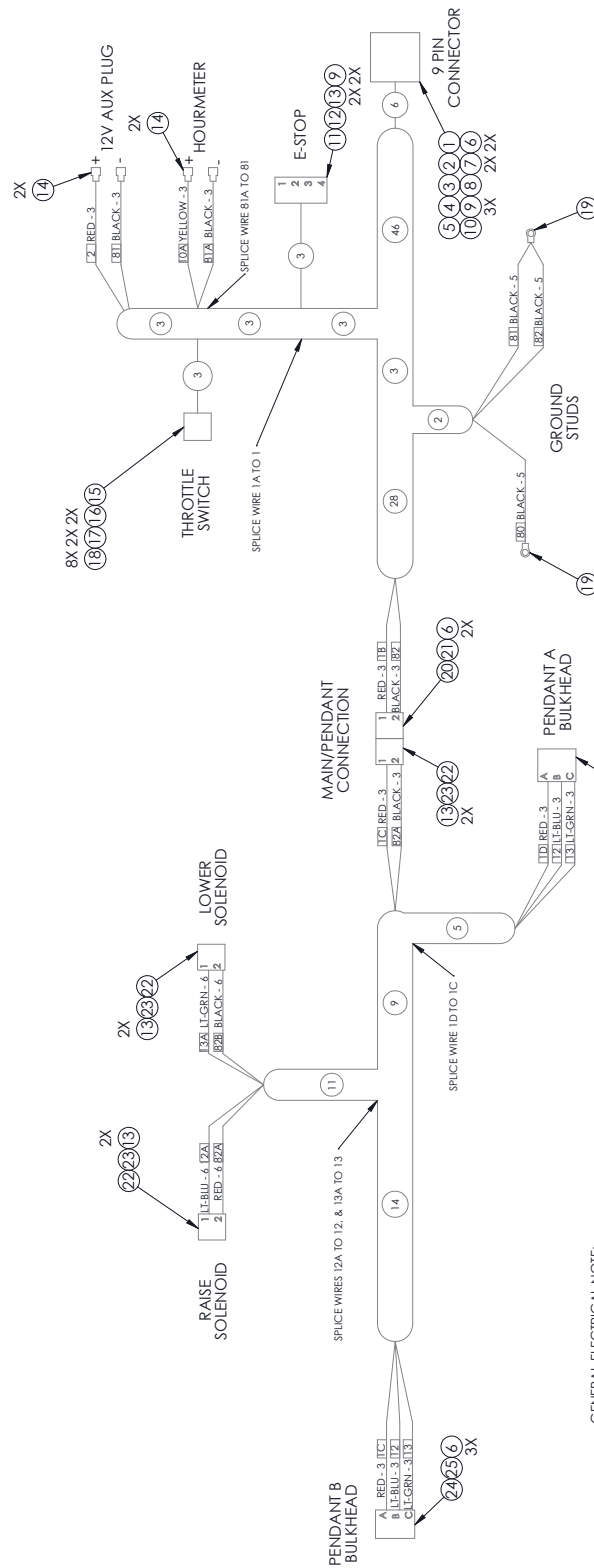
Electrical Schematic (931-7179)

ELECTRICAL SCHEMATIC - 175XT



Notes:

Wire Harness (931-7180)



GENERAL ELECTRICAL NOTE:

1. ALL WIRE TO BE SAE J1128 TYPE SXL.
2. INSULATE ALL TERMINALS UNLESS SPECIFIED OTHERWISE.
3. HEAT SHRINK SLEEVE OR INJECTION MOLD PERMISSIBLE.
4. ALL TERMINALS TO BE TINNED AND SPOT SOLDERED TO WIRES WHERE ALLOWED BY MFG.
5. EXCEPT DEUTSCH & EATON AMP TERMINALS CHECKED BEFORE SHIPPING.
6. APPLY DIELECTRIC GREASE TO ALL FEMALE TERMINALS AND SOCKETS AS MOISTURE BARRIER WHERE ALLOWED BY MFG.
7. BRANDED DEUTSCH & EATON AMP TERMINALS BRANDED COVERAGE IS 12 PICKS PER INCH.
8. PLACE SPICES A MINIMUM OF 1" APART.
9. PLUG OPEN CONNECTOR SOCKETS.
10. HOT STAMP OR LABEL CIRCUIT NUMBER WITHIN 1" OF END ON ALL WIRES.

