



TECHNICAL PUBLICATIONS

Parts Manual 100XTR

960-1137



100XTR

For replacement copy order P/N 960-1137
Updated: 12/08/2020

Descriptions and specifications were current at the time of publication. However, Earth Tool Company LLC (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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INTRODUCTION

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.

Earth Tool Company LLC 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.

OPERATIONS 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.

WARRANTY

Limited Warranty Policy

Earth Tool Company, LLC, 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 here under 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 transportation 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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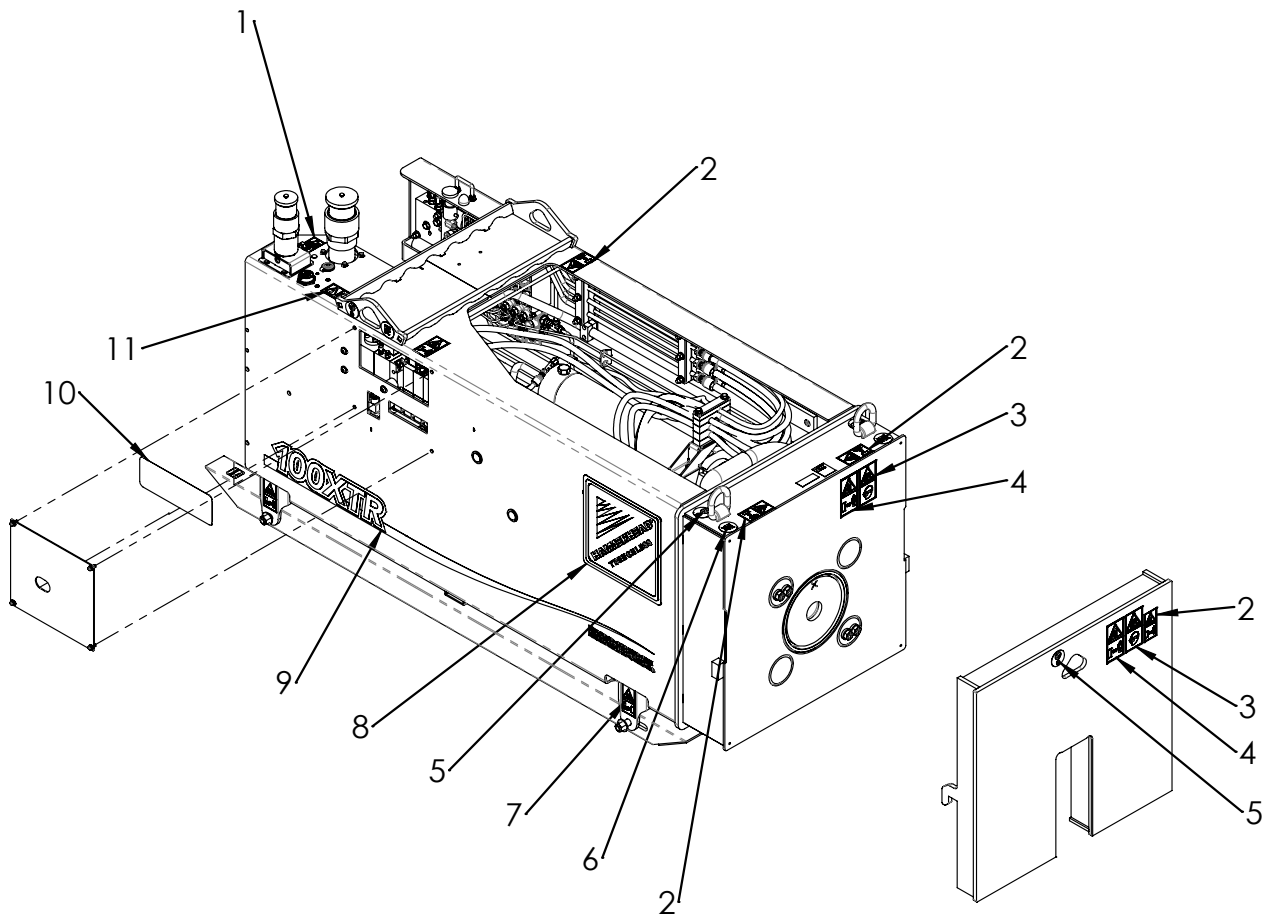
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Decals

Decals - 923-4001

100XTR



Decals - 923-4001

100XTR

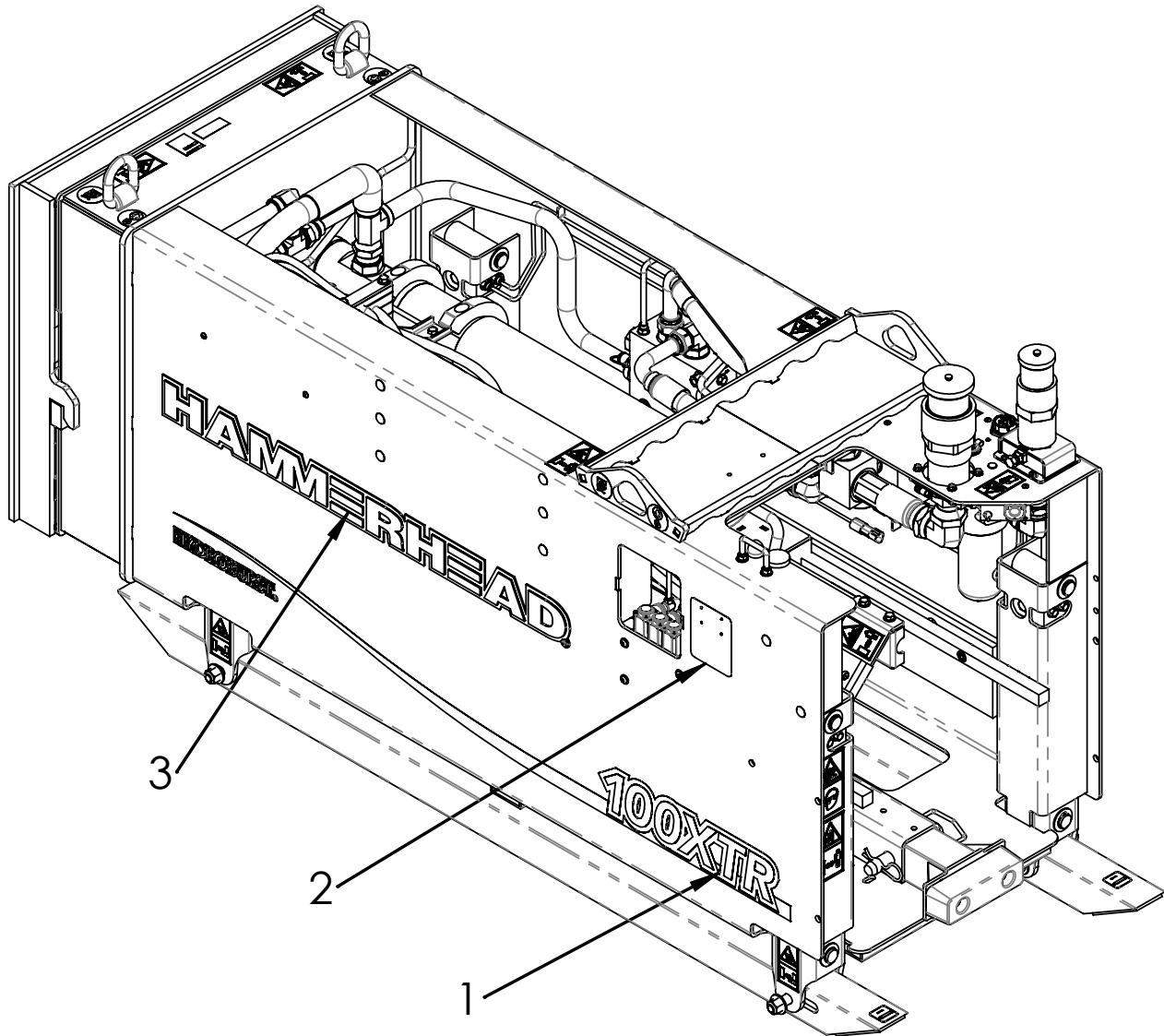
Bom ID	Part No	Description	Qty	Remarks
1	701-355	DECAL, HOT (INT)	1	
2	923-2209	DECAL, FALLING LOAD (INT)	5	
3	270-6904	CAUTION FLYING OBJECTS - ISO	3	
4	700-204	DECAL, CRUSH HAZARD (INT)	3	
5	909-8194	DECAL, -LIFT POINT(SMALL)	5	
6	909-8195	DECAL, TIE DOWN (SMALL)	4	
7	270-8052	DECAL, FOOT CRUSH (INT)	4	
8	912-4976	DECAL, HH MOUNTAIN SQ - 12X12	1	
9	923-4048	DECAL, 100XTR RIGHT	1	
10	923-4025	DECAL, MANUAL VALVE OP	1	
11	700-143	WARNING READ MANUAL ISO	1	

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Footnotes:

Notes:

Decals - 923-4001
100XTR



Decals - 923-4001

100XTR

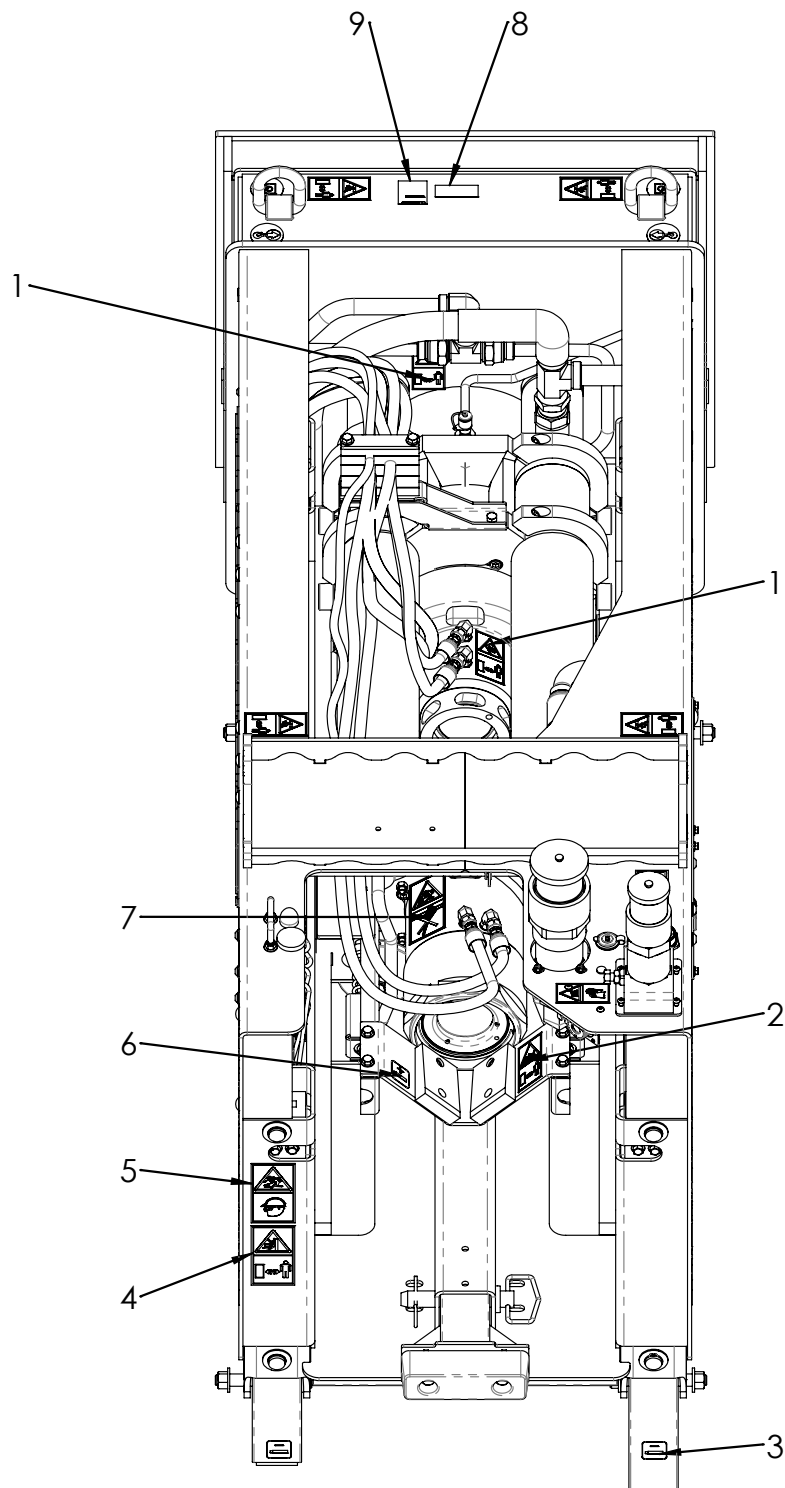
Bom ID	Part No	Description	Qty	Remarks
1	923-4049	DECAL, 100XTR LEFT	1	
2	930-3005	DECAL, HB100 STABILIZER *N/C*	1	
3	923-1702	DECAL, HAMMERHEAD, 40"	1	

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Footnotes:

Notes:

Decals - 923-4001
100XTR



Decals - 923-4001

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-2214	DECAL, HAND CRUSH (INT)	2	
2	270-1151	DECAL, ROTATING SHAFT (INT)	1	
3	923-1763	DECAL, REMOVE ROD INDICATOR	2	
4	923-2210	DECAL, CRUSH HAZARD (INT)	3	
5	270-6904	CAUTION FLYING OBJECTS - ISO	3	
6	923-1762	DECAL, ADD ROD INDICATOR	1	
7	700-075	DECAL, NO WRENCH (INT)	1	
8	270-6773	PATENT	1	
9	923-4061	DECAL, SERIAL NO. TAG, 100XTR	1	

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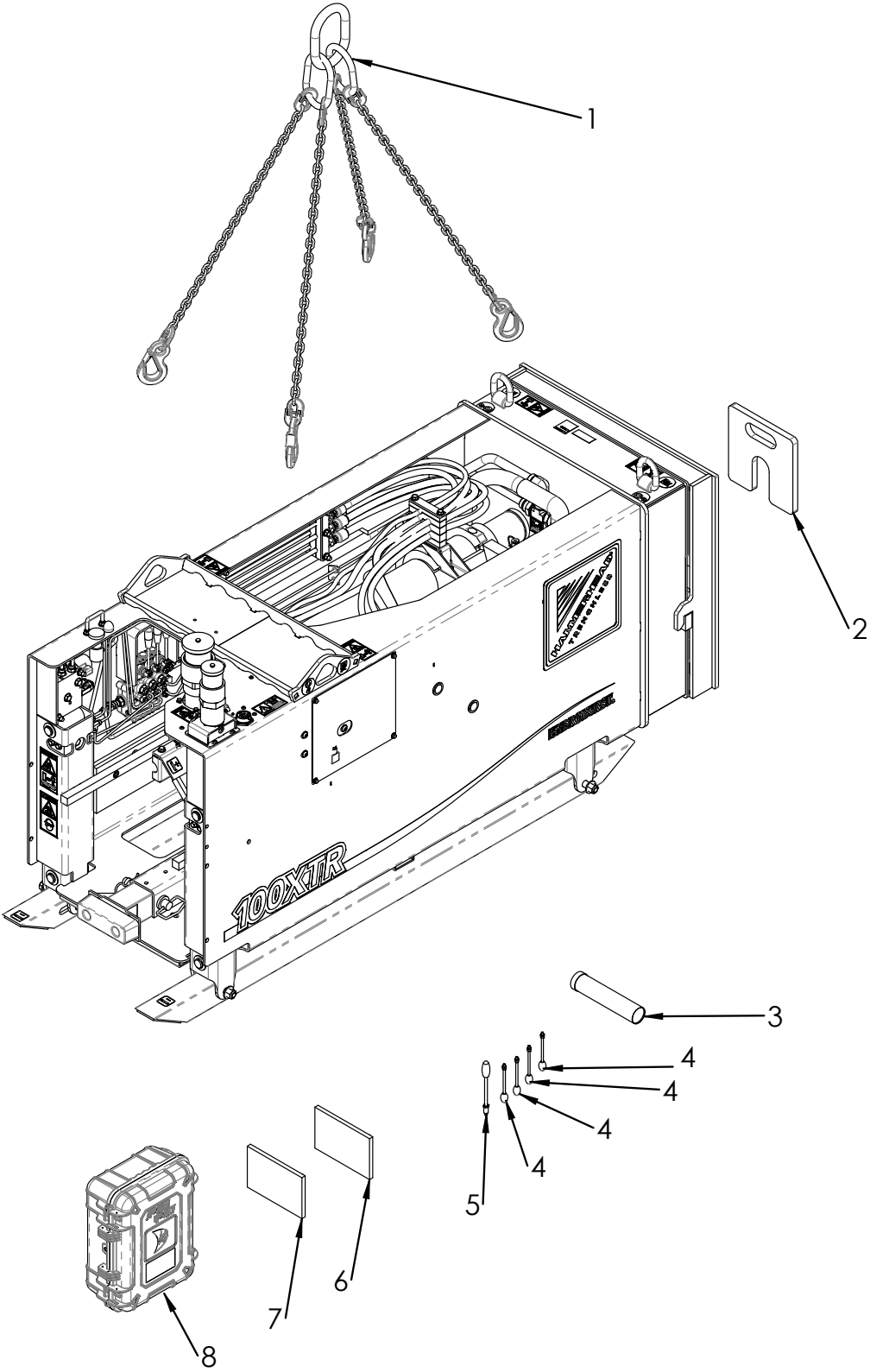
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Notes

