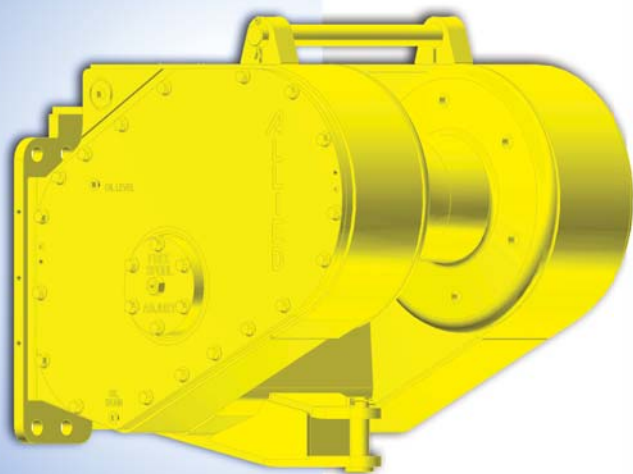




Parts Manual



Allied H5C Hydraulic Towing Winch

Please check the Allied Systems website
regularly for updates to this manual.
www.alliedsystems.com

CUSTOMER EDITION

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COMPANY

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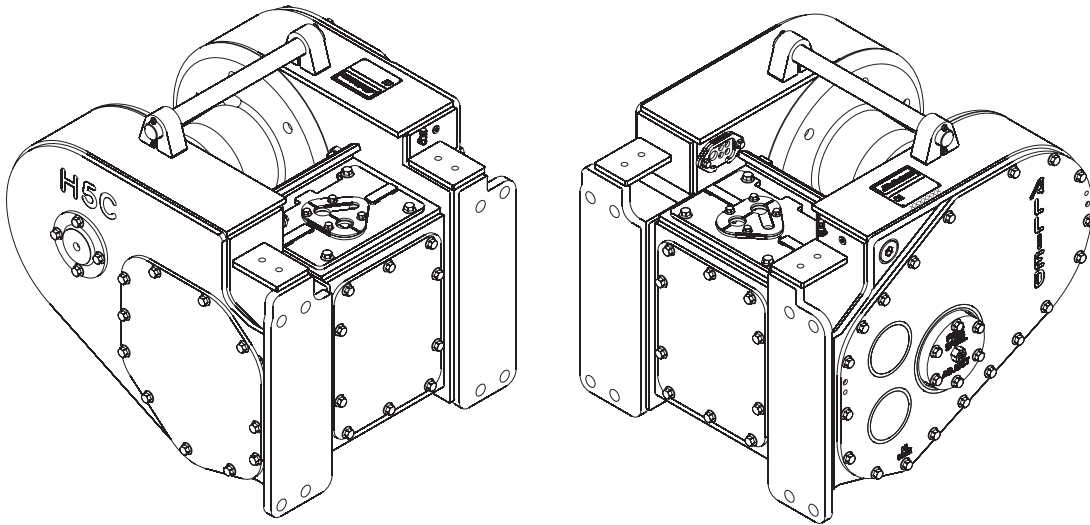
Safety Precautions

**Read, understand and observe the Safety Summary
on pages 0-3 through 0-5
to prevent injury to personnel and damage to equipment.**

Winch serial number _____

Date put into service _____

**NOTE: This publication may be translated to different languages for sole purpose
of easy reference in non-English speaking locations.
Should there be differences in interpretations to the text,
please refer to the English language edition published by Allied Systems Company
as the controlling document.**



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Safety Summary

General Safety Notices

The following pages contain general safety warnings which supplement specific warnings and cautions appearing elsewhere in this manual. All electrical and hydraulic equipment is dangerous. You must thoroughly review and understand the Safety Summary before attempting to operate, troubleshoot or service this winch.

The following symbols and terms are used to emphasize safety precautions and notices in this manual:

DANGER

The “DANGER” symbol indicates a hazardous situation which, if not avoided, will result in serious injury or death. Carefully read the message that follows to prevent serious injury or death.

WARNING

The “WARNING” symbol appears wherever incorrect operating procedures or practices could cause serious injury or death. Carefully read the message that follows to prevent serious injury or death.

CAUTION

The “CAUTION” symbol appears where a hazardous situation which, if not avoided, could result in minor to moderate injury and equipment damage.

NOTICE

This signal word alerts to a situation that is not related to personal injury but may cause equipment damage.

NOTE: ...

The term “NOTE” highlights operating procedures or practices that may improve equipment reliability and/or personnel performance.

NOTE: All possible safety hazards cannot be foreseen so as to be included in this manual. Therefore, you must always be alert to potential hazards that could endanger personnel and/or damage the equipment.