E-STOP	
PIN	WIRE COLOR
1	11 BROWN
2	1 RED
3	N/A PLUG
4	N/A PLUG

9 PIN CONNECTOR	
PIN	WIRE COLOR
1	80 BLACK
2	1 RED
3	N/A PLUG
4	2 RED
5	N/A PLUG
6	10 YELLOW
7	11 BROWN
8	N/A PLUG
9	N/A PLUG

THROTTLE SWITCH	
PIN	WIRE COLOR
1	N/A PLUG
2	1A RED
3	10 YELLOW
4	N/A PLUG
5	N/A PLUG
6	N/A PLUG
7	N/A PLUG
8	N/A PLUG
9	N/A PLUG
10	N/A PLUG

Wire Harness (931-7180)

175XT WIRE HARNESS ELECTRICAL CIRCUITS				
NO.	COLOR	Ga.	FROM	TO
1	RED	14	9 PIN CONNECTOR - PIN 2	E-STOP - PIN 2
1A	RED	16	SPLICE TO WIRE 1	THROTTLE SWITCH - PIN 2
1B	RED	16	SPLICE TO WIRE 1	MAIN/PENDANT CONNECTION - RECEPTACLE PIN 1
1C	RED	16	MAIN/PENDANT CONNECTION - PLUG PIN 1	PENDANT B BULKHEAD - PIN A
1D	RED	16	SPLICE TO WIRE 1C	PENDANT A BULKHEAD - PIN A
2	RED	14	9 PIN CONNECTOR - PIN 4	12V AUX PLUG - "+" TERMINAL
10	YELLOW	16	9 PIN CONNECTOR - PIN 6	THROTTLE SWITCH - PIN 3
10A	YELLOW	16	SPLICE TO WIRE 10	HOURLY METER - "+" TERMINAL
11	BROWN	16	9 PIN CONNECTOR - PIN 7	E-STOP - PIN 1
12	LT-BLUE	16	PENDANT A BULKHEAD - PIN B	PENDANT B BULKHEAD - PIN B
12A	LT-BLUE	16	SPLICE TO WIRE 12	RAISE SOLENOID - PIN 1
13	LT-GREEN	16	PENDANT A BULKHEAD - PIN C	PENDANT B BULKHEAD - PIN C
13A	LT-GREEN	16	SPLICE TO WIRE 13	LOWER SOLENOID - PIN 1
80	BLACK	10	9 PIN CONNECTOR - PIN 1	GROUND STUD
81	BLACK	16	GROUND STUD	12V AUX PLUG - "-" TERMINAL
81A	BLACK	16	SPLICE TO WIRE 81	HOURLY METER - "-" TERMINAL
82	BLACK	16	GROUND STUD	MAIN/PENDANT CONNECTION - RECEPTACLE PIN 2
82A	BLACK	16	MAIN/PENDANT CONNECTION - PLUG PIN 2	RAISE SOLENOID - PIN 2
82B	BLACK	16	SPLICE TO WIRE 82A	LOWER SOLENOID - PIN 2

HB175XT MATERIAL LIST				
ITEM	QTY	MFG	MFG P/N	DESCRIPTION
1	1	DEUTSCH	HD34-24-91PE	HD30 9-WAY RECEPTACLE
2	1	DEUTSCH	HDC36-24	HD30 RECEPTACLE COVER
3	1	DEUTSCH	HD30-24BT	HD30 BOOT
4	1	DEUTSCH	112264	HD30 WASHER
5	1	DEUTSCH	112263-90	HD30 NUT
6	10	DEUTSCH	0460-202-16141	SIZE 16 PIN (16-20 Ga.)
7	2	DEUTSCH	0460-204-12141	SIZE 12 PIN (12-14 Ga.)
8	1	DEUTSCH	0460-204-08141	SIZE 8 PIN (8-10 Ga.)
9	5	DEUTSCH	114017	SIZE 12-16 SEALING PLUG
10	1	DEUTSCH	114018	SIZE 8 SEALING PLUG
11	1	DEUTSCH	DT06-4S	DT 4-WAY PLUG
12	1	DEUTSCH	W4S	DT 4-WAY LOCK
13	8	DEUTSCH	0462-201-16141	SIZE 16 SOCKET (16-20 Ga.)
14	4			INSULATED PUSH ON FEMALE .250 X .032 TAB (16-14 Ga.)
15	1	EATON	25-13936	SVR CONNECTOR BODY
16	2	EATON	927766-3	AMP TERMINAL (14-16 Ga.)
17	2	EATON	828905-1	AMP CABLE SEAL (14-16 Ga.)
18	8	EATON	828922-1	SVR SEALING PLUG
19	2			3/8" UNINSULATED RING TERMINAL
20	1	DEUTSCH	DT04-2P	DT 2-WAY RECEPTACLE
21	1	DEUTSCH	W2P	DT 2-WAY LOCK
22	3	DEUTSCH	DT06-2S	DT 2-WAY PLUG
23	3	DEUTSCH	W2S	DT 2-WAY LOCK
24	2	DEUTSCH	DT04-3P	DT 3-WAY RECEPTACLE
25	2	DEUTSCH	W3P	DT 3-WAY LOCK