Main Frame

Main Frame - 923-4003
100XTR



Main Frame - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	913-0300	CHAIN SLING, 9/32 X 40	1	
2	923-2400	FRONT PLATE REDUCER	1	
3	923-0818	GREASE, EXTREME PRESSURE (RED)	1	
4	923-0483	HANDLE, SIZE 2	4	
5	923-0484	HANDLE, SIZE 5	1	
6	960-1015	OPERATOR'S MANUAL, 100XTR	1	
7	960-1137	PARTS BOOK, 100XTR	1	
8	302-0375	REMOTE & DRILL LOCK STORAGE BOX	1	

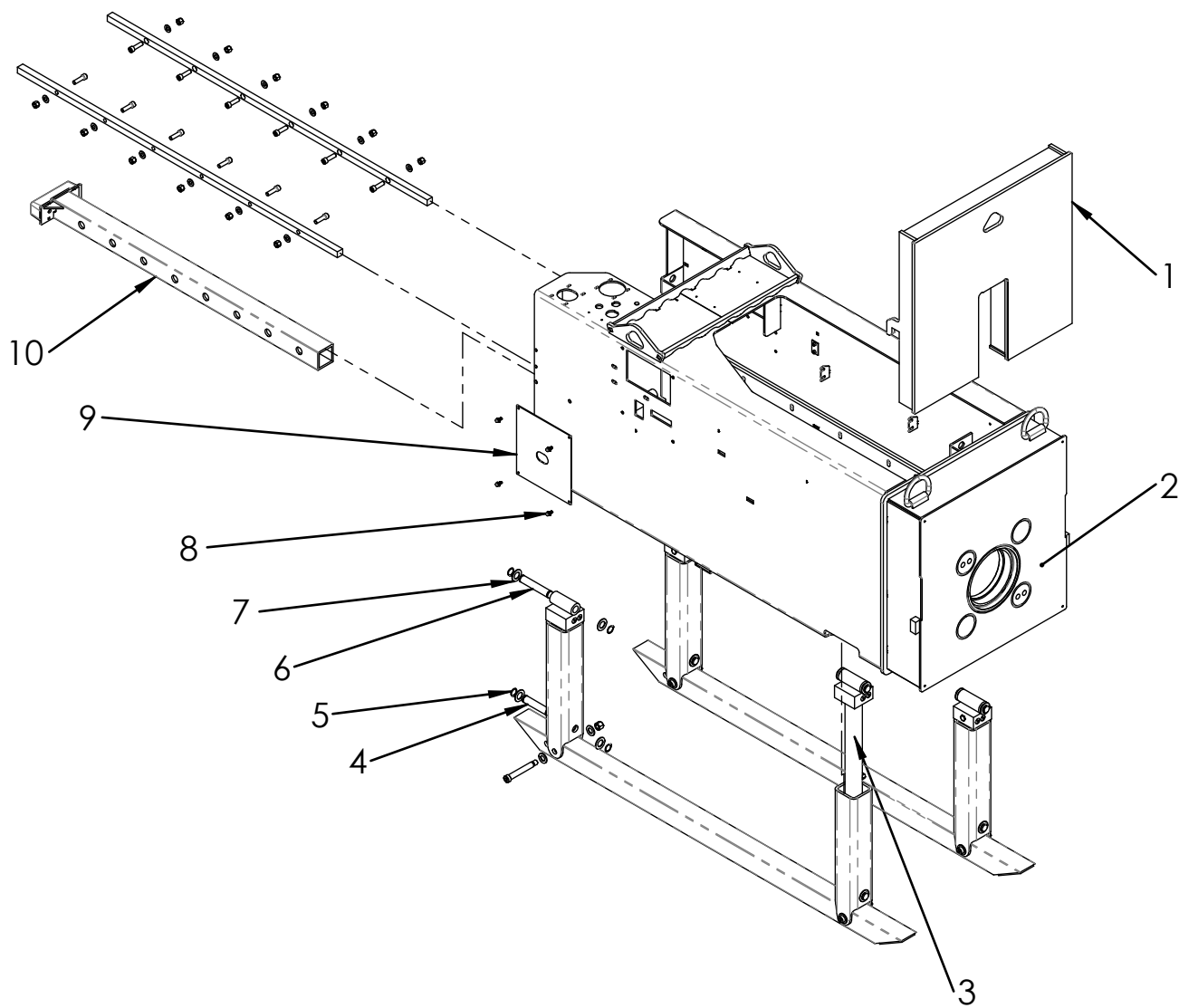
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Notes:

Main Frame - 923-4003

100XTR



Main Frame - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1884	FRONT PLATE ASSY (INT)	1	
2	923-4010	FRAME, 100XTR	1	
3	923-0470	CYLINDER STABILIZER	4	
4	923-0309	SKI PIN, 1 X 4.75	4	
5	923-1749	RETAINING RING, 1" SHAFT"	16	
6	923-0318	SKI PIN, 1 X 5.5	4	
7	923-1747	WASHER, 1" MIL-SPEC"	16	
8	04FLH10	SCREW, FLH 1/4-20 X .625	4	
9	923-4023	VALVE COVER	1	
10	923-1725	REAR STABILIZER, 100XT	1	

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Footnotes:

923-1884 INCLUDES THE FOLLOWING PARTS

923-1668

270-6904

923-2209

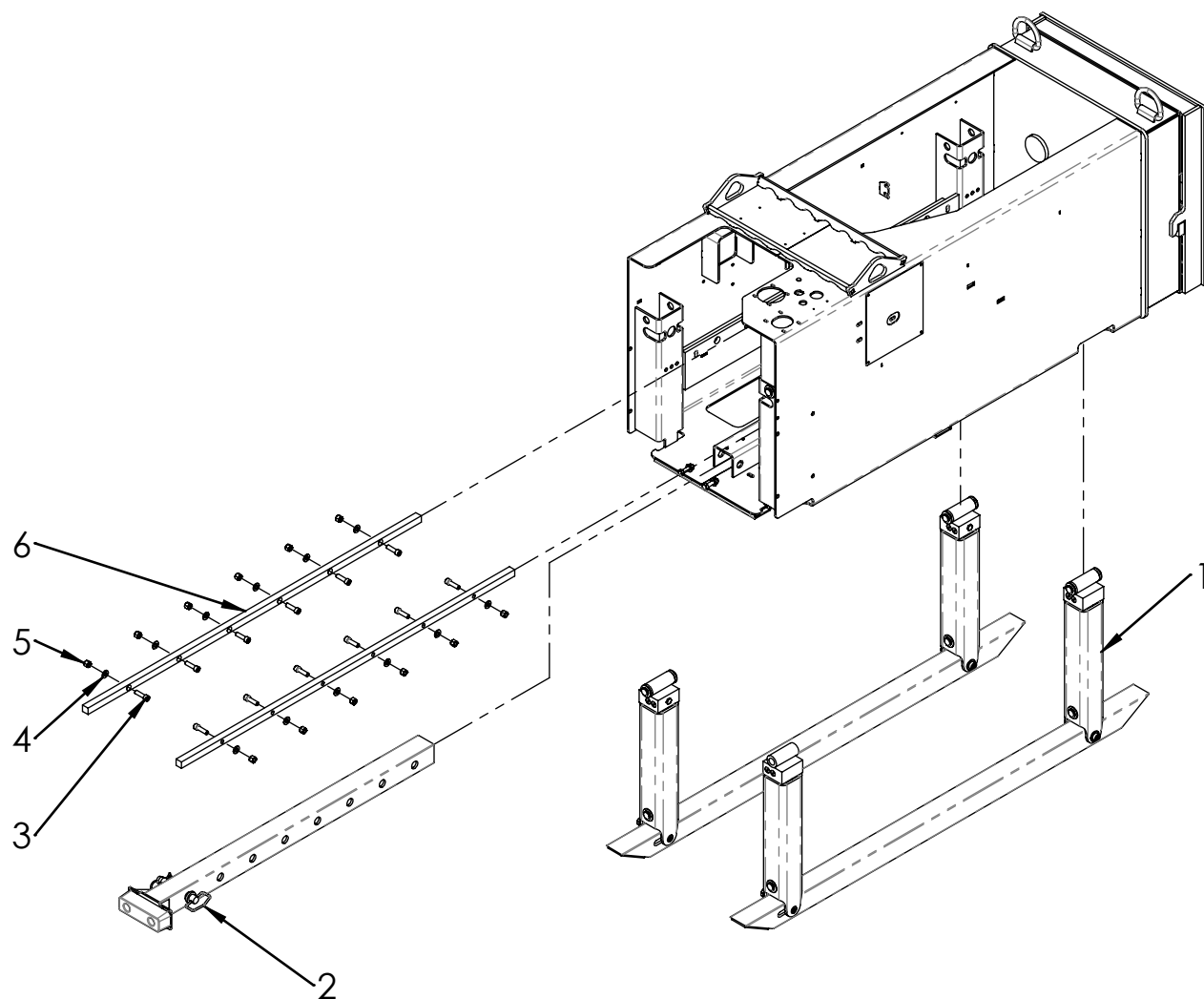
923-2210

909-8194

Notes:

Main Frame - 923-4003

100XTR



Main Frame - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1710	SKI ASSEMBLY	2	
2	912-1100	DRAW PIN 1 X 5-3/4"	1	
3	08SH28	SCREW, SHC 1/2-13 X 1-3/4"	12	
4	08FW-SAE	WASHER, 1/2"	12	
5	08TLN	NUT, 1/2-13 TOP LOCK	12	
6	923-1231	RAIL, 100XT CARRIAGE	2	

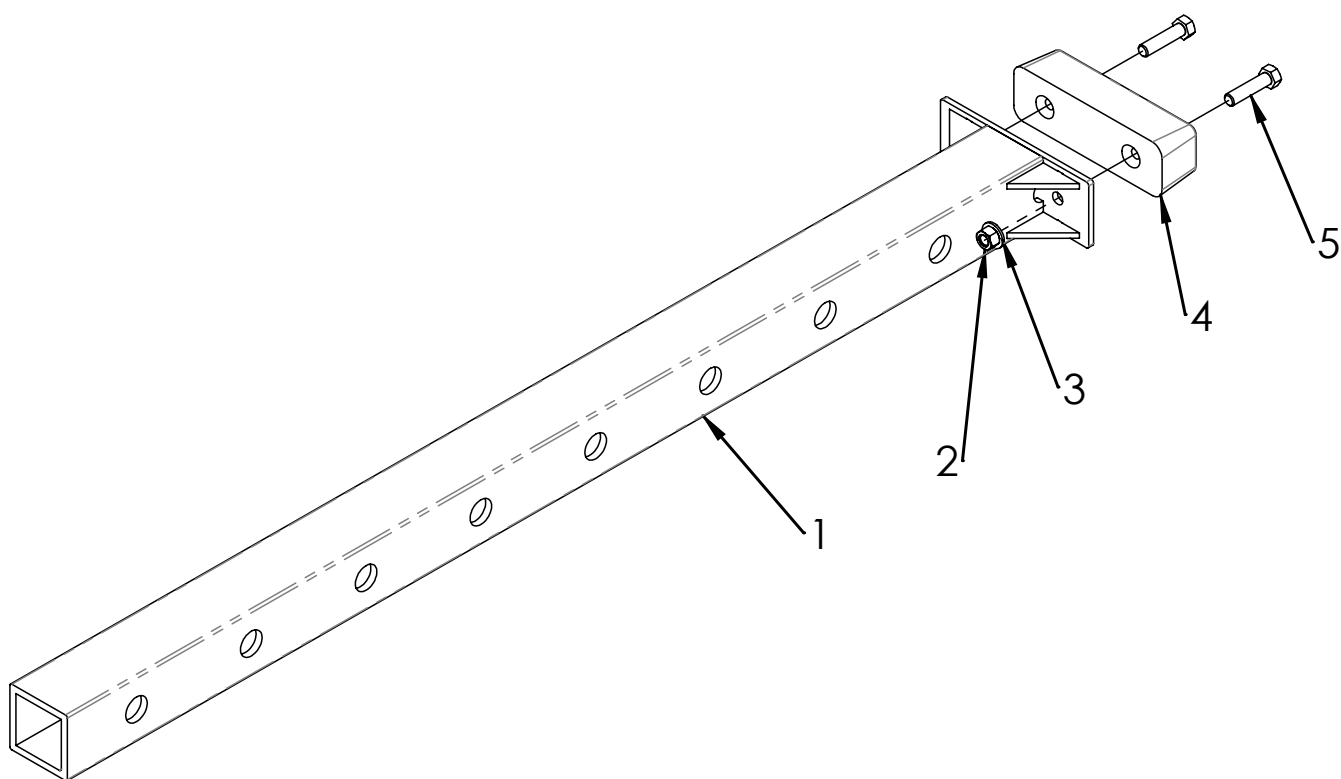
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Notes:

Rear Stabilizer - 923-1725

100XTR



Rear Stabilizer - 923-1725

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1726	WELDMENT, REAR STABILIZER	1	
2	08HN	NUT, 1/2-13 HEX	2	
3	08FW-SAE	WASHER, 1/2"	2	
4	912-3728	BUMPER, RUBBER	1	
5	08HH32	SCREW, 1/2-13 x 2.0 HHC - GR8	2	

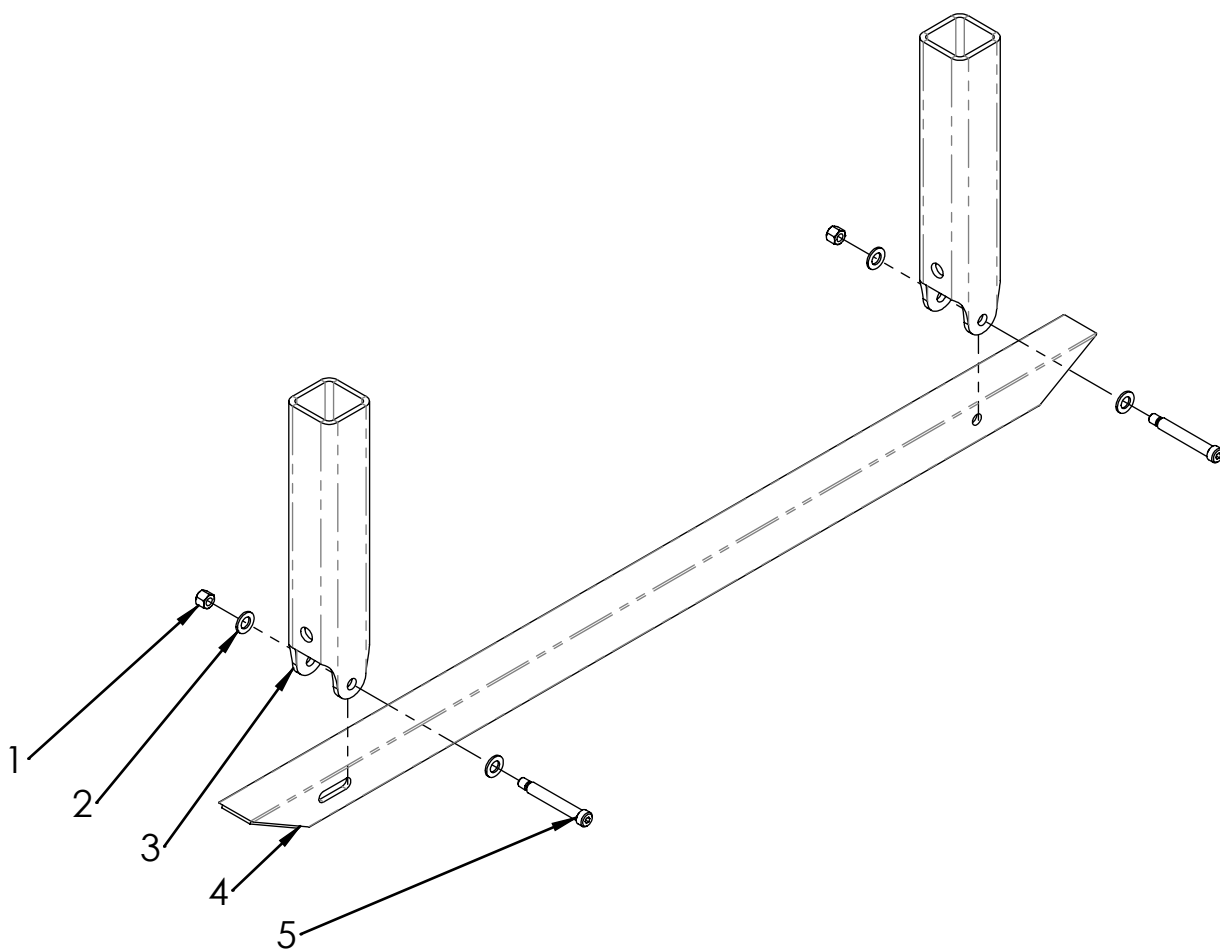
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Notes:

Ski Assembly - 923-1710

100XTR



Ski Assembly - 923-1710

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	10TLN	NUT, 5/8-11 TOP LOCK	2	
2	12FW-SAE	WASHER, 3/4"	4	
3	923-1714	LEG, SKI	2	
4	923-1711	WELDMENT, SKI	1	
5	12SS72	SCREW, 3/4 x 4.5 SHOULDER	2	