Safety Regulations

Each country has its own safety legislation. It is in the operator’s own interest to be conversant with these regulations and to comply with them in full. This also applies to local bylaws and regulations in force on a particular worksite.

Should the recommendations in this manual deviate from those in the user’s country, the national regulations should be followed.

Operation, Inspection, and Maintenance Warnings

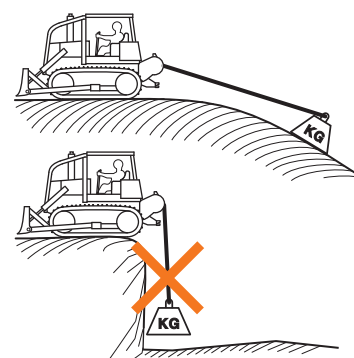
WARNING

Obey the following cautions and warnings before using your winch to avoid equipment damage, personal injury or death.

- Do not operate the winch unless you are authorized and trained to do so.
- Do not operate the winch unless the vehicle is equipped with a screen to protect the operator if the wire rope breaks.
- Read, understand, and follow the operating, inspection, and maintenance instructions in this manual.
- Do not use the control levers for hand holds when entering or leaving the vehicle.
- Do not permit other people near the control area when you inspect or repair a machine.
- Never inspect, repair, or perform maintenance on a machine that is in motion.
- Inspect the winch before each use:
 - » Make sure that the controls and instruments operate correctly.
 - » Report the need for repairs immediately.
 - » Do not work with a damaged or worn wire rope.
 - » Do not use a winch that needs repairs.

- » If the wire rope and ferrule must be removed from the drum, make sure the end of the wire rope and ferrule are controlled when the ferrule is released. The end of the wire rope can suddenly move from the drum like a compressed spring when the ferrule is released, and cause an injury.

- Stay in the operator's seat when operating the winch.
- Do not stand on the vehicle when operating the winch.
- Avoid winch operation near people or other machines.
- Never stand nor permit others to stand in the bight (loop) of a wire rope.
- Do not stand nor permit others to be near the winch or wire rope when there is tension on the wire rope.
- Observe jobsite rules.
- Be in complete control at all times.
- Do not use the control levers as hangers for clothes, water bags, grease guns, lunch pails, etc.
- Do not leave the vehicle when the winch wire rope is under tension.
- Do not permit riders on the vehicle or load.
- Do not use the winch as an anchor for a double or two-part line.
- Do not pull the hook through the throat or over the drum, which will cause damage.
- When the winch is not in use, make sure the control lever is in **BRAKE-ON** position and the winch brake is applied.
- Do not use winch as a hoist. Tractor and skidder mounted winches are designed for towing.



- Always inspect wire rope, tail chain and other rigging components for wear, damage, broken strands or abuse before use.
- Never use wire rope, tail chain or other rigging that is worn-out, damaged or abused.
- Never overload wire rope, tail chain or rigging.
- Wire rope and tail chain will fail if worn-out, overloaded, misused, damaged, improperly maintained or abused. Wire rope or tail chain failure may cause serious injury or death!



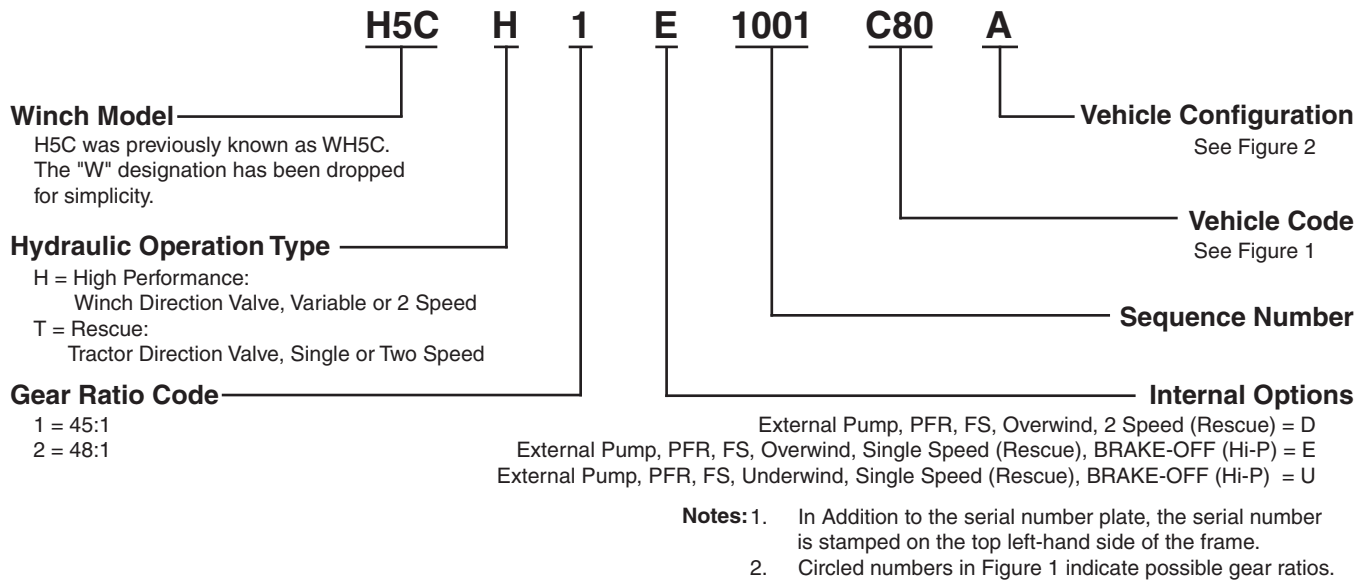
- Do not terminate wire rope to tail chain by the use of a knot.
- Do not handle wire rope if the hook end is not free. A load could break away, suddenly tensioning the wire rope, resulting in serious injury or death.
- Stay clear of wire rope entry areas (fairlead or arch rollers, winch drum etc).