Notes:

Appendix ---

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Torque Standards - Hydraulic Fittings

O—RING BOSS FITTINGS

Assembly Torque (+10% —0)													
Dash Size	Nom. Size (Inch)	SAE Size	Female Thread	Male Thread	O-Ring	O-Ring Boss		O-Ring Boss		Hollow Hex		Hex Head	
						Non-Adjustable		Adjustable		Plugs			
			I.D. (IN)	O.D. (IN)	I.D. (IN)	ft-lbs. (in-lbs.)	N-m	ft-lbs. (in-lbs.)	N-m	ft-lbs. (in-lbs.)	N-m	ft-lbs. (in-lbs.)	N-m
-2	1/8	5/16-24	17/64	5/16	17/64	-	-	-	-	(30)	4	(85)	10
-3	3/16	3/8-24	21/64	3/8	21/64	-	-	-	-	(55)	6	(155)	18
-4	1/4	7/16-20	25/64	7/16	25/64	26	35	(180)	20	(120)	14	22	29
-5	5/16	1/2-20	29/64	1/2	29/64	30	40	30	40	(170)	19	23	32
-6	3/8	9/16-18	1/2	9/16	1/2	35	46	35	46	34	46	29	40
-8	1/2	3/4-16	11/16	3/4	11/16	60	80	60	80	60	80	52	70
-10	5/8	7/8-14	13/16	7/8	13/16	100	135	100	135	100	135	85	115
-12	3/4	1-1/16-12	31/32	1-1/16	31/32	135	185	135	185	135	185	135	183
-14	7/8	1-3/16-12	1-7/64	1-3/16	1-7/64	175	235	175	235	175	235	175	237
-16	1	1-5/16-12	1-15/64	1-5/16	1-15/64	200	270	200	270	200	270	200	271
-20	1-1/4	1-5/8-12	1-35/64	1-5/8	1-35/64	250	340	250	340	250	340	250	339
-24	1-1/2	1-7/8-12	1-51/64	1-7/8	1-51/64	305	415	305	415	305	415	305	414
-32	2	2-1/2-12	2-27/64	2-1/2	2-27/64	375	510	375	510	375	510	375	509

NOTE:

Ensure the threads and sealing surfaces are free from nicks, burrs, scratches or any foreign material. Lubricate the o-ring with a light coat of oil. To tighten adjustable o-ring fittings, hold the fitting and tighten the nut. To tighten non-adjustable o-ring fittings, tighten the fitting. When tightening together fittings with dissimilar coatings, torque to 115% of maximum recommended torque value for a given size.

O—RING FACE SEAL FITTINGS

Dash Size	Nom. Size (Inch)	Thread Size	Female Thread	Male Thread	Assembly Torque (+10% —0) (Primary Method)		Flats from Wrench Resist-ance (FFWR) (Secondary Method)		O-Ring
			I.D. (IN)	O.D. (IN)	ft-lbs. (in-lbs.)	N-m	Tube Nuts	Swivel & Hose	I.D. (Inch)
-4	1/4	9/16-18	1/2	9/16	18	25	1/2	3/4	5/16
-6	3/8	11/16-16	11/16	11/16	30	40	1/2	3/4	3/8
-8	1/2	13/16-16	3/4	13/16	40	55	1/2	3/4	1/2
-10	5/8	1-14	13/16	1	60	80	1/2	3/4	5/8
-12	3/4	1-3/16-12	1-7/64	1-3/16	85	115	1/2	1/2	3/4
-16	1	1-7/16-12	1-23/64	1-7/16	110	150	1/2	1/2	15/16
-20	1-1/4	1-11/16-12	1-19/32	1-11/16	150	205	1/2	1/2	1-3/16
-24	1-1/2	2-12	1-59/64	2	230	315	1/2	1/2	1-1/2

PIPE FITTINGS

Nom. SAE Dash Size	Fractional Size	Threads Per Inch	Turns from Finger Tight
2	1/8	27	2-3
4	1/4	18	2-3
6	3/8	18	2-3
8	1/2	14	2-3
12	3/4	14	2-3
16	1	11-1/2	1.5-2.5
20	1-1/4	11-1/2	1.5-2.5
24	1-1/2	11-1/2	1.5-2.5
32	2	11-1/2	1.5-2.5

NOTE:

Ensure the threads and sealing surfaces are free from nicks, burrs, scratches or any foreign material. Lubricate the o-ring with a light coat of oil. To tighten adjustable o-ring fittings, hold the fitting and tighten the nut. To tighten non-adjustable o-ring fittings, tighten the fitting. When tightening together fittings with dissimilar coatings, torque to 115% of maximum recommended torque value for a given size.