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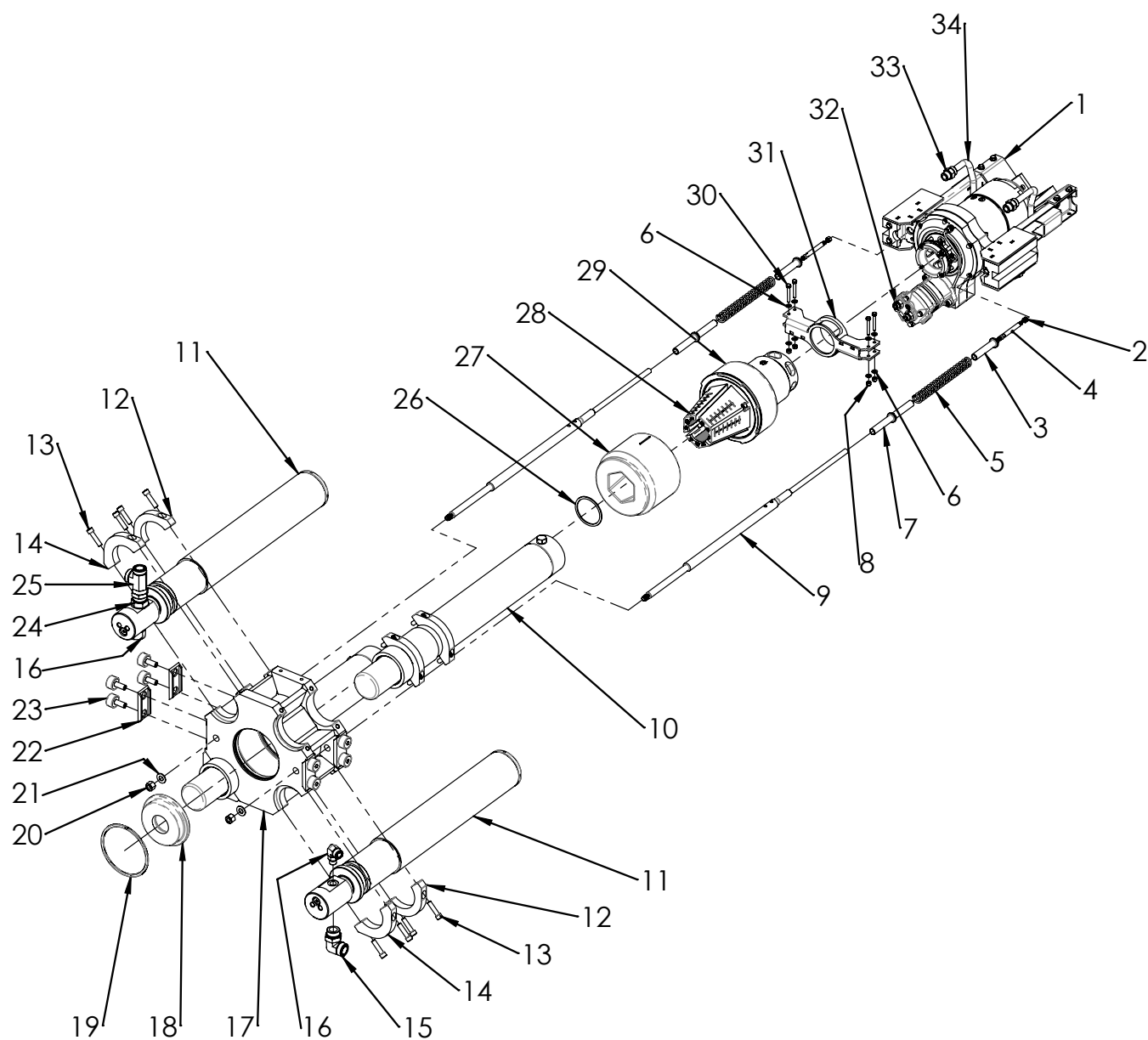
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Traveling Carriage

Traveling Carriage - 923-4005

100XTR



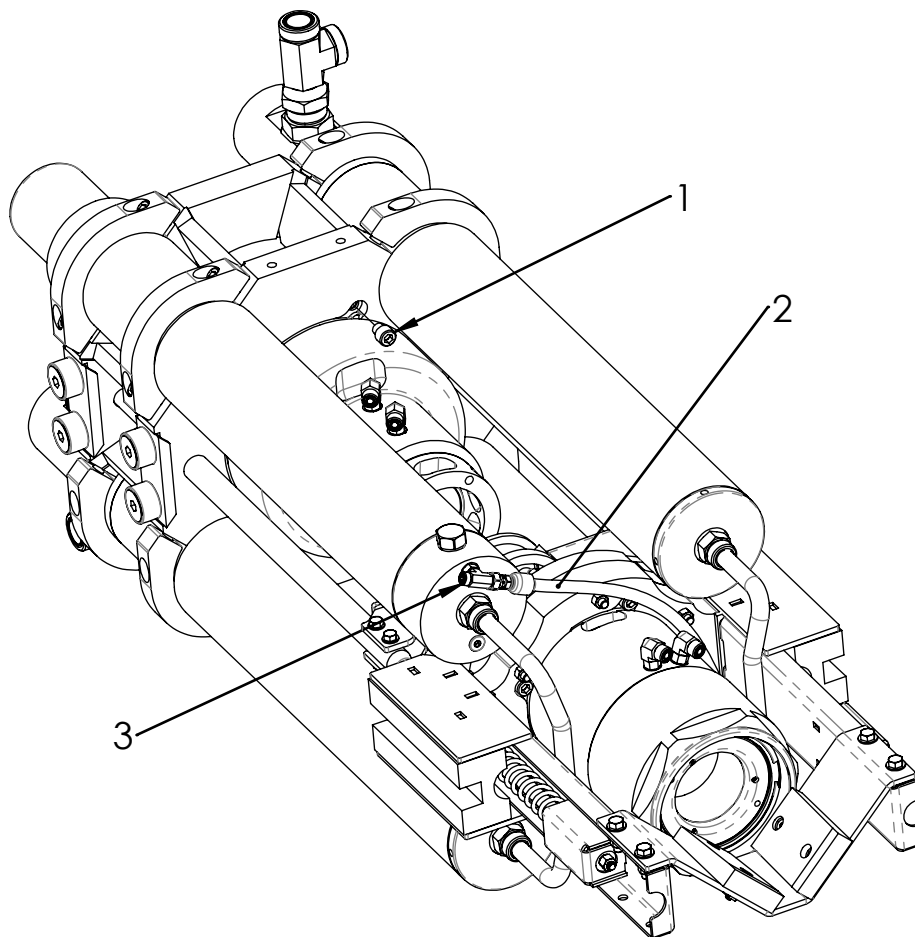
Traveling Carriage - 923-4005

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-0600	SPINNER ASSEMBLY	1	
2	06TLN	NUT, 3/8-16 TOP LOCK	2	
3	923-1022	SPRING COLLAR, REAR	2	
4	923-1027	STUD, SPINNER LINK	2	
5	923-1024	SPRING, COMP 1.25 DIA. X 12 LG	2	
6	05FW-SAE	WASHER, 5/16"	8	
7	923-1023	SPRING COLLAR, FRONT	2	
8	05TLN	NUT, 5/16-18 TOP LOCK	4	
9	923-1021	SPINNER LINK ROD	2	
10	923-0212	SINGLE ACTING CYLINDER, 3.75 X 23.25	2	
11	923-4071	DOUBLE ACTING CYLINDER, 3.75 X 2.5 X 23	2	
12	923-0196	CLAMP, SLIP BOWL, TRAVELING	6	
13	08SH32	SCREW, 1/2-13 x 2.00" SHC	16	
14	923-0195	CLAMP, SLIP BOWL, TRAVELING	2	
15	926-2317	ELBOW, 20MO X 20MB 90°	1	
16	926-2312	ELBOW, 12MO X 1OMB 90°	2	
17	923-1412	WELDMENT, PUSH/PULL	1	
18	923-0816	ROD GUIDE, PUSH/PULL	1	
19	923-1778	RETAINING RING, 7" BORE"	1	
20	10TLN	NUT, 5/8-11 TOP LOCK	2	
21	10FW-SAE	WASHER, 5/8"	2	
22	923-1411	RAIL GUARD	4	
23	923-0199	TRACK ROLLER	8	
24	926-2219	ADAPTER, 20MO X 20MB	1	
25	926-3485	TEE, 20MO X 20FO X 20MO RUN	1	
26	923-0408	RETAINING RING, 3.75" SHAFT"	1	
27	923-0815	BOWL, HEX - PUSH/PULL	1	
28	923-4016	PUSH/PULL SLIP ASSY	1	
29	923-0427	PUSH/PULL CLAMP CYLINDER	1	
30	05HH36	SCREW, 5/16-18 x 2.25 HHC - GR8	4	
31	923-1028	UNLOADER	1	
32	926-2224	ADAPTER, 8MO X 10MB	2	
33	926-2212	ADAPTER, 12MO X 12MB	4	
34	923-3032	TUBE, 100XT RAM FEED	2	

Traveling Carriage - 923-4005

100XTR



Traveling Carriage - 923-4005

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	08SH08	SCREW, 1/2-13 x .50" SHC	3	
2	H-02008	HOSE, 4FO-4FO90S X 18	1	
3	926-5200	TEE, 4MO X 4MO X 4MB BRANCH	1	

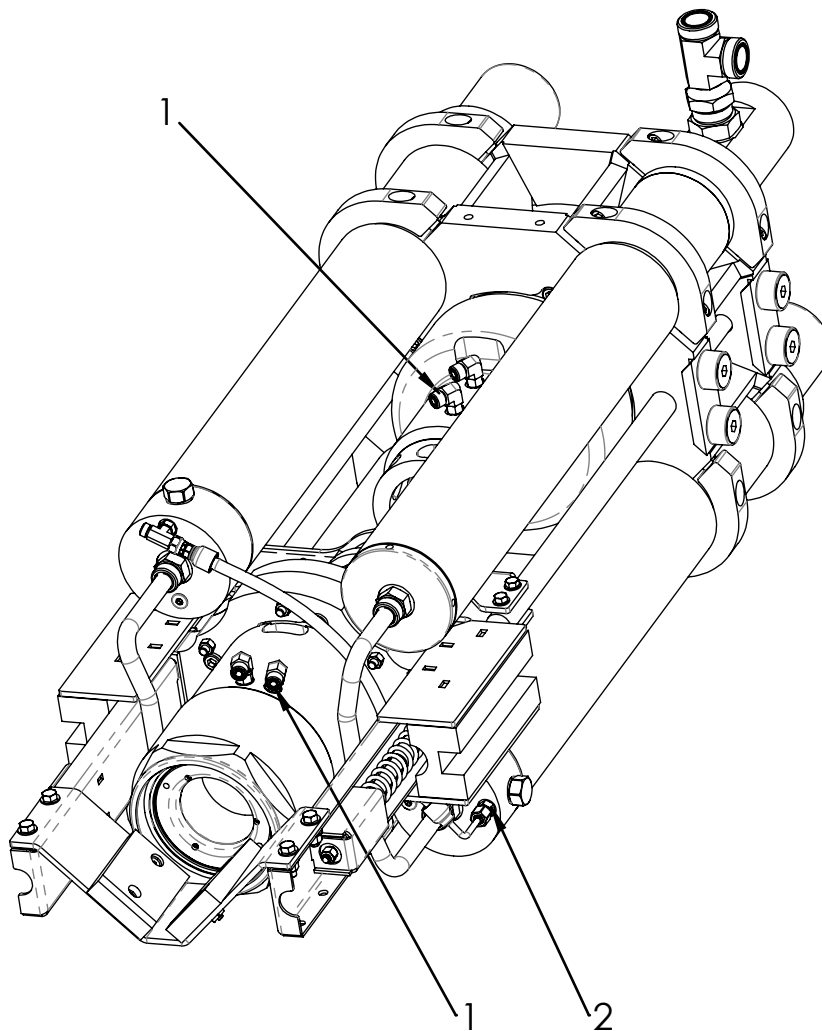
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Footnotes:

Notes:

Traveling Carriage - 923-4005

100XTR



Traveling Carriage - 923-4005

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	926-2303	ELBOW, 6MO X 4MB 90°	4	
2	926-2200	ADAPTER, 4MO X 4MB	1	

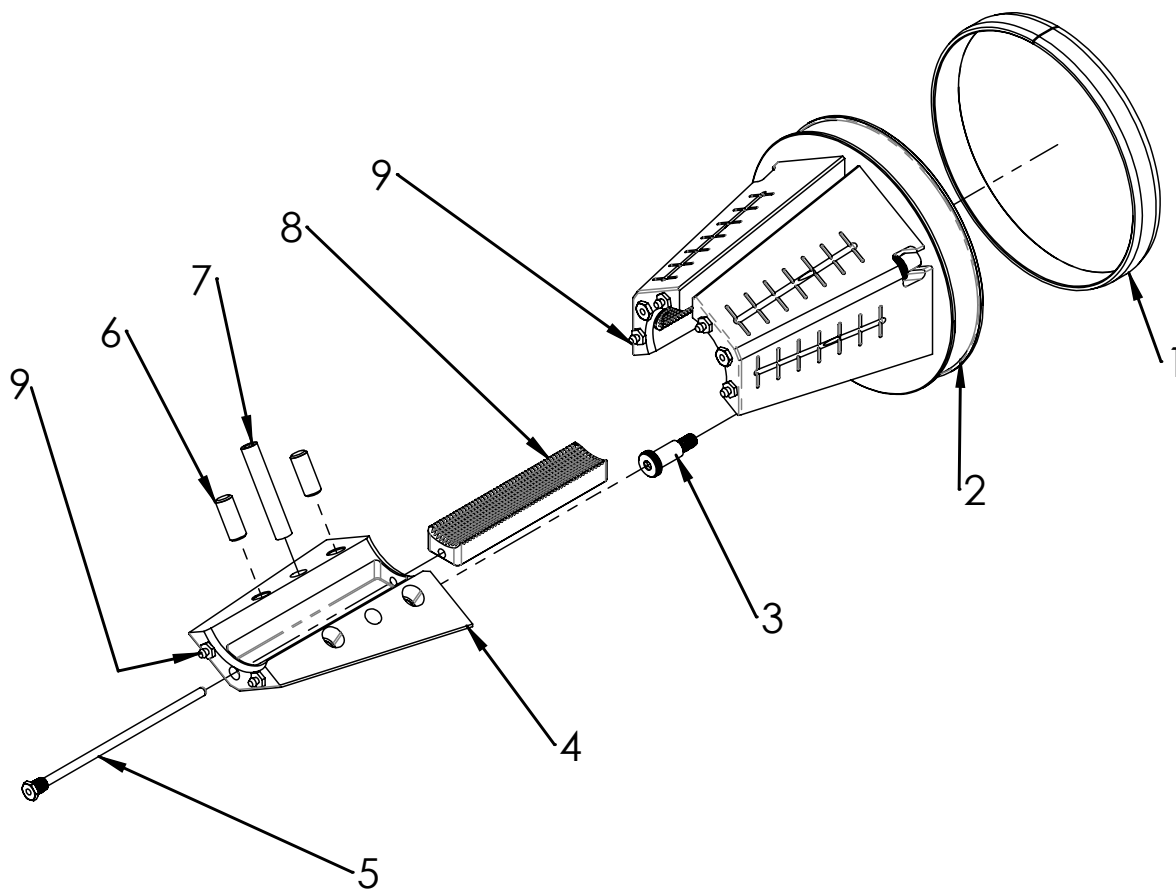
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Push/Pull Slip Assembly - 923-4016

100XTR



Push/Pull Slip Assembly - 923-4016

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-0409	GUIDE RING, PUSH PULL CLAMP	1	
2	923-4017	YOKE PLATE, PUSH/PULL	1	
3	923-4073	SCREW, 1/2 X 1 SHOULDER	3	
4	923-4018	SLIP, HAB & HAPP	3	
5	923-0821	PIN, RETENTION	3	
6	923-0819	PIN, DOWEL - 1/2 X 1.25	6	
7	923-0426	DIE SPRING, .5 X 3.5	3	
8	923-0804	INSERT, PYRAMIDAL	3	
9	912-1149	FITTING, GREASE	6	

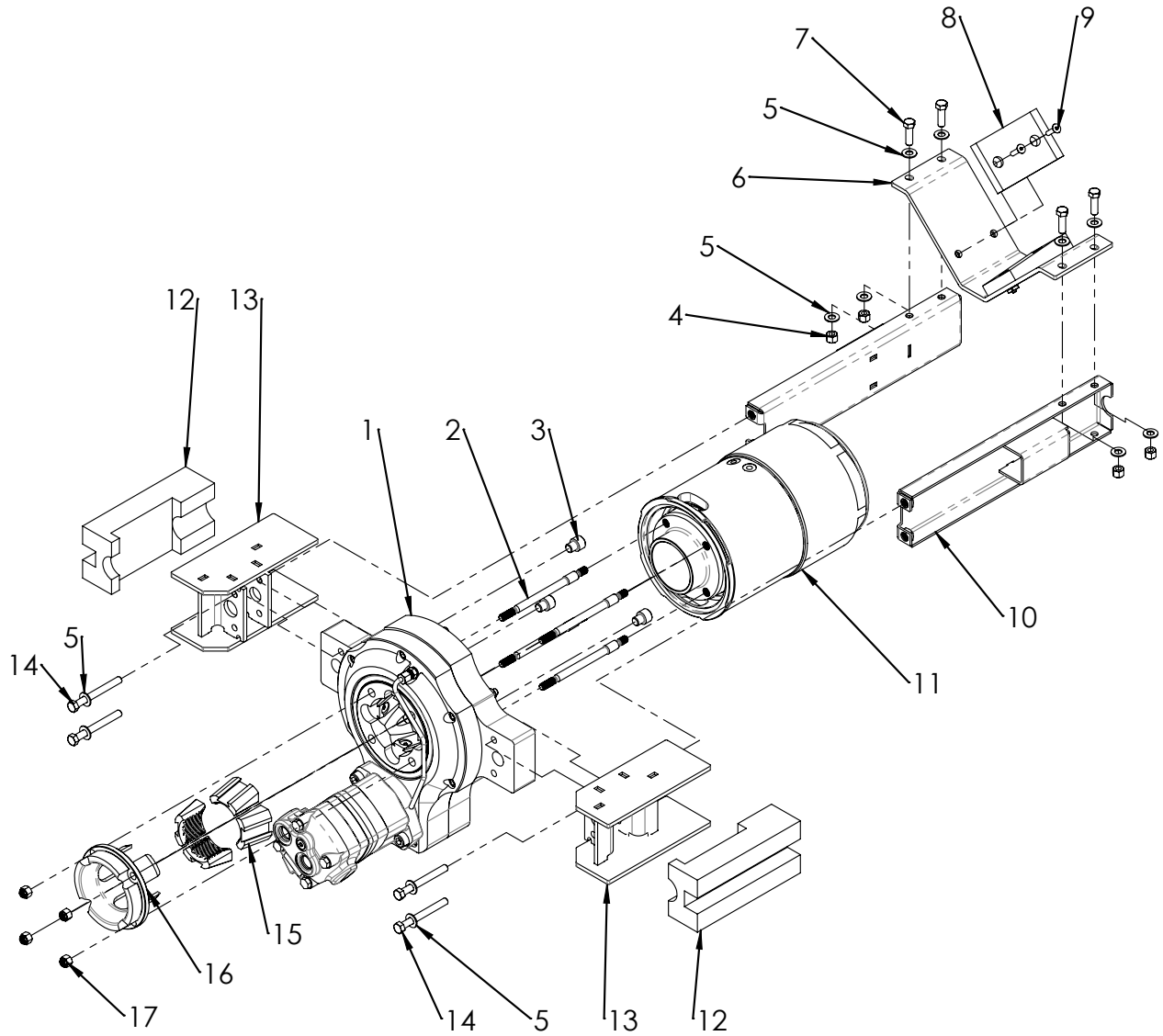
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Spinner Assembly - 923-0600