- Make sure ground personnel are in plain view of the operator, and at a distance of at least 1½ times the working length of the wire rope.
- Make sure that any hand signals used by ground personnel are clearly defined and understood by everyone involved.
- Do not attempt to “jerk” or “shock” a load free. Doing so can cause loads in excess of the rated capacity of the wire rope, winch, or mounting hardware.
- Replace any parts only with genuine Allied Winch parts.
- Maintain **a minimum of three (3) complete wraps of wire rope** on the drum for normal operation. It may help to paint the last five wraps of wire rope a contrasting color, to serve as a visual indicator.
- Do not handle wire rope with bare hands. Wear leather gloves at all times.
- Align the tractor with the load to prevent side loading the winch, and to maintain even spooling of the wire rope.
- If applying tension to the wire rope manually during spooling:
 - » ensure that the operator is winching in slowly,
 - » keep your hands and clothing well clear of any rollers or the winch drum,
 - » do not maintain tension by letting the wire rope to slip through your hands,
 - » use a hand-over-hand technique to maintain tension.
- Be aware of the ground conditions, and make sure the ground and tractor are stable enough to pull the intended load.
- Do not attempt to pull loads in excess of the rated capacity of the winch.
- Keep yourself informed of any applicable codes, regulations and standards for the job.
- Your winch may have temperature shut-off system for protection of tractor and winch. Manual override of high temperature shut-off will cause damage to tractor and winch.
- This winch is neither intended, designed, nor rated for any application involved in the lifting or moving of personnel.
- Use only the lubricants listed in the Recommended Oil List. See page 0-9.
- Do not weld on any part of the winch. Contact Allied Systems if weld repairs are needed.
- The hydraulic system must be kept clean and free of contamination at all times.
- Be aware of the hazards of pressurized hydraulics:
 - » Wear personal protective equipment, such as gloves and safety glasses, whenever servicing or checking a hydraulic system.
 - » Assume that all hydraulic hoses and components are pressurized. Relieve all hydraulic pressure before disconnecting any hydraulic line.
 - » Never try to stop or check for a hydraulic leak with any part of your body; use a piece of cardboard to check for hydraulic leaks.
 - » Small hydraulic hose leaks are extremely dangerous, and can inject hydraulic oil under the skin, even through gloves.
 - » Infection and gangrene are possible when hydraulic oil penetrates the skin. See a doctor immediately to prevent loss of limb or death.