Torque Values - SAE Fasteners

GRADE 5: UNC OR UNF THREAD

Size	Coarse Thread		Fine Thread	
	ft-lbs	N-m	ft-lbs	N-m
1/4	6	8.5	8	11
5/16	13	18	15	20.5
3/8	25	35	30	40
7/16	40	55	45	60
1/2	60	80	70	95
9/16	90	120	95	130
5/8	120	165	145	200
3/4	210	285	240	325
7/8	320	435	350	475
1	480	650	560	760
1-1/8	700	950	780	1060
1-1/4	1020	1385	1100	1545

NOTE:

Do not use these values if a different torque value or tightening procedure is given for specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class fasteners.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to strength of original.

Make sure fastener threads are clean and that the threads are properly started. This will prevent them from cross threading or galling when tightened.

Tighten plastic insert or crimped type steel locknuts to approximately 50% of dry torque indicated on chart. Apply torque to the nut – not the bolt head. Tighten toothed or serrated type locknuts to full torque value.

LUBRICATED means coated with lubricant. DRY means plain or zinc plated without any type of lubricant.

GRADE 8: UNC OR UNF THREAD

Size	Coarse Thread		Fine Thread	
	ft-lbs	N-m	ft-lbs	N-m
1/4	10	13	11	15
5/16	20	27	22	29.5
3/8	35	47	40	55
7/16	55	75	65	88
1/2	90	120	95	130
9/16	120	165	135	185
5/8	180	245	195	265
3/4	300	405	340	460
7/8	500	680	560	760
1	800	1085	920	1250
1-1/8	1180	1600	1340	1815
1-1/4	1720	2330	1900	2575

NOTE:

Do not use these values if a different torque value or tightening procedure is given for specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class fasteners.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to strength of original.

Make sure fastener threads are clean and that the threads are properly started. This will prevent them from cross threading or galling when tightened.

Tighten plastic insert or crimped type steel locknuts to approximately 50% of dry torque indicated on chart. Apply torque to the nut – not the bolt head. Tighten toothed or serrated type locknuts to full torque value.

LUBRICATED means coated with lubricant. DRY means plain or zinc plated without any type of lubricant.

Torque Values - Metric Fasteners

Size	Class 4.8				Class 8.8 and 9.8				Class 10.9				Class 12.9			
	Lubricated		Dry		Lubricated		Dry		Lubricated		Dry		Lubricated		Dry	
	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.	N-m	ft-lbs.
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1600	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

NOTE:

Do not use these values if a different torque value or tightening procedure is given for specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class fasteners.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to strength of original.

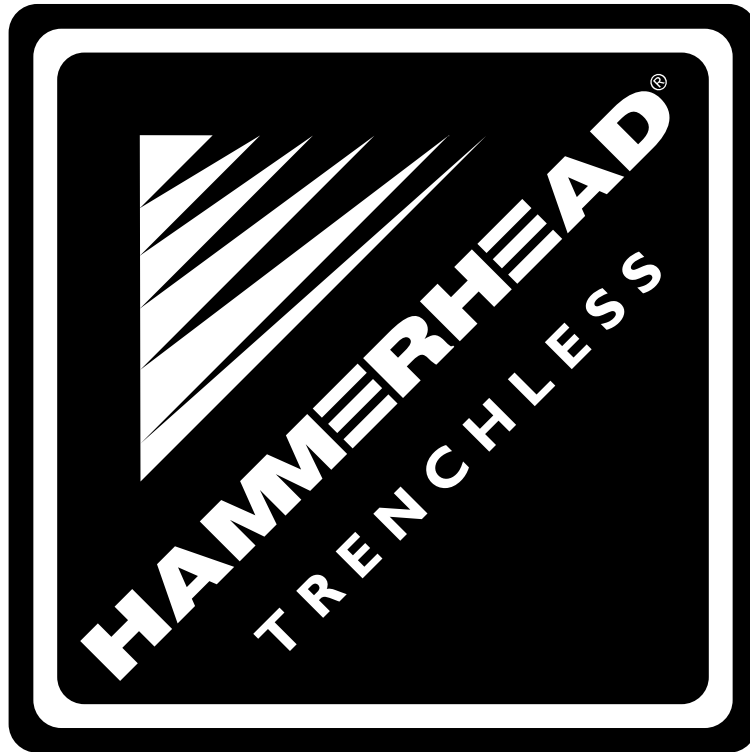
Make sure fastener threads are clean and that the threads are properly started. This will prevent them from cross threading or galling when tightened.

Tighten plastic insert or crimped type steel locknuts to approximately 50% of dry torque indicated on chart. Apply torque to the nut – not the bolt head. Tighten toothed or serrated type locknuts to full torque value.

LUBRICATED means coated with lubricant. DRY means plain or zinc plated without any type of lubricant.

Notes:

[illegible]



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