100XTR



Spinner Assembly - 923-0600

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1800	SPINNER GEAR ASSEMBLY	1	
2	923-0456	LEG, SPIDER	4	
3	08SH08	SCREW, 1/2-13 x .50" SHC	3	
4	06TLN	NUT, 3/8-16 TOP LOCK	4	
5	06FW-SAE	WASHER, 3/8"	12	
6	923-0235	ROD CATCH	1	
7	06HH20	SCREW, 3/8-16 x 1.25 HHC - GR8	4	
8	923-0326	ROD GUIDE, SPINNER	2	
9	04FH16	SCREW, 1/4-20 x 1 FHSC	4	
10	923-1032	ROD CATCH, ARM ASSEMBLY	2	
11	923-0450	SPINNER CLAP CYLINDER	1	
12	923-1036	RAIL SUPPORT, PLASTIC	2	
13	923-1039	RAIL SUPPORT	2	
14	06HH56	SCREW, 3/8-16 x 3.5 HHC - GR8	4	
15	923-0083	JAW, SPINNER	4	
16	923-0609	FLANGE, DISENGAGEMENT	1	
17	06FTN	NUT, FLEX-TOP LOCK 3/8-16	4	

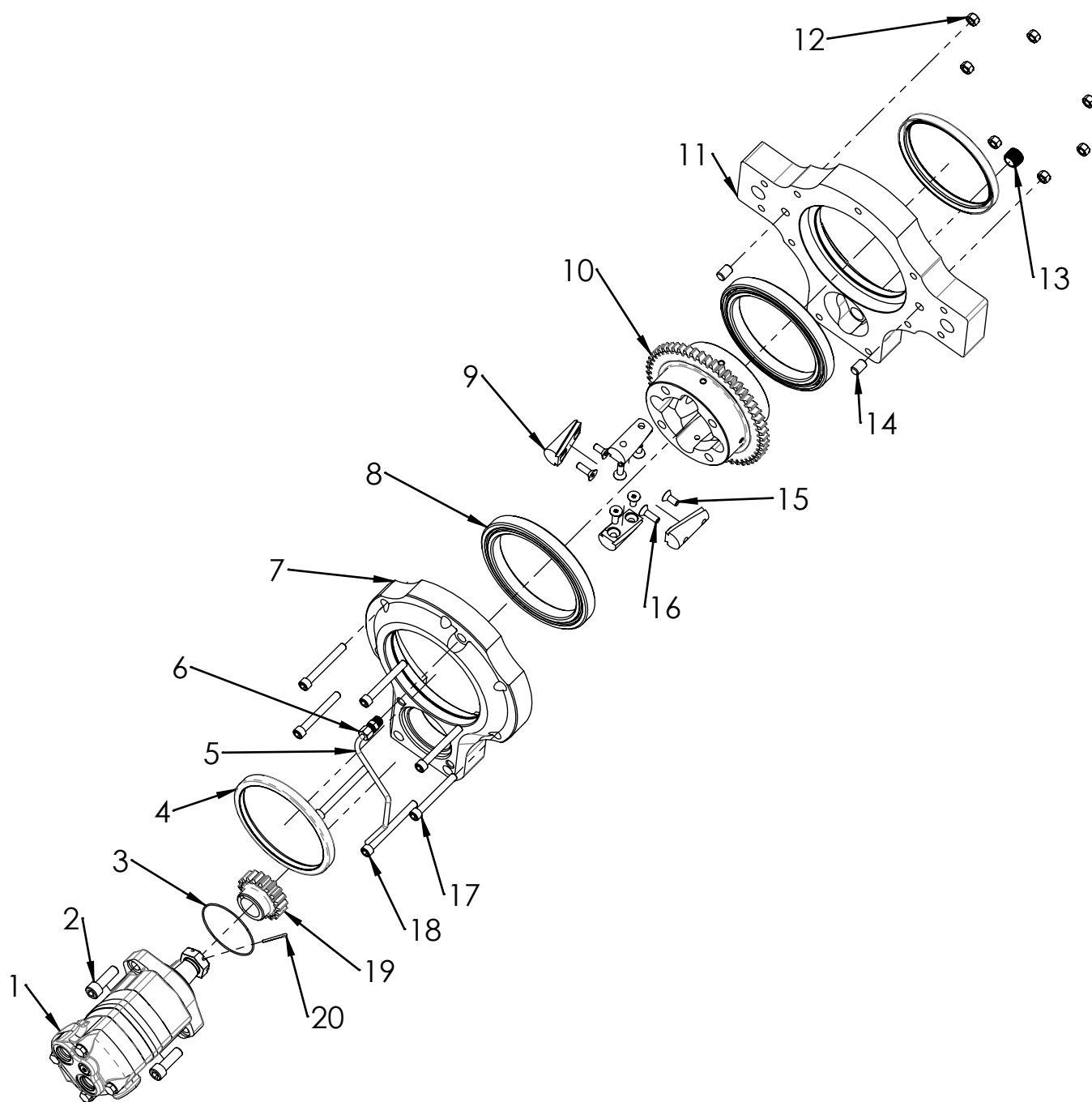
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Footnotes:

Notes:

Gear Assembly - 923-1800

100XTR



Gear Assembly - 923-1800

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1921	MOTOR, HYD 4.9 CID	1	
2	08SH24	SCREW, 1/2-13 x 1.5" SHC	2	
3	923-0611	O-RING, BUNA-N DOUBLE SEAL	1	
4	923-0602	OIL SEAL, SPINNER	2	
5	923-1774	TUBE, SPINNER BREATHER	1	
6	923-1773	FITTING, BRASS 1/4 X 1/4 NPT	1	
7	923-0601	HOUSING, SPINNER	1	
8	923-0603	ANGULAR BEARING, 7 X 5.5	2	
9	923-0606	RAMP, DOVETAIL	4	
10	923-0604	BOWL, SPINNING SLIP	1	
11	923-1037	COVER, SPINNER HOUSING	1	
12	06HN	NUT, 3/8-16 HEX	7	
13	923-0608	DRAIN PLUG, MAGNETIC	1	
14	923-0610	DOWEL PIN, 1/2 X 3/4 LG	2	
15	05FH12	SCREW, 5/16-18 x .75 FHSC	4	
16	05FH16	SCREW, 5/16-18 x 1 FHSC	4	
17	06SH48	SCREW, 3/8-16 x 3.00" SHC	5	
18	06SH60	SCREW, 3/8-16 x 3.75" SHC	2	
19	923-0613	GEAR, SPUR 18T	1	
20	923-0612	COTTER PIN, 3.2MM X 50MM	1	
21	923-1775	SEALANT, RTV	1	
22	912-3489	GEAR OIL	1	

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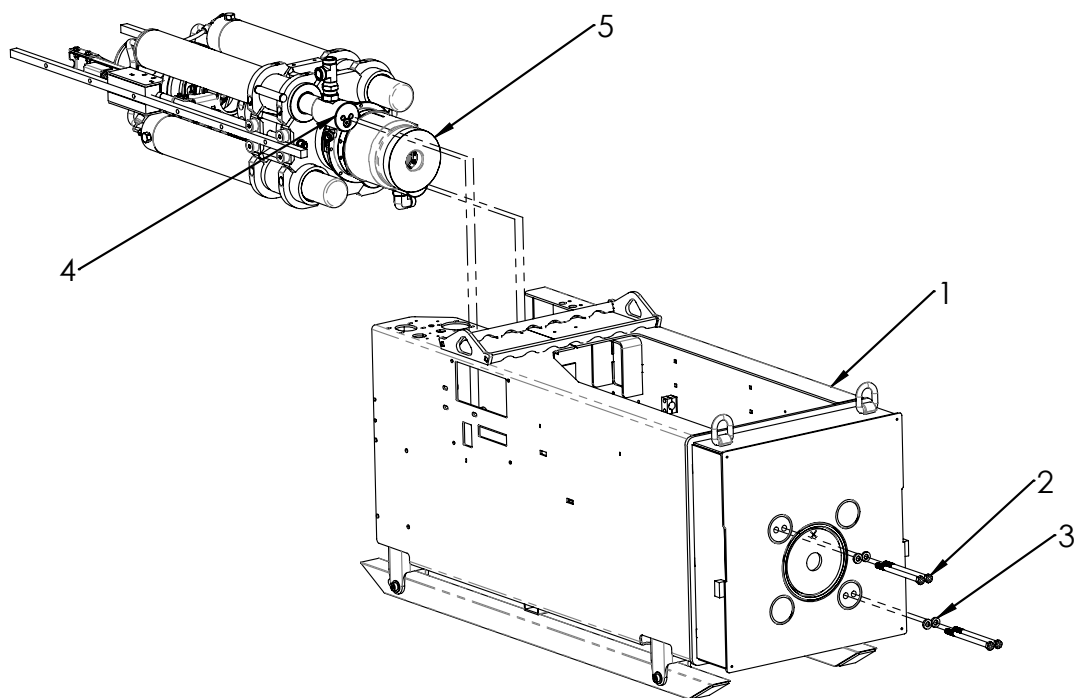
ITEM 21, SEALANT, RTV, QTY 1

ITEM 22, GEAR OIL, QTY 1

Footnotes:

Notes:

Traveling Carriage Mounting - 923-4005 100XTR



Traveling Carriage Mounting - 923-4005

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-4010	FRAME, 100XTR	1	
2	10HH144	SCREW, HHC 5/8-11 X 9 GR8	4	
3	923-1875	WASHER, WILLIAMS 5/8"	4	
4	923-1010	TRAVELING CARRIAGE	1	
5	923-4022	GUIDE, BUNGEE BOWL	1	

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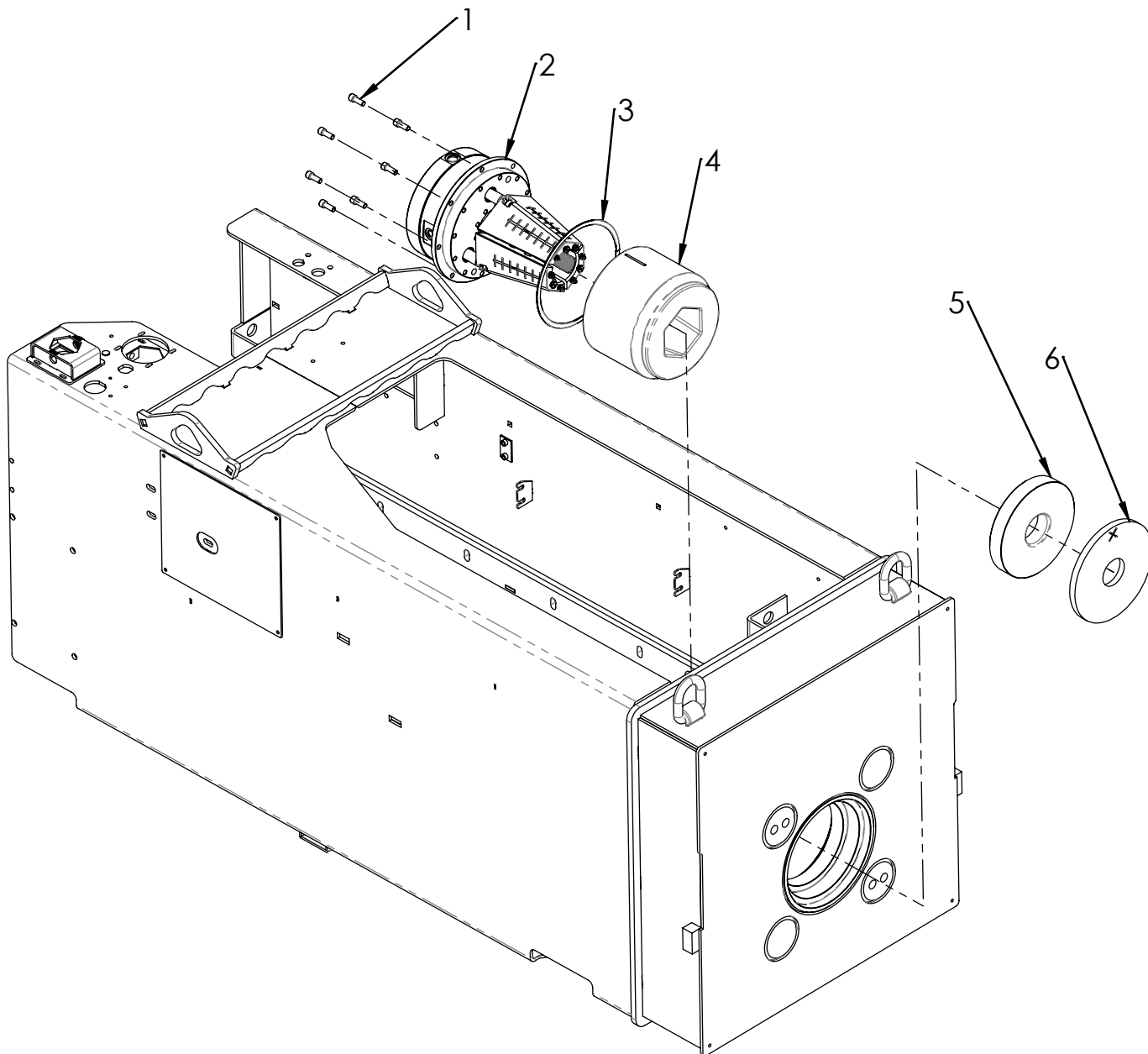
Footnotes:

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Notes

Bungee

Bungee - 923-4003
100XTR



Bungee - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	06SH16	SCREW, 3/8-16 x 1.00" SHC	8	
2	923-4030	ASSEMBLY, HAB	1	
3	923-1527	RETAINING RING, 8.858 BORE	1	
4	923-0815	BOWL, HEX - PUSH/PULL	1	
5	923-4022	GUIDE, BUNGEE BOWL	1	
6	923-2120	RUBBER, WIPER	1	

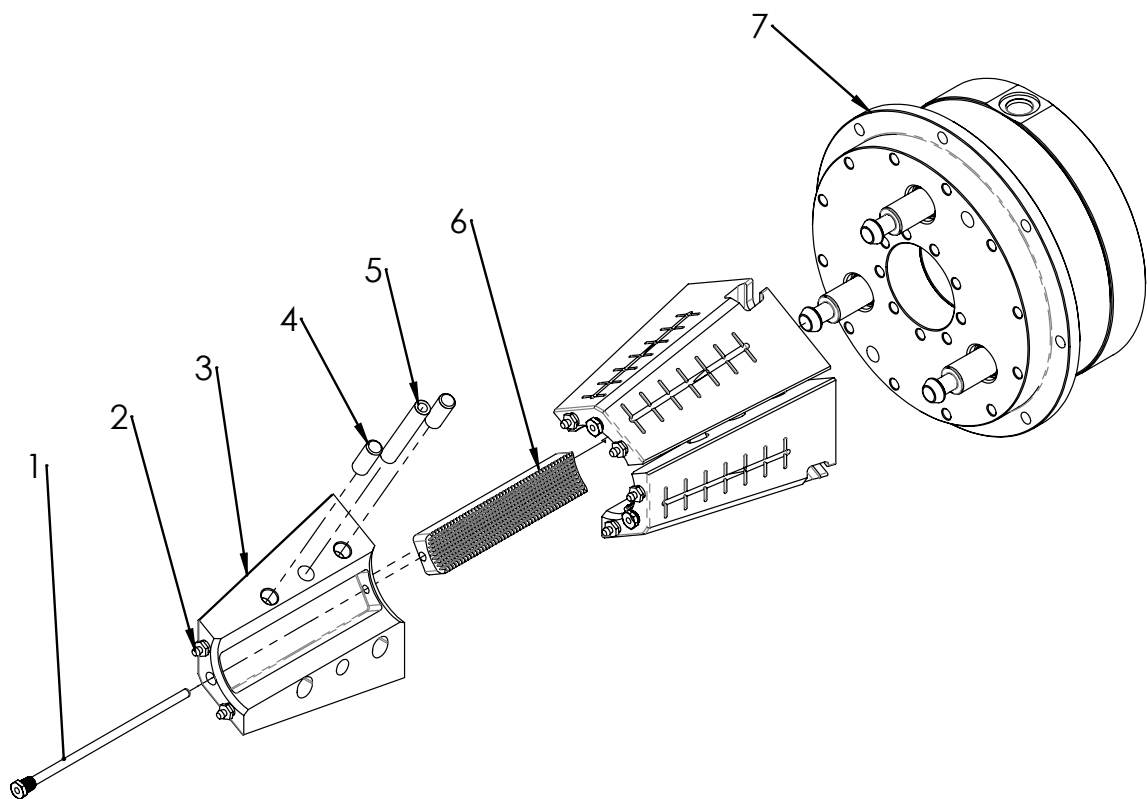
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Bungee Wheel Plate - 923-4030