Identification - Unit

Allied Winch Serial Number Nameplate Data For Tractor Mountings



Tractor Make Model and Starting Tractor Serial Number Where Applicable

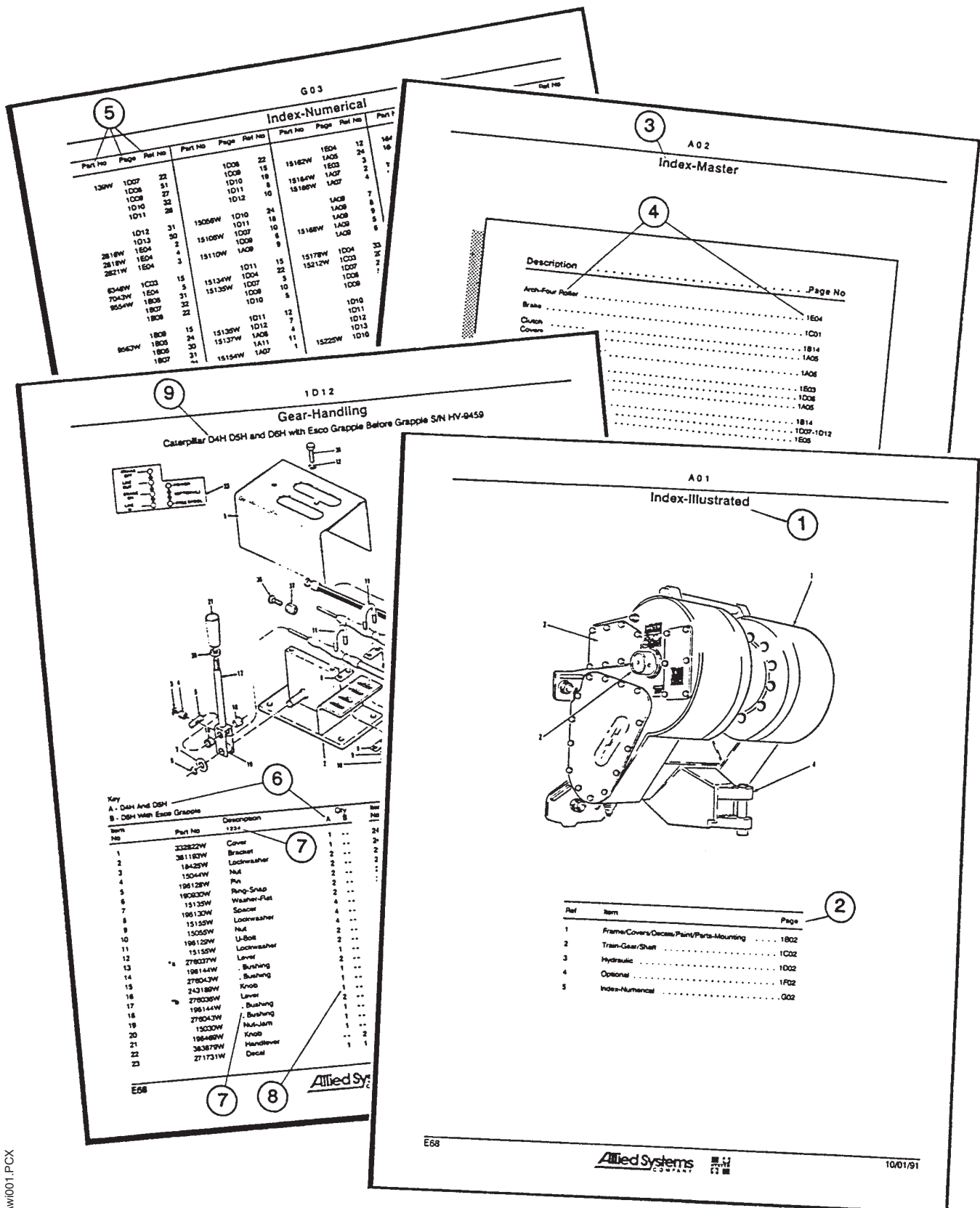
C O D E	A New Holland & Fiat	C Caterpillar	E John Deere	H Dressta	K Komatsu	R Case
37					D51-22 ① ②	
39			700J ①			
48			750J ①			
80		D6K ① ②				
391		PL61 ①				

Figure 1 - Tractor or Skidder Identification Codes and Available Gear Ratios for H5C Winch

Vehicle Configuration (Before Adding Winch or Allied Field Installation Kits)	
Configuration	Description
A	Basic Track Type Tractor; Bare back, without extra hydraulics for rear attachments.
B	Ripper Ready; Either with ripper attached or with just ripper ready hydraulics including handlever.
C	Rescue Winch Ready; Either from factory or by using the tractor OEM field installation package.
D	Hi-P Winch Ready; Either from factory or by using the tractor OEM field installation package.
Note: Use this code to determine if Allied parts or tractor OEM parts are in the winch installation.	

Figure 2 - Winch Choices for Vehicle Configuration Options for H5C Winch

How to use the Illustrated Parts manual



How to use the Illustrated Parts manual

When both the part number and the next higher assembly are not known:

1. Determine the function and application of the part required. Turn to the index page (page 0-1), and select the most appropriate area.
2. Use the index at the front of each section to determine the assembly which would normally contain the part required. Proceed then to locate the part on the assembly breakdown page.

When the part number is not known and the next higher assembly is known:

3. Determine the assembly the required part is used on. Turn to the master index immediately following the index, Page 0-2.
4. Locate the assembly on which the required part is used, and turn to the page indicated for that assembly. Proceed to locate the part on the assembly breakdown page.

When the part number is known:

5. Use the numerical index (Section 5) to find the part number. Turn to the page(s) listed and locate the part as indicated by the reference number.

General:

- The assembly breakdowns include part numbers, descriptions, quantities required, keys and footnotes to help in selecting the correct parts.
- Keys are used to show effective serial numbers for two or more similar assemblies, LH and RH assembly parts, etc. Select the appropriate key, "A", "B", "C", or "D" and the corresponding quantity column to find the required parts.
- Indent dots are used to indicate assemblies and sub-parts of assemblies. No dot indicates the major assembly. Part descriptions which are indented with dots are sub-parts of the major assembly shown above.
- Quantities shown are for one assembly. Note that when two assemblies are shown, but the quantity of the sub-parts is indicated as three, this means three per assembly - for a total of six. AR means As Required, and NSS indicates Not Sold Separately.
- Serial numbers are shown to allow for the most current parts information to be incorporated into the parts manual. See page 0-3 for serial number information.

Ordering Parts:

When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

For any further information on parts, service or ordering, consult your local winch/tractor dealer, or contact Allied Systems Company:

Allied Systems Company
21433 SW Oregon Street
Sherwood, Oregon 97140
USA

Phone: 503-625-2560
Fax: 503-625-5132
E-Mail: parts@alliedsystems.com

Also see our website, www.alliedsystems.com, where the most current copy of this manual is always available.

NOTE: This publication may be translated to different languages for sole purpose of easy reference in non-English speaking locations. Should there be differences in interpretations to the text, please refer to the English language edition published by Allied Systems Company as the controlling document.

Oil Specifications

Oil Selection

The main consideration while selecting hydraulic fluid viscosity is the estimated oil temperature extremes that will be experienced during service so the most suitable temperature-viscosity characteristics are obtained.

VISCOSITY GRADE		OIL OPERATING TEMPERATURE RANGE		TYPICAL AMBIENT TEMPERATURE RANGE	
ISO	SAE	°F	°C	°F	°C
VG 22	10W	-5 to 140	-20 to 60	-5 to 40	-20 to 4
VG 32	15W	10 to 160	-12 to 71	10 to 55	-12 to 13
VG 46	20	20 to 180	-7 to 82	20 to 70	-7 to 21
VG 68	20	30 to 200	-1 to 93	30 to 90	-1 to 32
VG 100	30	40 to 220	4 to 104	40 to 110	4 to 43

Figure 3 - Oil Selection Chart

Factory fill is Exxon-Mobil 424, which has an ISO Viscosity Grade 46 to 68.

For external pump winches (the winch pump uses tractor hydraulic fluid), the hydraulic circuit and winch gear housing may have different fluids. Note that some hydraulic system oils are not recommended for use inside the winch housing.

For inside winch housing, use the following oils:

	HYDRAULIC SYSTEM (PUMP & MOTOR)	WINCH CASE (GEAR TRAIN ONLY)
Caterpillar	Use Tractor Fluid	TDTO TO-4 MTO
John Deere	Use Tractor Fluid	Hy-Gard
Komatsu	Use Tractor Fluid	Universal Tractor Fluid
Chevron	Use Tractor Fluid	1000 THF
Exxon-Mobil	Use Tractor Fluid	Mobil Fluid 424
Case	Use Tractor Fluid	Hy-Tran Ultra
New Holland	Use Tractor Fluid	Multitran

Figure 4 - Recommended Oil List

Oil Capacity

The oil capacity for H5C winch is 17 quarts (16 liters).