100XTR



Bungee Wheel Plate - 923-4030

100XTR

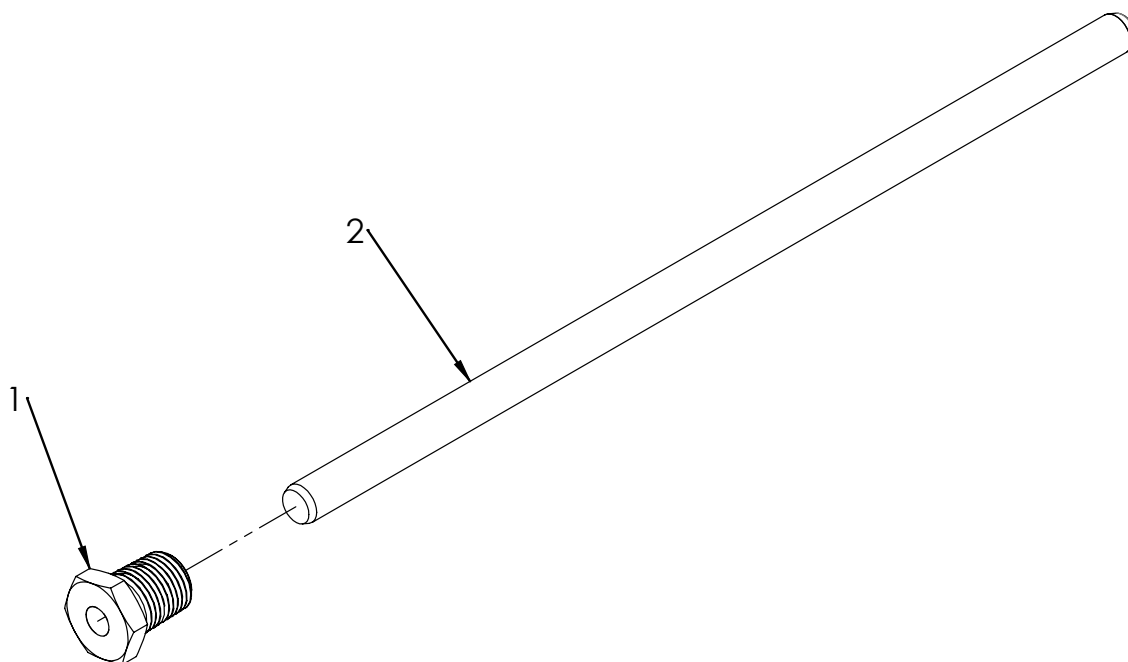
Bom ID	Part No	Description	Qty	Remarks
1	923-0821	PIN, RETENTION	3	
2	912-1149	FITTING, GREASE	6	
3	923-4018	SLIP, HAB & HAPP	3	
4	923-0819	PIN, DOWEL - 1/2 X 1.25	6	
5	923-0426	DIE SPRING, .5 X 3.5	3	
6	923-0804	INSERT, PYRAMIDAL	3	
7	923-4060	CYLINDER, HAB	1	

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Footnotes:

Notes:

Retention Pin - 923-0821
100XTR



Retention Pin - 923-0821

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-0805	SCREW, RETENTION	1	
2	923-0806	PIN, RETENTION	1	

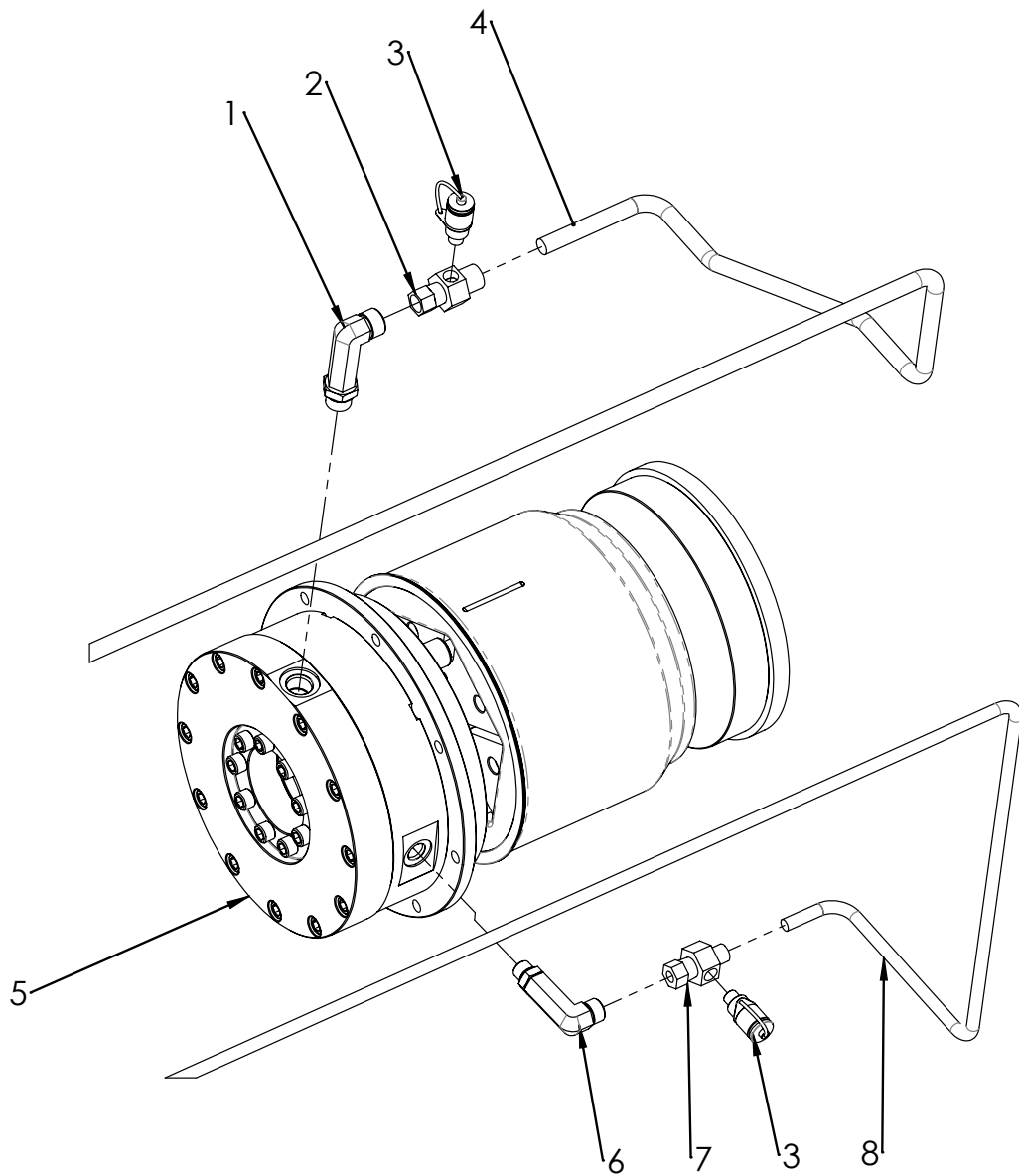
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Bungee Fittings - 923-4003

100XTR



Bungee Fittings - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	926-2162	ELBOW, 08MO X 08MB 90° LONG	1	
2	926-6602	GAUGE PORT, 08MO X 08FO	1	
3	926-6700	TEST PORT COUPLING	2	
4	923-4053	TUBE, 100XTR BUNGEE EXT	1	
5	923-4030	ASSEMBLY, HAB	1	
6	926-2161	ELBOW, 6MO X 6MB LONG	1	
7	926-6601	GAUGE PORT, 06MO X 06FO	1	
8	923-4054	TUBE, 100XTR BUNGEE RTR	1	

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Footnotes:

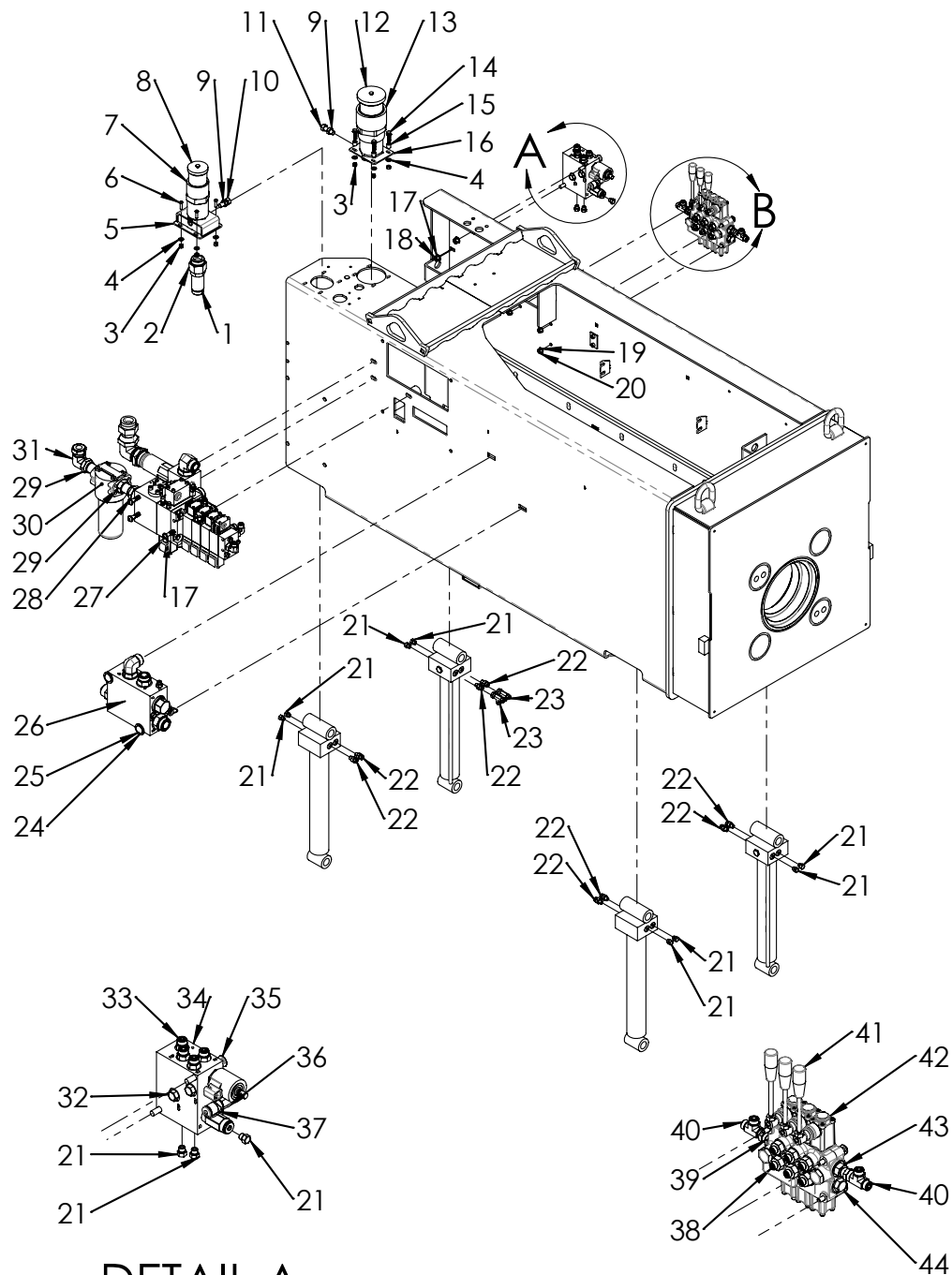
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Hydraulics

Hydraulic Components - 923-4003

100XTR



DETAIL A
SCALE 1 : 10

DETAIL B
SCALE 1 : 10

Hydraulic Components - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	926-8705	ADAPTER, 16MO X 16MB LONG	1	
2	926-3822	ADAPTER, 20MB X 16FB	1	
3	04TLN	NUT, 1/4-20 TOP LOCK	8	
4	04FW-SAE	WASHER, 1/4"	8	
5	923-1657	PRESSURE DISCONNECT CLAMP	1	
6	04BH16	SCREW, 1/4-20x1 BHSC	4	
7	926-7500	COUPLER, FEMALE, 20 SAE PORT	1	
8	913-8635	PLUG, FEMALE	1	
9	08HJN	NUT, 1/2-13 HEX JAM	2	
10	08HH20	SCREW, 1/2-13 x 1.25 HHC - GR8	1	
11	08HH24	SCREW, 1/2-13 x 1.5 HHC - GR8	1	
12	930-2007	PLUG, FEMALE	1	
13	926-7502	COUPLER, FEMALE, 24 SAE PORT	1	
14	04FLH20	SCREW, FLH 1/4-20 X 1.25	4	
15	923-1812	SPACER, 1/2 X 1/4 X 1/2	4	
16	923-1661	RETURN LINE CLAMP	1	
17	06FW-SAE	WASHER, 3/8"	5	
18	06TLN	NUT, 3/8-16 TOP LOCK	2	
19	05FW-SAE	WASHER, 5/16"	6	
20	05TLN	NUT, 5/16-18 TOP LOCK	3	
21	926-4100	PLUG, 4MB HEX HEAD	11	
22	926-2200	ADAPTER, 4MO X 4MB	8	
23	926-3479	TEE, 4MO X 4FO X 4MO RUN	2	
24	12FW-SAE	WASHER, 3/4"	2	
25	08CB64	BOLT, 1/2-13 x 4 CARRIAGE	2	
26	923-0471	120 GPM MANIFOLD	1	
27	M10BH50	SCREW, BHSC M10-1.5 X 50	3	
28	926-2223	ADAPTER, 16MO X 20MB	1	
29	926-8205	ADAPTER, 16FO X 16MB	2	
30	923-4063	PRESSURE FILTER HOUSING, 100XT	1	
31	926-5705	ELBOW, 16MO X 16FO 90°	1	
32	926-4101	PLUG, 06MB	2	
33	926-2203	ADAPTER, 6MO X 6 MB	4	

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Hydraulic Components - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
34	923-1664	CONTROL MANIFOLD	1	
35	06CB56	BOLT, 3/8-16 x 3.5 CARRIAGE	2	
36	926-8230	ELBOW, 4MB X 4FB 90°	1	
37	926-6700	TEST PORT COUPLING	1	
38	926-2202	ADAPTER, 4MO X 8MB	6	
39	923-1920	ORIFICE, 08MB X 06MO .023	1	
40	926-3480	TEE, 6MO X 6FO X 6MO RUN	2	
41	913-7436	LEVER M8 X 120MM	3	
42	923-0477	STABILIZER VALVE	1	
43	926-2204	ADAPTER, 6MO X 8MB	1	
44	926-4102	PLUG, 8MB HEX HEAD	1	

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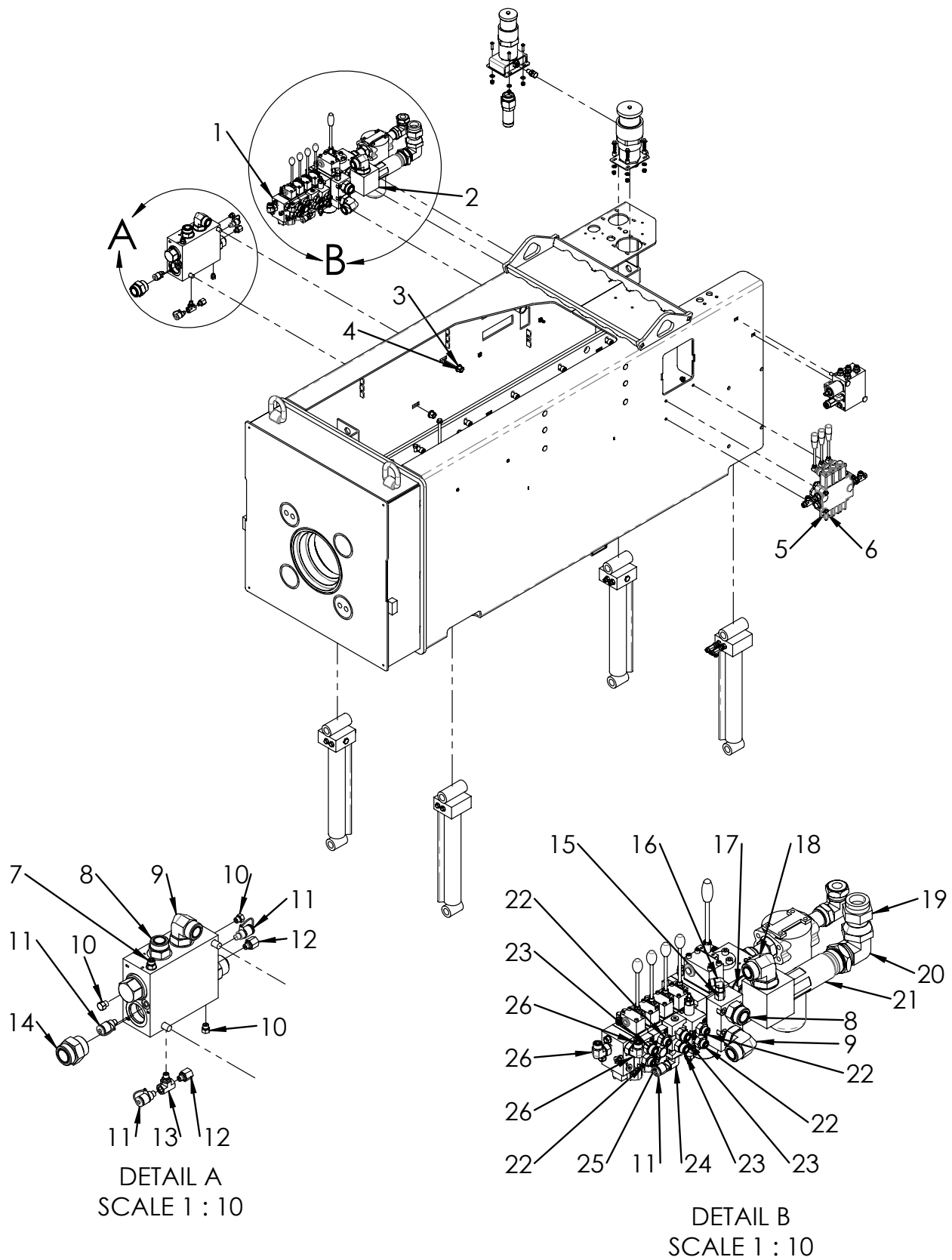
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Hydraulic Components - 923-4003