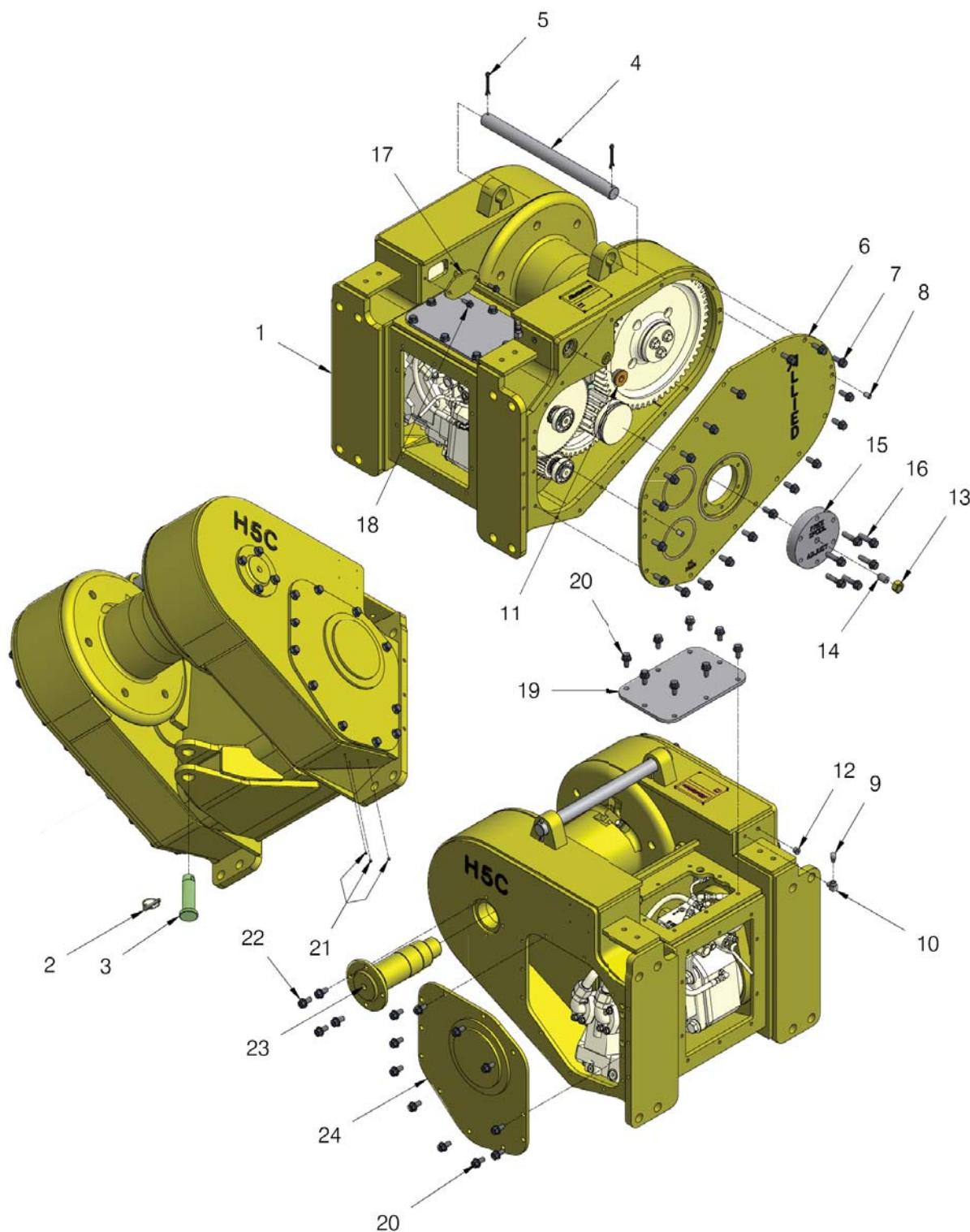
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Frame/Covers/ Mounting Parts/Decals

Frame and Covers	1-2 thru 1-9
Mounting Parts	1-10 thru 1-20
Nameplate, Label & Decals	1-21

Frame and Covers

Hi-Performance Winch (H5CH)
Caterpillar D6K (C80)
Page 1 of 2



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Frame and Covers
Hi-Performance Winch (H5CH)
 Caterpillar D6K (C80)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2306189W	Frame	1	16	2305415W	Screw, Flange	6
2	2303221W	Pin, Retaining	1	17	2307342W	Cover, RH Inner	1
3	1314656W	Pin, Drawbar	1	18	398567W	Screw, Flange	2
4	93927W	Rod	1	19	2302513W	Cover, Top	1
5	15256W	Pin	2	20	398817W	Screw, Flange	29
6	*c 2306570W	Cover, LH	1	21	*d 16243W	Screw	3
7	2303848W	Screw, Flange	19	22	2303902W	Screw, Flange	4
8	176208W	Pin	2	23	2302379W	Shaft, Drum	1
9	2304101W	Breathe, Red	1	24	2306509W	Cover, RH	1
10	*b 16151W	Fitting	1				
11	188210W	Fitting, O-Ring	1	*a	Apply 264159W Adhesive Between Item 15, FS		
12	*b 222443W	Fitting, O-Ring	1		Adjust Housing, and Item 6, LH Cover		
13	221717W	Nut	1	*b	Use 246108W Pipe Thread Sealant		
14	2304803W	Screw	1	*c	Use 264159W Adhesive		
15	*a 2302625W	Housing, Freespool Adjust	1	*d	Use 251099W Adhesive Sealant		