100XTR



Hydraulic Components - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-4020	CONTROL VALVE 100XTR, MAIN	1	
2	923-1654	RETURN CONNECTION BLOCK	1	
3	08FW-SAE	WASHER, 1/2"	2	
4	08TLN	NUT, 1/2-13 TOP LOCK	2	
5	05FW-SAE	WASHER, 5/16"	3	
6	05BH40	SCREW, 5/16-18x2.5 BHSC	3	
7	926-2200	ADAPTER, 4MO X 4MB	1	
8	926-2216	ADAPTER, 16MO X 16MB	2	
9	926-2315	ELBOW, 16MO X 16MB 90°	2	
10	926-4100	PLUG, 4MB HEX HEAD	2	
11	926-6700	TEST PORT COUPLING	4	
12	926-6201	ADAPTER, 4MB X 4FP	2	
13	926-8600	TEE, 4FB X 4FB X 4MB BRANCH	1	
14	926-2219	ADAPTER, 20MO X 20MB	1	
15	926-3800	ADAPTER, 4MB X 4FB	1	
16	926-2300	ELBOW, 4MO X 4MB 90°	1	
17	926-4006	ADAPTER, 20MB X 20MB	1	
18	926-2323	ELBOW, 16MO X 20MB 90°	1	
19	926-8207	ADAPTER, 24FO X 24MB	1	
20	926-5707	ELBOW, 24MO X 24FO 90°	1	
21	923-1126	ADAPTER, STRAIGHT RETURN LINE	1	
22	926-2204	ADAPTER, 6MO X 8MB	4	
23	926-2206	ADAPTER, 8MO X 8MB	3	
24	926-8230	ELBOW, 4MB X 4FB 90°	1	
25	926-4102	PLUG, 8MB HEX HEAD	1	
26	926-2305	ELBOW, 6MO X 8MB 90°	2	

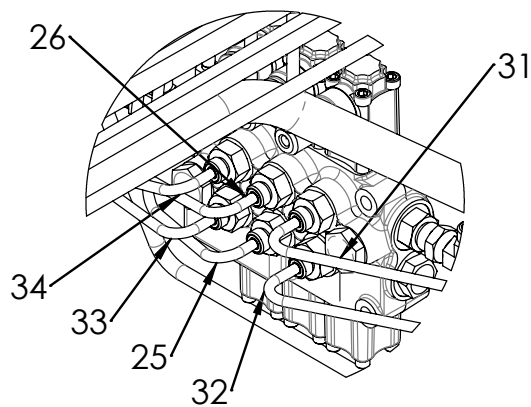
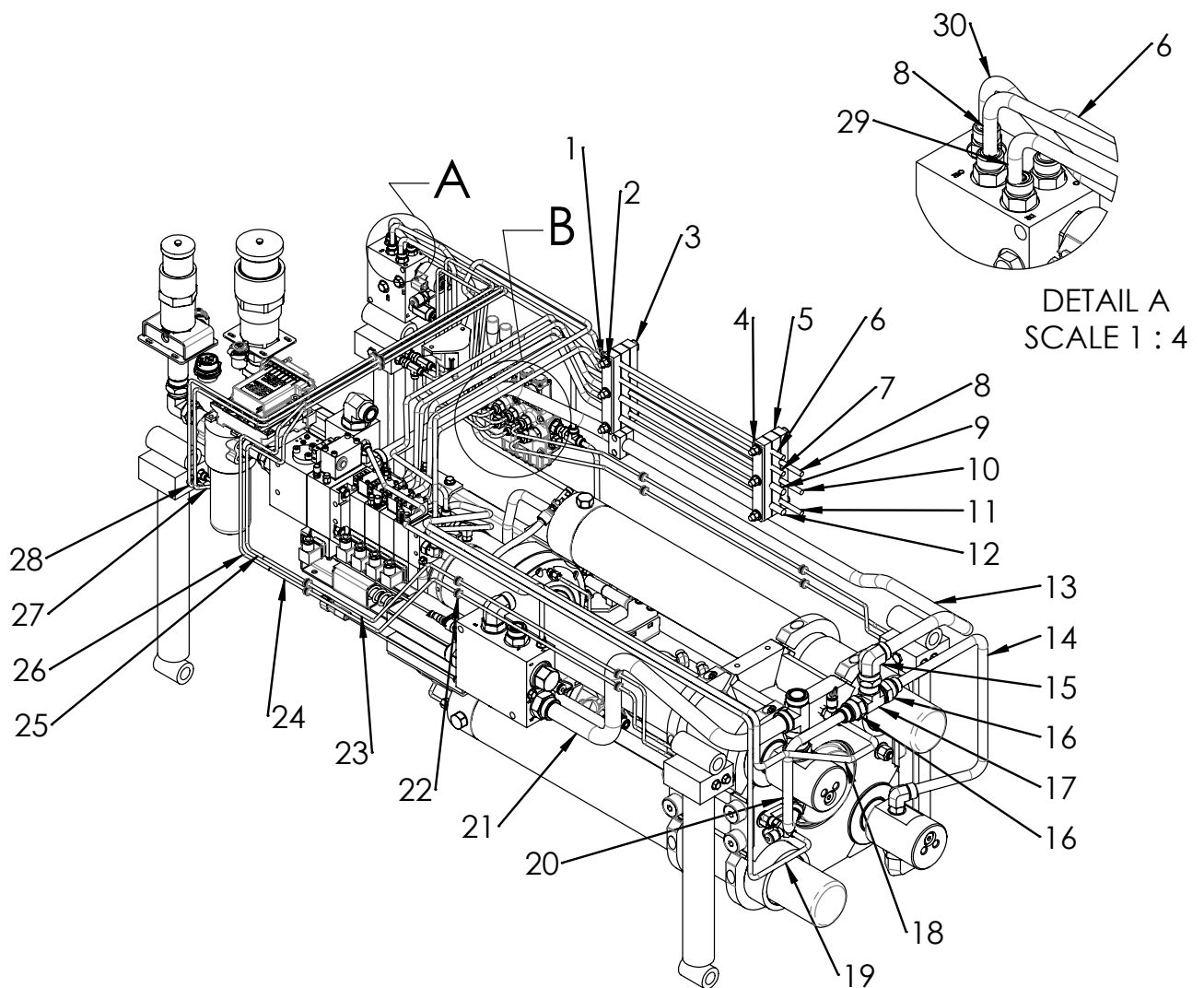
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Hydraulic Tubes - 923-4003

100XTR



Hydraulic Tubes - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	06TLN	NUT, 3/8-16 TOP LOCK	6	
2	06FW-SAE	WASHER, 3/8"	6	
3	06CB60	BOLT, 3/8-16 x 3.75 CARRIAGE	6	
4	923-1728	CLAMP STIFFENER, STATIONARY	2	
5	923-1612	CLAMP BLOCK, STATIONARY	2	
6	923-3015	TUBE, 100XT RAM SHUT OFF	1	
7	923-3016	TUBE, 100XT SPINNER CLAMP	1	
8	923-3033	TUBE, 100XT SPINNER UN-CLAMP	1	
9	923-3017	TUBE, 100XT SPINNER MOTOR A	1	
10	923-3019	TUBE, 100XT PUSH/PULL CLAMP	1	
11	923-3020	TUBE, 100XT PUSH/PULL UN-CLAMP	1	
12	923-3018	TUBE, 100XT SPINNER MOTOR B	1	
13	923-3021	TUBE, 100XT ROD FEED	1	
14	923-3022	TUBE, 100XT LOWER CYL ROD	1	
15	926-5705	ELBOW, 16MO X 16FO 90°	1	
16	926-3411	ADAPTER, 16FO X 12MO	2	
17	926-3705	TEE, 16MO X 16MO X 16MO	1	
18	923-4053	TUBE, 100XT BUNGEE EXT	1	
19	923-4054	TUBE, 100XT BUNGEE RTR	1	
20	923-3023	TUBE, 100XT UPPER CYL ROD	1	
21	923-3027	TUBE, 100XT BASE FEED	1	
22	923-1777	GROMMET, HYDRAULIC TUBE	14	
23	923-3002	TUBE, 100XT FRONT RIGHT STAB. CYL. BASE	1	
24	923-3004	TUBE, 100XT FRONT RIGHT STAB. CYL. ROD	1	
25	923-3003	TUBE, 100XT STABILIZER B2	1	
26	923-3005	TUBE, 100XT STABILIZER A2	1	
27	923-3009	TUBE, 100XT RIGHT REAR STAB. CYL. ROD	1	
28	923-3007	TUBE, 100XT RIGHT REAR STAB. CYL. BASE	1	
29	923-3010	TUBE, 100XT CONTROL MANIFOLD	1	
30	923-3029	TUBE, 100XT CONTROL MANIFOLD P	1	
31	923-3001	TUBE, 100XT STABILIZER A3	1	
32	923-3000	TUBE, 100XT STABILIZER B3	1	
33	923-3006	TUBE, 100XT STABILIZER B1	1	
34	923-3008	TUBE, 100XT STABILIZER A1	1	

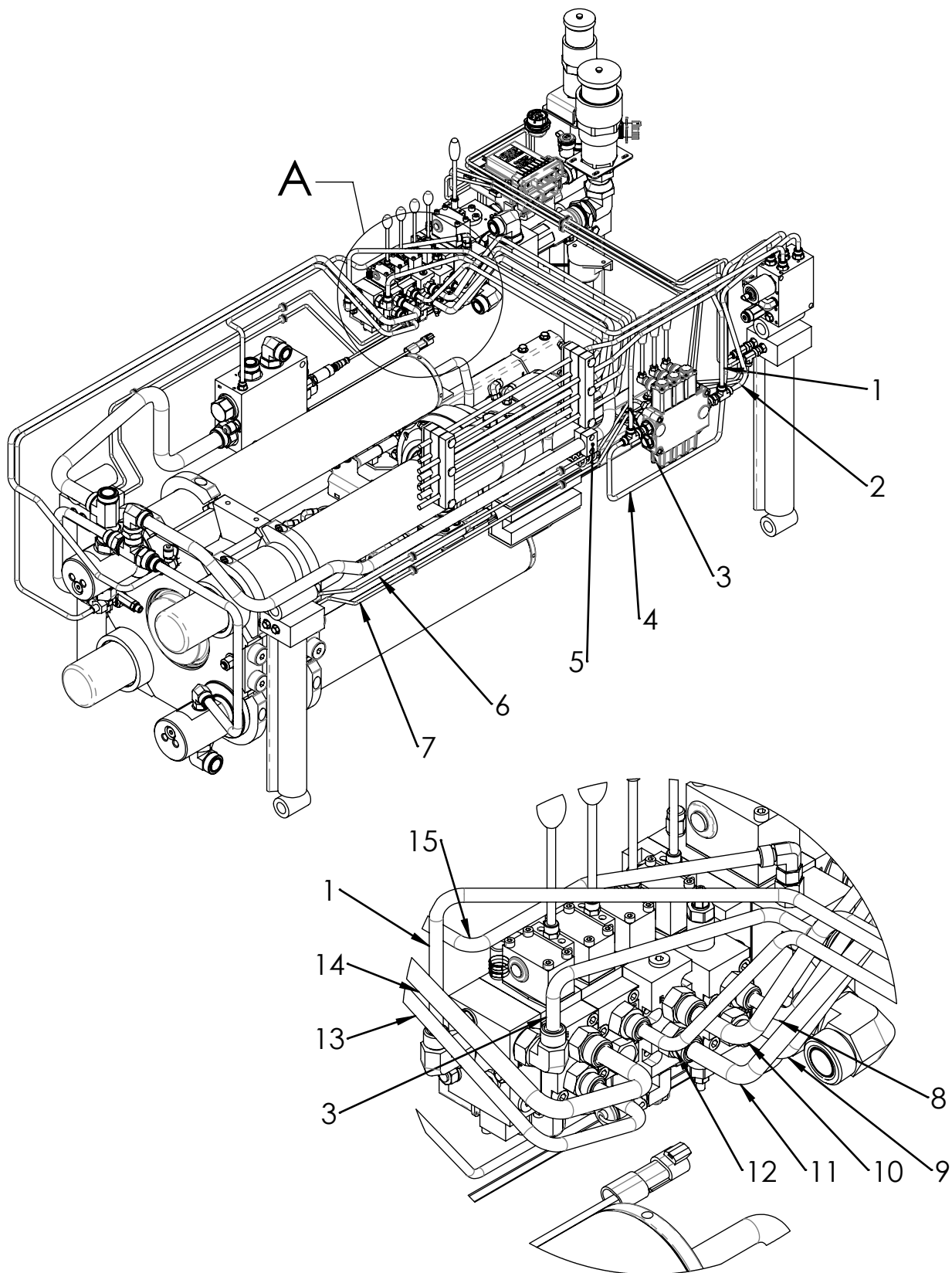
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Hydraulic Tubes - 923-4003

100XTR



Hydraulic Tubes - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-4051	TUBE, 100XT STAB. VALVE P	1	
2	923-3029	TUBE, 100XT CONTROL MANIFOLD P	1	
3	923-4052	TUBE, 100XT STAB. VALVE T	1	
4	923-3010	TUBE, 100XT CONTROL MANIFOLD	1	
5	923-1691	TUBE CLAMP, 1"	1	
6	923-3001	TUBE, 100XT STABILIZER A3	1	
7	923-3000	TUBE, 100XT STABILIZER B3	1	
8	923-3019	TUBE, 100XT PUSH/PULL CLAMP	1	
9	923-3020	TUBE, 100XT PUSH/PULL UN-CLAMP	1	
10	923-3017	TUBE, 100XT SPINNER MOTOR A	1	
11	923-3018	TUBE, 100XT SPINNER MOTOR B	1	
12	923-3016	TUBE, 100XT SPINNER CLAMP	1	
13	923-4054	TUBE, 100XT BUNGEE RTR	1	
14	923-4053	TUBE, 100XT BUNGEE EXT	1	
15	923-4050	TUBE, 100XT MAIN VALVE b1	1	

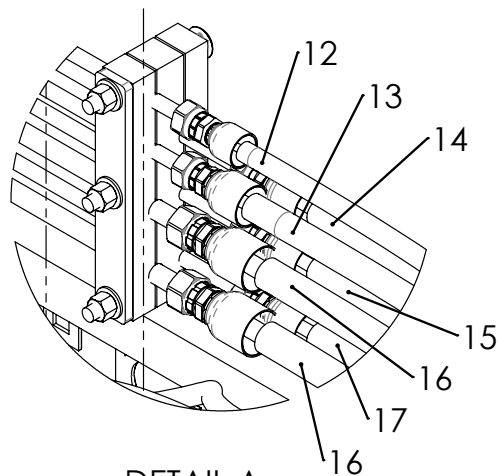
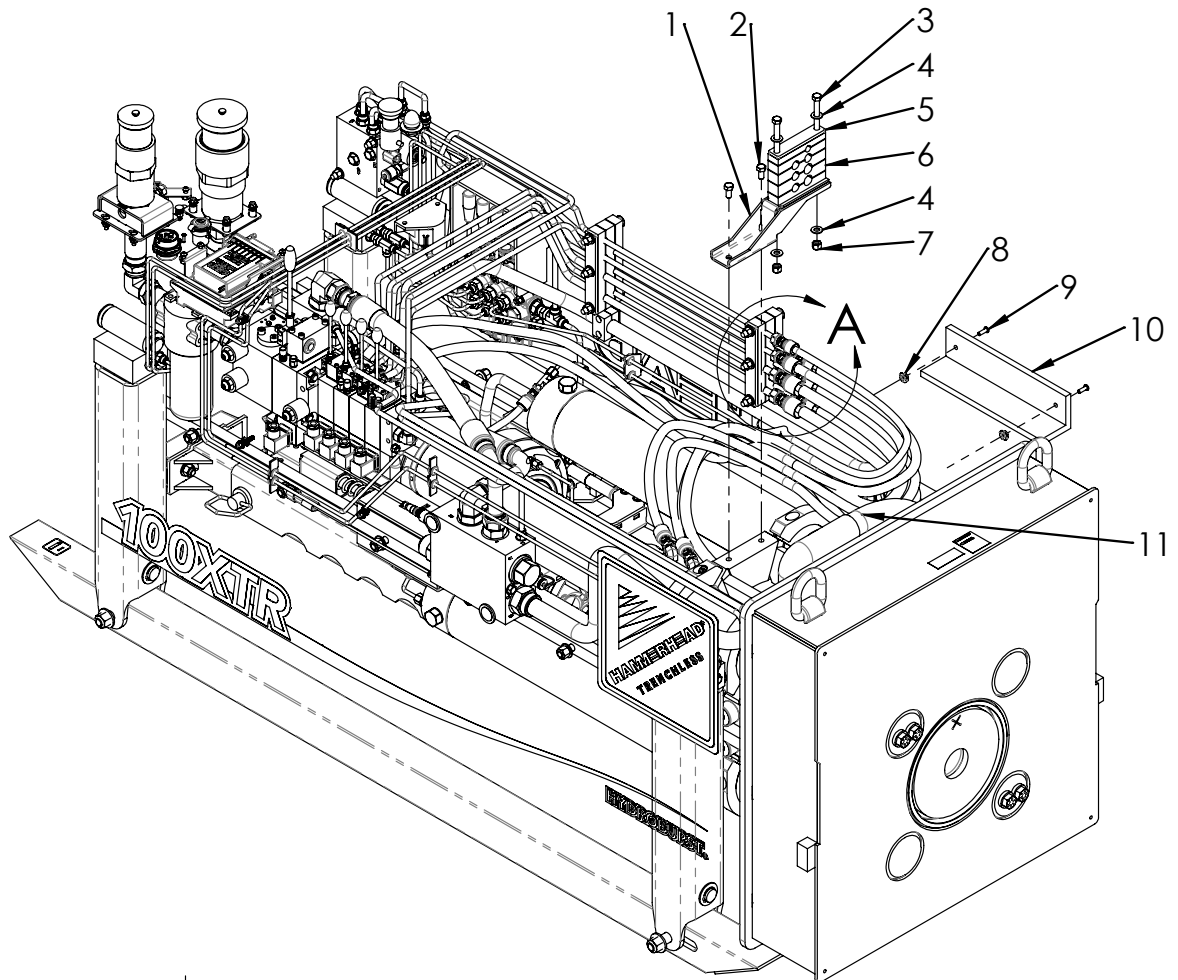
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Hydraulic Hoses - 923-4003

100XTR



DETAIL A
SCALE 1 : 4

Hydraulic Hoses - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-1876	HOSE SUPPORT, TRAVELING	1	
2	06HH12	SCREW, 3/8-16 x .75 HHC - GR8	2	
3	06HH96	SCREW, 3/8-16 x 6.0 HHC - GR8	2	
4	06FW-SAE	WASHER, 3/8"	4	
5	923-1539	CLAMP BLOCK STIFFENER	1	
6	923-2110	CLAMP BLOCK, TRAVELLING	1	
7	06TLN	NUT, 3/8-16 TOP LOCK	2	
8	923-1780	TEE NUT, 1/4-20	2	
9	04BH12	SCREW, 1/4-20x0.75 BHSC	2	
10	923-1779	HOSE GUIDE	1	
11	H-02000	HOSE, 20FO90S-20FO90S X 35	1	
12	H-02007	HOSE, 6FO-4FO90M X 58	1	
13	H-02005	HOSE, 6FO-6FO X 75.5	1	
14	H-02006	HOSE, 6FO-6FO X 79.5	1	
15	H-02003	HOSE, 6FO-6FO X 61.5	1	
16	H-02004	HOSE, 8FO-8FO X 60	2	
17	H-02002	HOSE, 6FO-6FO X 64.5	1	

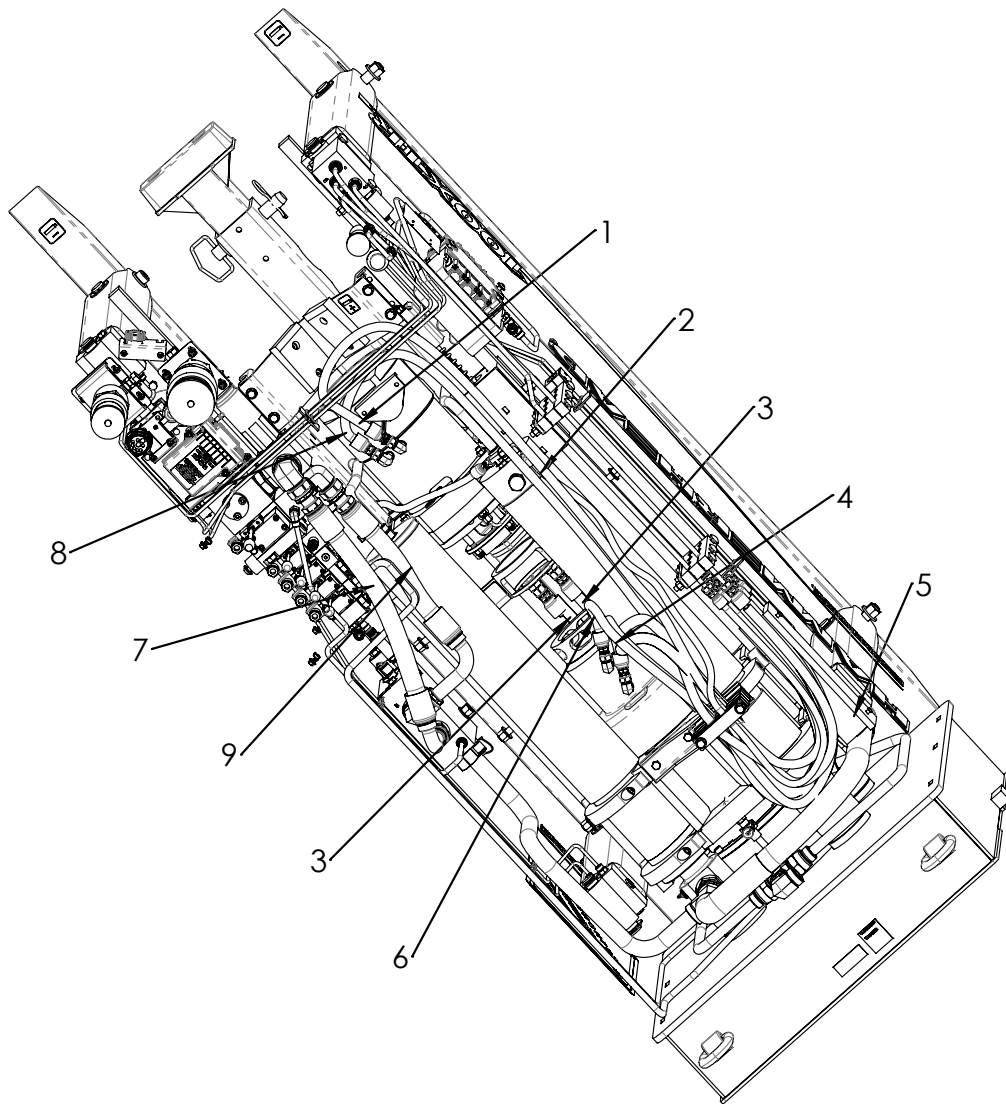
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Hydraulic Hoses - 923-4003

100XTR



Hydraulic Hoses - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	H-02005	HOSE, 6FO-6FO X 75.5	1	
2	H-02007	HOSE, 6FO-4FO90M X 58	1	
3	H-02004	HOSE, 8FO-8FO X 60	2	
4	H-02002	HOSE, 6FO-6FO X 64.5	1	
5	H-02000	HOSE, 20FO90S-20FO90S X 35	1	
6	H-02003	HOSE, 6FO-6FO X 61.5	1	
7	H-02001	HOSE, 16FO-16FO90L X 23	1	
8	H-02006	HOSE, 6FO-6FO X 79.5	1	
9	H-02021	HOSE, 16FO-16FO90L X 17	1	

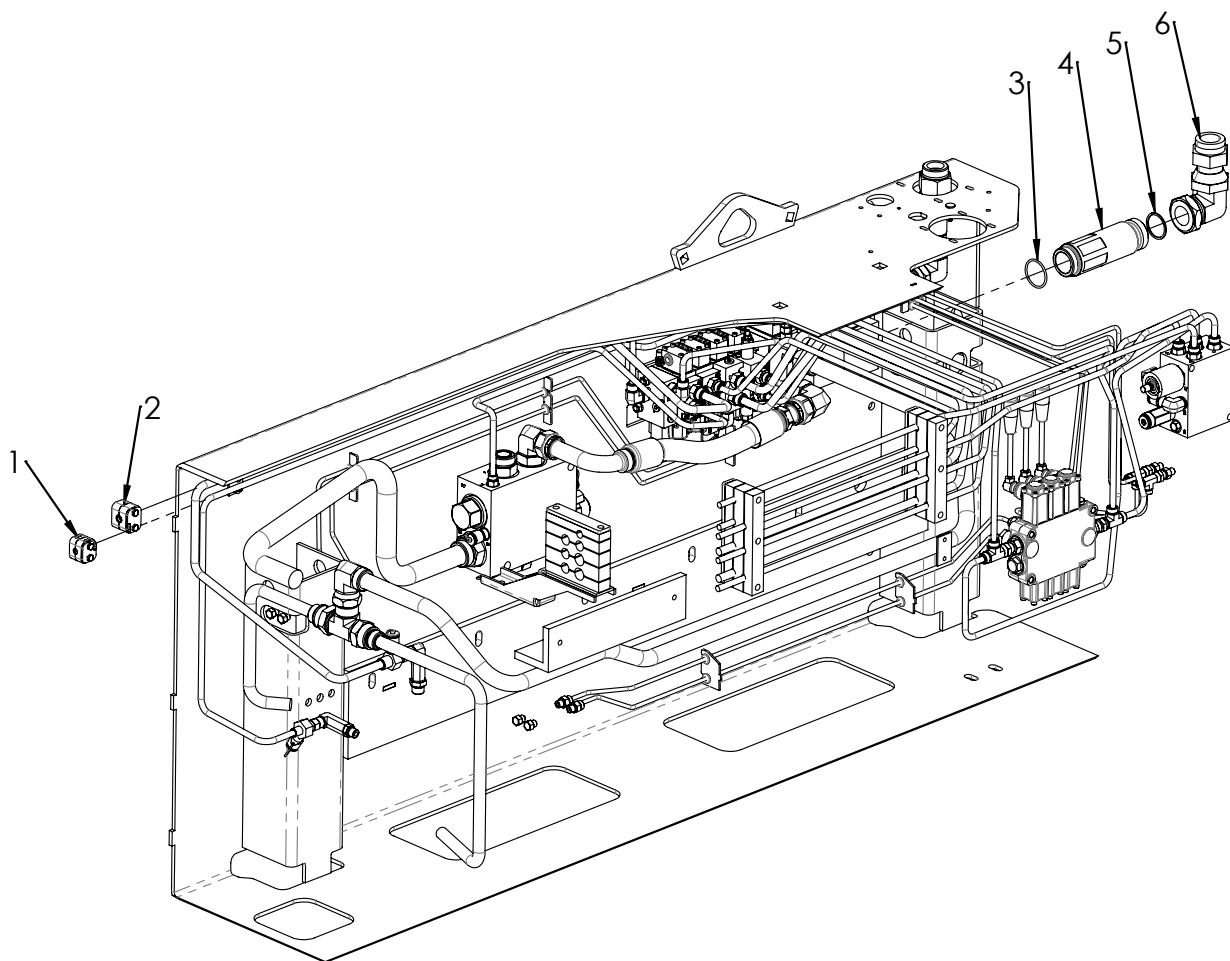
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Tube Clamps - 923-4003

100XTR



Tube Clamps - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	923-4070	TUBE CLAMP, ø3/8"	1	
2	923-4067	TUBE CLAMP, ø1/2"	1	
3	926-5908	O-RING, 24 SAE PORT	1	
4	923-1126	ADAPTER, STRAIGHT RETURN LINE	1	
5	926-6107	O-RING, 24 ORFS	1	
6	926-8207	ADAPTER, 24FO X 24MB	1	

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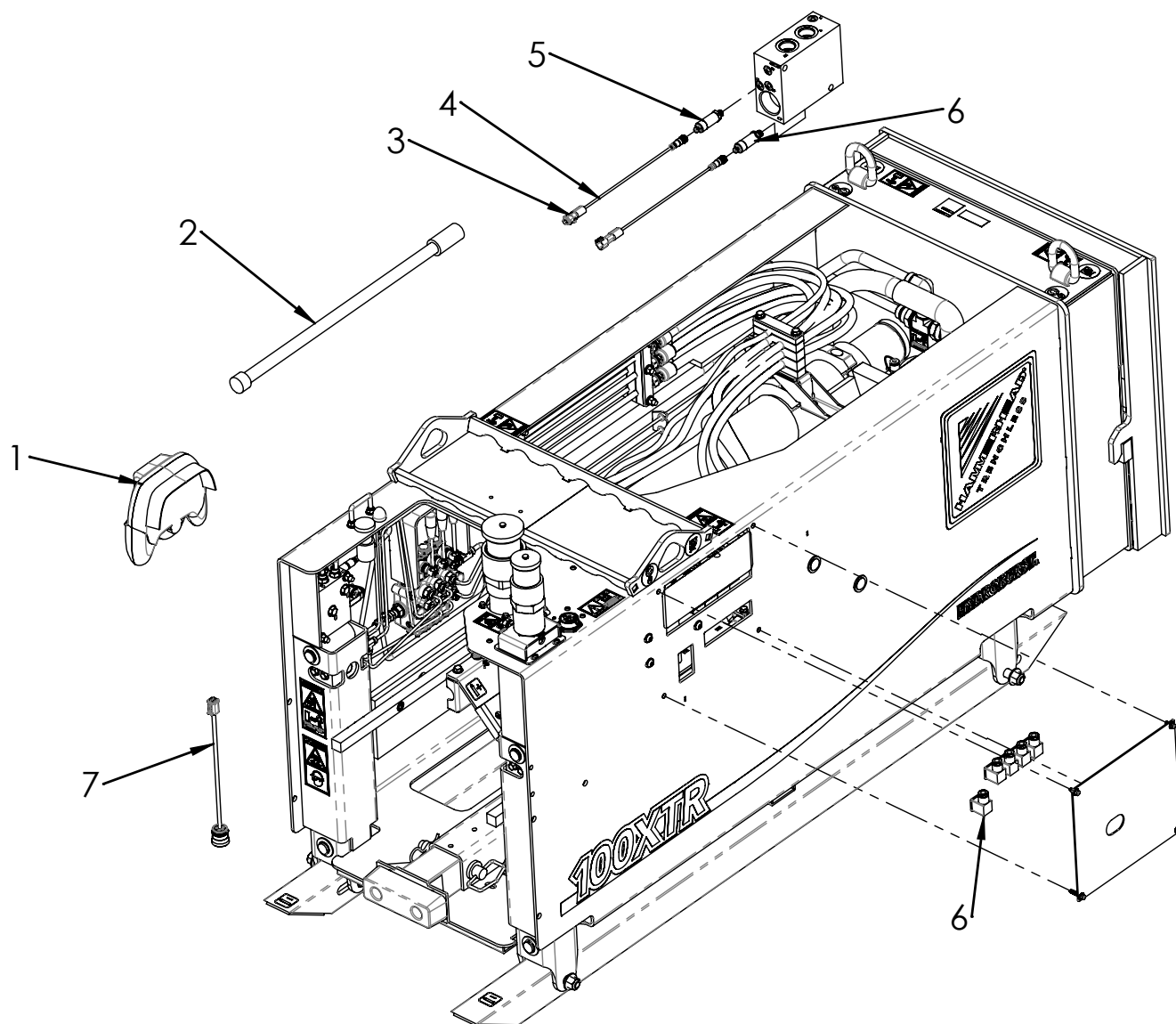
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Electrical

Remote System - 923-4003

100XTR



Remote System - 923-4003

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	220-2819	HG2200 REMOTE CONTROL, HH	1	
2	923-6003	UMBILICAL CORD, 100XT MAIN	1	
3	923-4026	CABLE TRANSDUCER	1	
4	923-4027	CABLE TRANSDUCER	1	
5	923-4024	PRESSURE TRANSDUCER, 0-5000PSI	2	
6	923-4036	MAIN ASSEMBLY, 100XTR	1	
7	941-7613	HARNESS, BACK UP TETHER	1	

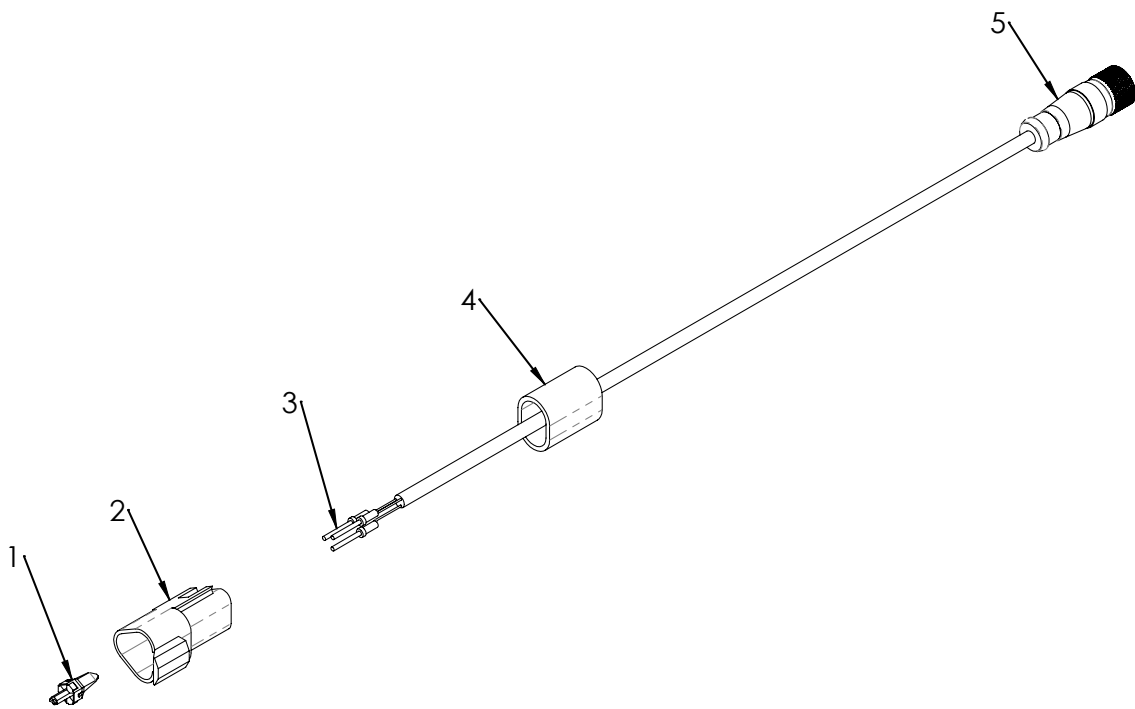
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Cable Transducer - 923-4026