Frame and Covers

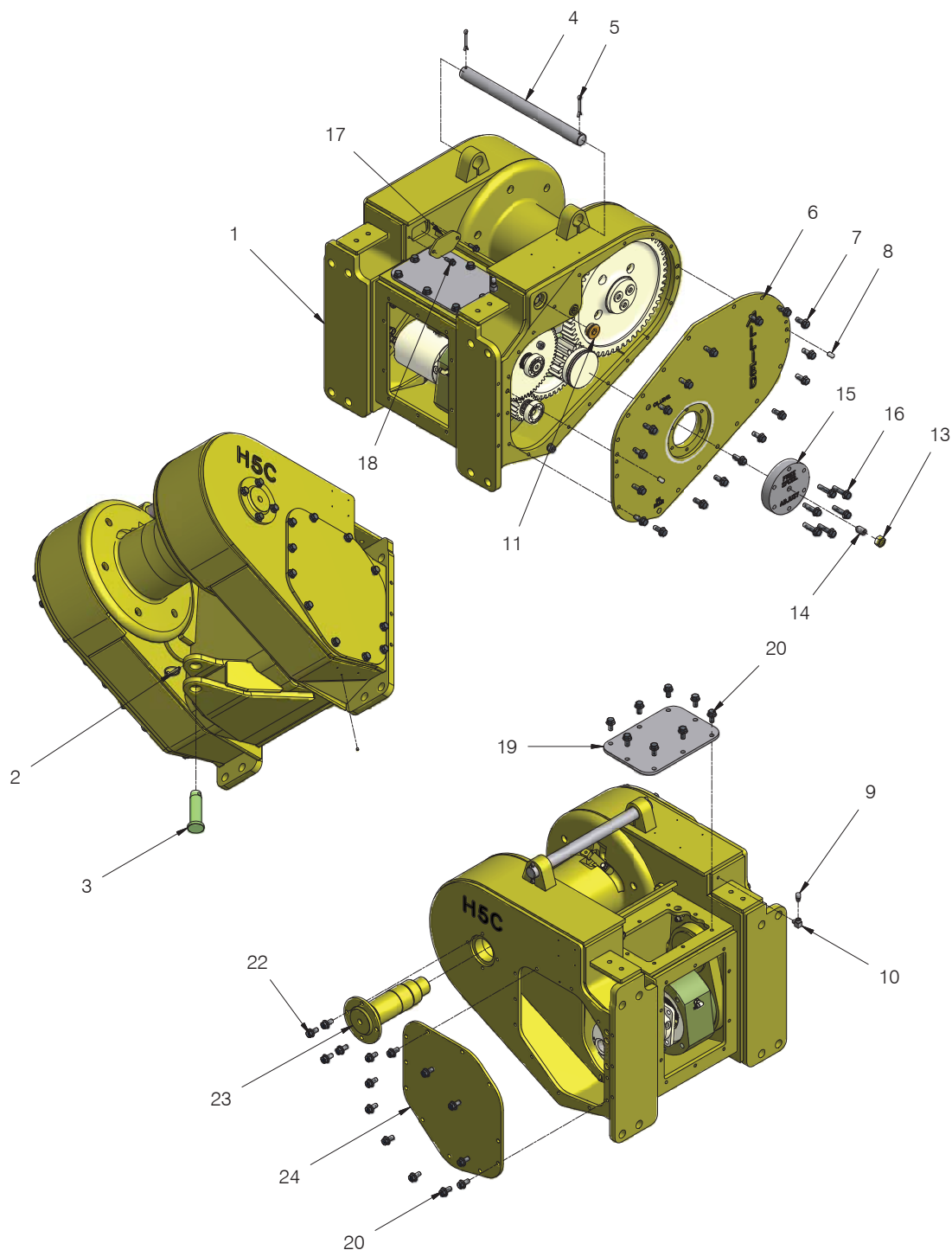
Hi-Performance Winch (H5CH)

Caterpillar PL61 (C391)

Rescue Winch (H5CT)

Caterpillar D6K (C80) and John Deere 700J (E39)

Page 1 of 2



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Frame and Covers**Hi-Performance Winch (H5CH)**

Caterpillar PL61 (C391)