100XTR



Cable Transducer - 923-4026

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	941-3032	LOCK, 3-WAY RECEPTACLE	1	
2	923-4064	RECEPTACLE, 3 WAY HEAT SHRINK	1	
3	912-4227	PIN CONTACT	3	
4	923-0507	SLEEVE, SHRINK TUBE	1	
5	923-0503	CONNECTOR, MICRO, 0.3 FACE	1	

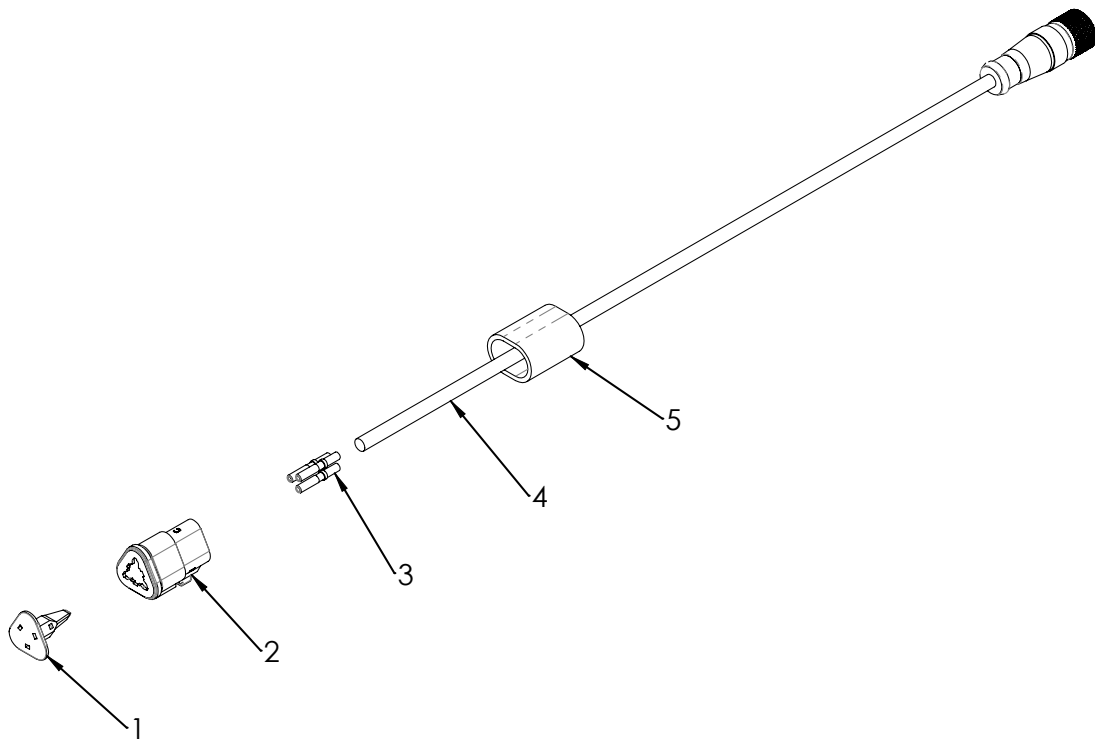
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Notes:

Cable Transducer - 923-4027

100XTR



Cable Transducer - 923-4027

100XTR

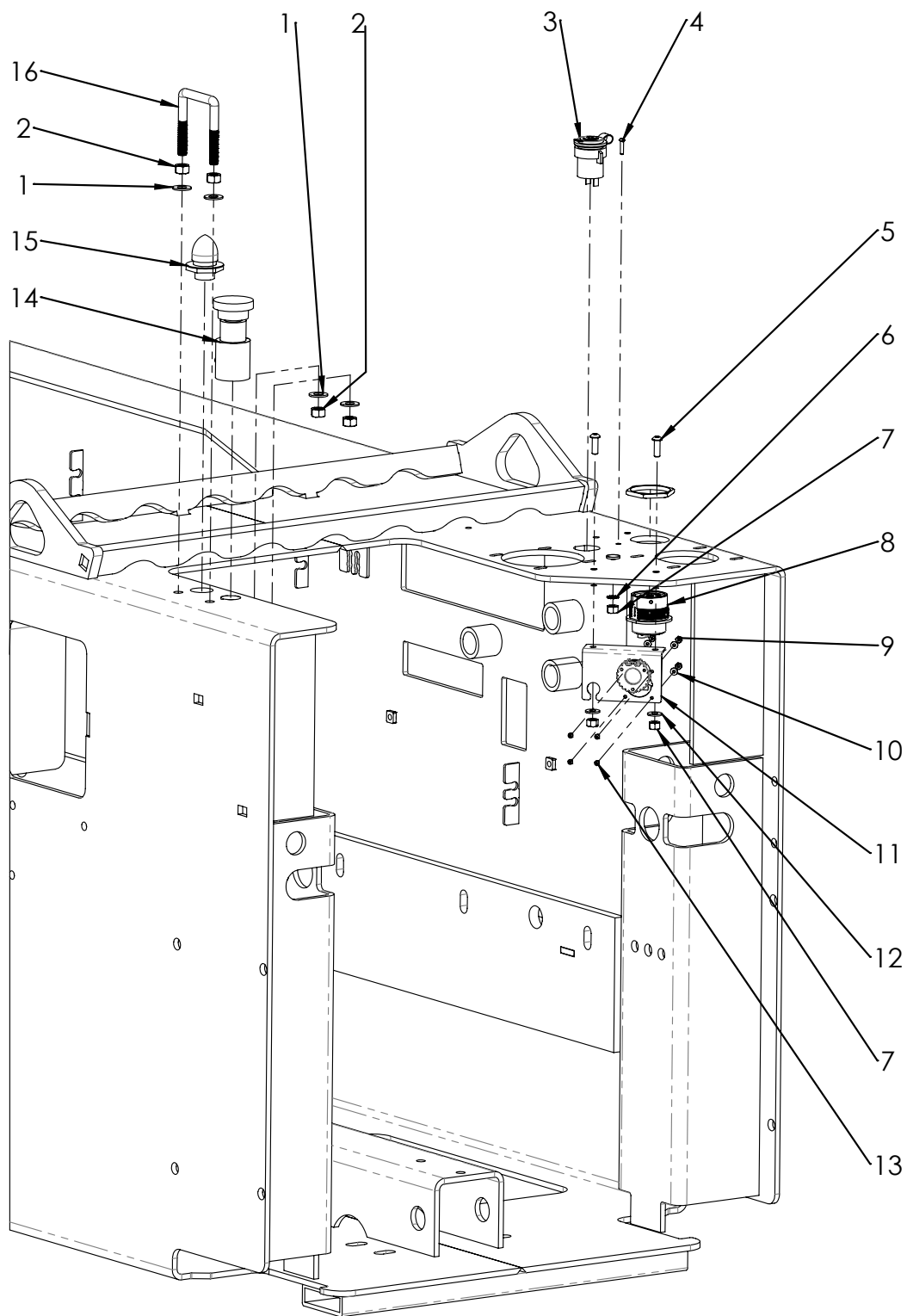
Bom ID	Part No	Description	Qty	Remarks
1	912-6288	LOCK, 3-WAY PLUG	1	
2	912-6287	PLUG, 3-WAY	1	
3	912-3626	SOCKET CONTACT	3	
4	923-0503	CONNECTOR, MICRO, 0.3 FACE	1	
5	923-0507	SLEEVE, SHRINK TUBE	1	

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Footnotes:

Notes:

Electrical - 923-4003
100XTR



Electrical - 923-4003

100XTR

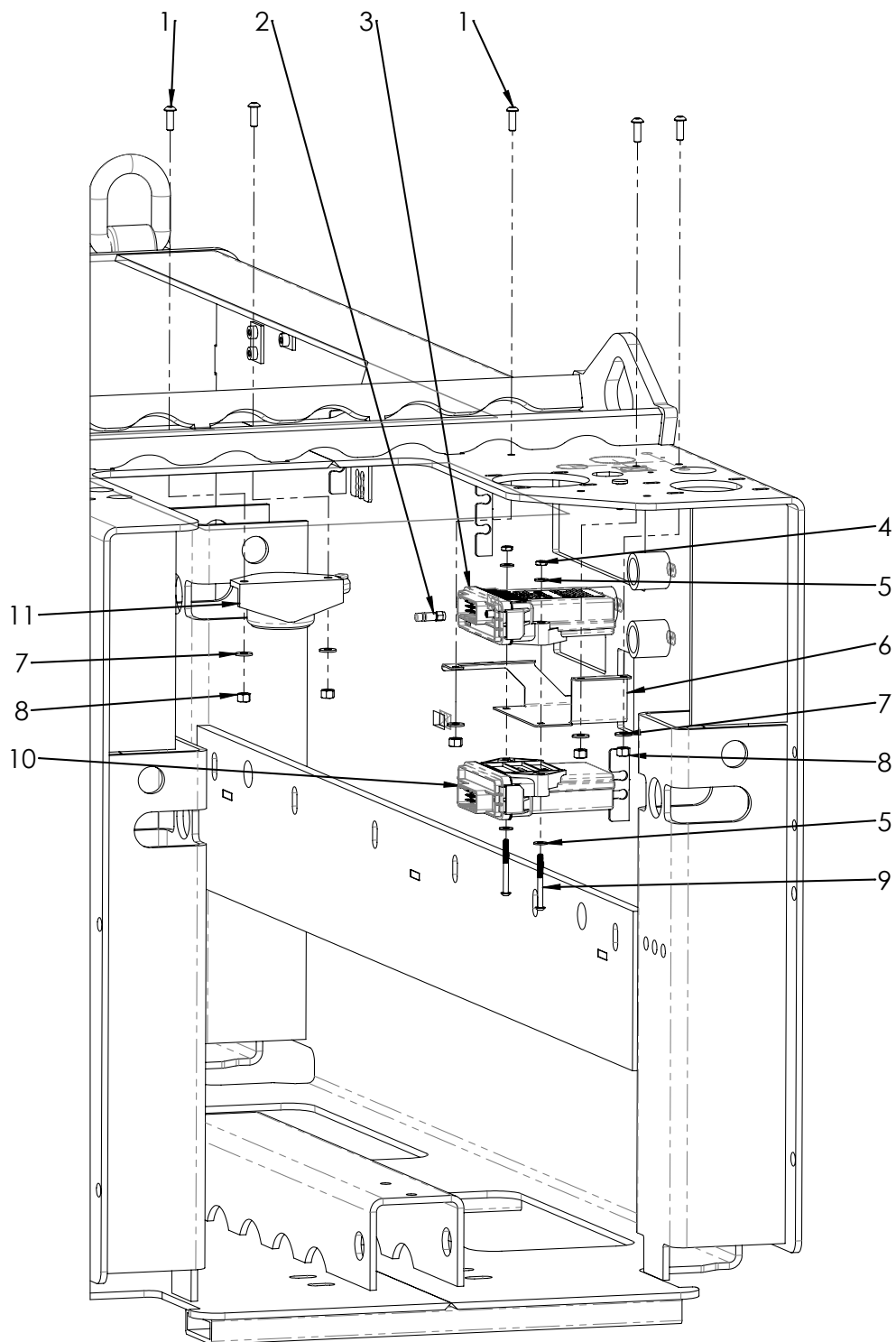
Bom ID	Part No	Description	Qty	Remarks
1	06FW-SAE	WASHER, 3/8"	4	
2	06HN	NUT, 3/8-16 HEX	4	
3	912-0939	RECEPTACLE 12VDC	1	
4	#6BH10	SCREW, #6-32 X .625 BHSC	1	
5	04BH12	SCREW, 1/4-20x0.75 BHSC	2	
6	04ETLW	WASHER, 1/4" ETL	1	
7	04TLN	NUT, 1/4-20 TOP LOCK	3	
8	923-4019	WIRE HARNESS, 100XTR	1	
9	#4NLN	NUT, LOCK #4-40 NYLON INSERT	4	
10	#4FW-SAE	WASHER, #4	4	
11	923-4028	PLATE, EDT CONNECTOR	1	
12	04FW-SAE	WASHER, 1/4"	2	
13	#4BH10	SCREW, BHC #4-40 X 5/8"	4	
14	215-2096	PUSH-PULL SWITCH (DPST)	1	
15	941-7492	LIGHT, LED CLEAR	1	
16	914-0255	U-BOLT, 3/8-16 x 2"W x 3"T SQ.	1	

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Electrical - 923-4003
100XTR



Electrical - 923-4003

100XTR

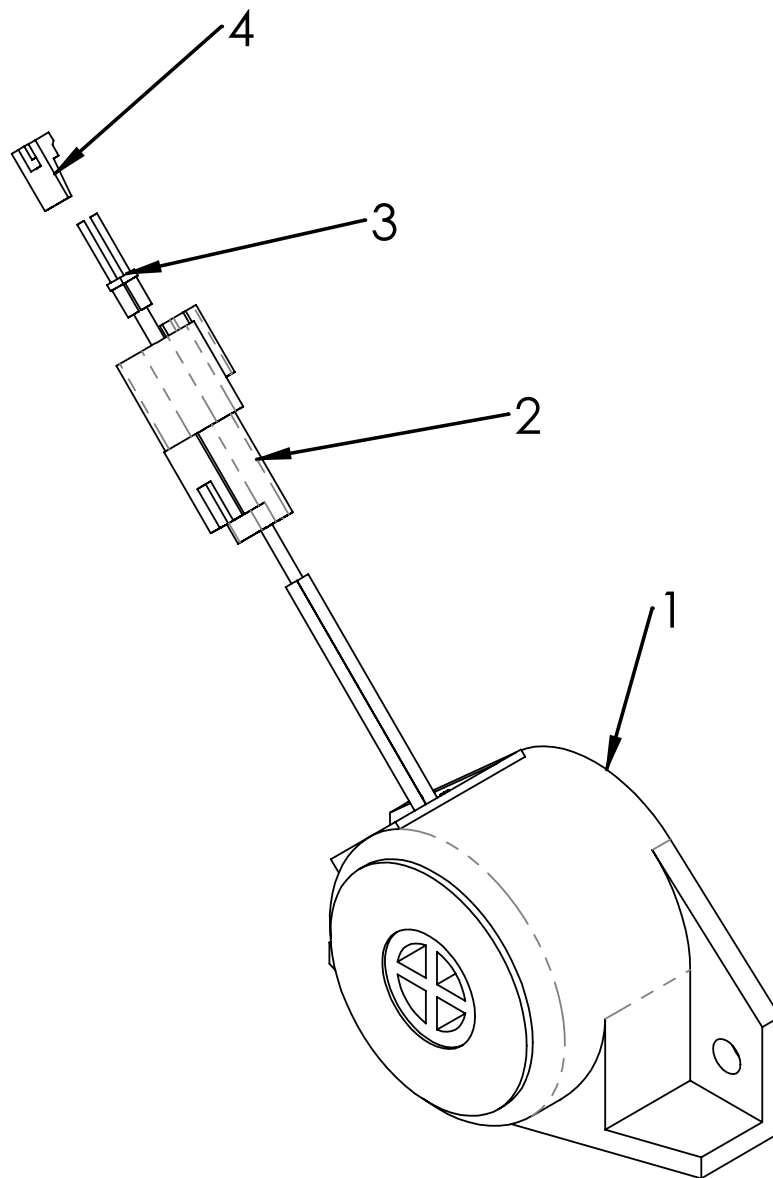
Bom ID	Part No	Description	Qty	Remarks
1	04BH12	SCREW, 1/4-20x0.75 BHSC	5	
2	222-5411	ANTENNA, 2.4GHZ, STUBBY, 1"	1	
3	220-2822	WIRELESS 30 PIN RX 2400 CONTRLR HB100XT	1	
4	#10TLN	NUT, #10-24 TOP LOCK	2	
5	#10FW-SAE	WASHER, #10 - GR5	4	
6	923-4037	BRACKET, RECEIVER	1	
7	04FW-SAE	WASHER, 1/4"	5	
8	04TLN	NUT, 1/4-20 TOP LOCK	5	
9	#10BH32	SCREW, #10-24 X 2" BHSC	2	
10	220-2823	30 PIN CONTROLLER, HB100XT	1	
11	912-5087	BACK-UP ALARM ASSEMBLY	1	

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Footnotes:

Notes:

Back Up Alarm - 912-5087
100XTR



Back Up Alarm - 912-5087

100XTR

Bom ID	Part No	Description	Qty	Remarks
1	912-3619	BACK UP ALARM	1	
2	912-4225	RECEPTACLE 2-WAY	1	
3	912-4227	PIN CONTACT	2	
4	912-4226	LOCK 2 WAY RECEPTACLE	1	

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Miscellaneous

SAE Bolt and Nut Torque Value Chart

Grade 5: UNC or UNF Thread

Size	Coarse		Fine	
	ft-lb	N-m	ft-lb	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	950	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

Grade 8: UNC or UNF Thread

Size	Coarse		Fine	
	ft-lb	N-m	ft-lb	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

Metric Bolt and Cap Screw Torque Values

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-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
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

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 Standards Hydraulic Fittings

O-Ring Boss Fittings

						ASSEMBLYTORQUE (+10% -0)							
DASH SIZE	NOMINAL SIZE (IN)	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

O-Ring Face Seal Fittings

DASH SIZE	NOMINAL SIZE (IN)	THREAD SIZE	FEMALE THREAD	MALE THREAD	ASSEMBLY TORQUE (+10% -0) (PRIMARY METHOD)		FLATS FROM WRENCH RESISTANCE (FFWR) (SECONDARY METHOD)		O-RING
					ft-lb	N-m	TUBE NUTS	SWIVEL & HOSE	
			I.D. (IN)	O.D. (IN)					I.D. (IN)
-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

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 Standards Hydraulic Fittings

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