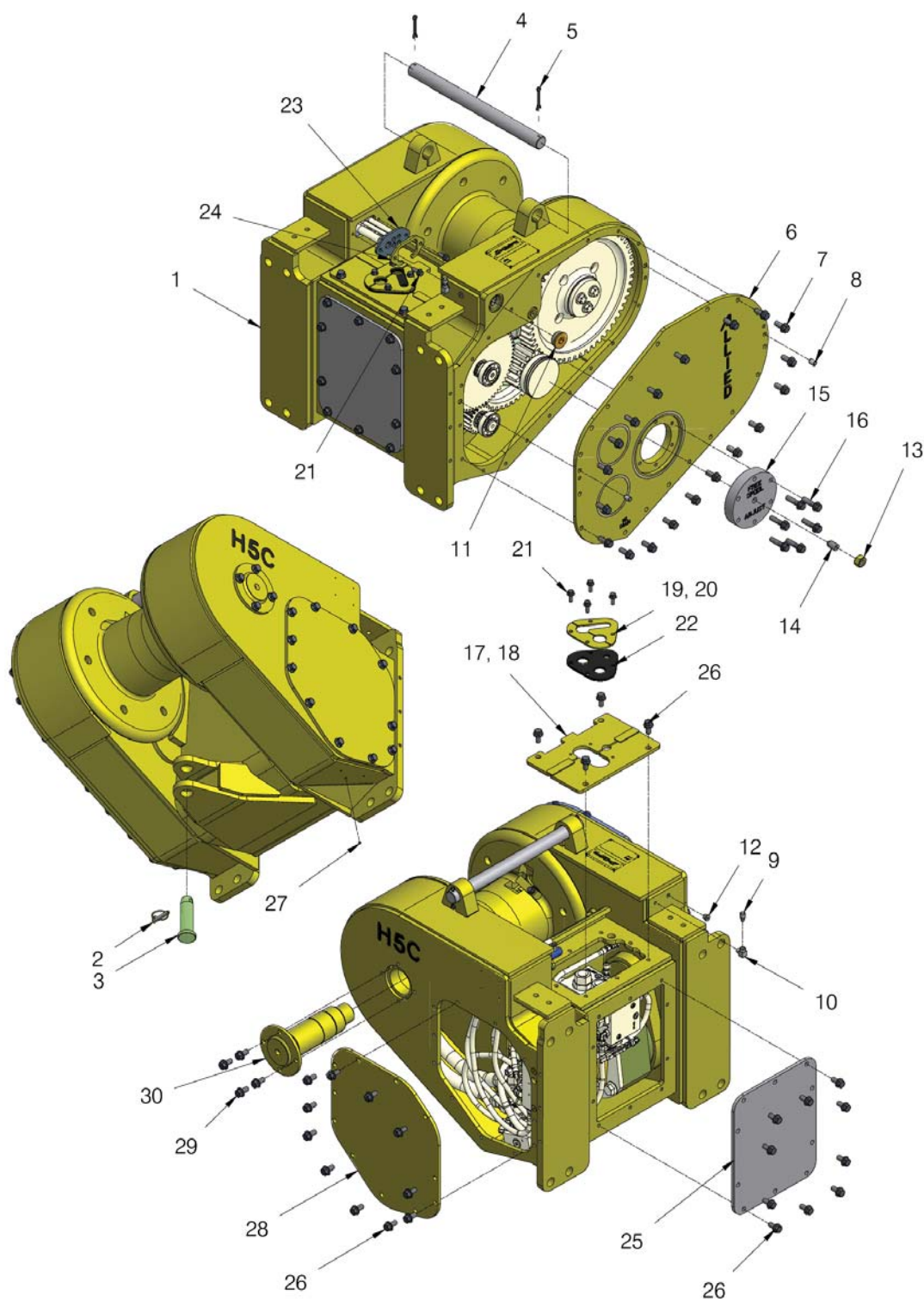
Rescue Winch (H5CT)

Caterpillar D6K (C80) and John Deere 700J (E39)

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2306189W	Frame	1	17	2307342W	Cover, RH Inner	1
2	2303221W	Pin, Retaining	1	18	398567W	Screw, Flange	2
3	1314656W	Pin, Drawbar	1	19	2302513W	Cover, Top	1
4	93927W	Rod	1	20	398817W	Screw, Flange	19
5	15256W	Pin	2	21	*d 16243W	Screw	3
6	*c 2306570W	Cover, LH	1	22	2303902W	Screw, Flange	4
7	2303848W	Screw, Flange	19	23	2302379W	Shaft, Drum	1
8	176208W	Pin	2	24	2307097W	Cover, RH	1
9	2304101W	Breathe, Red	1				
10	*b 16151W	Fitting	1	*a	Apply 264159W Adhesive Between Item 15, FS		
11	188210W	Fitting, O-Ring	1		Adjust Housing, and Item 6, LH Cover		
13	221717W	Nut	1	*b	Use 246108W Pipe Thread Sealant		
14	2304803W	Screw	1	*c	Use 264159W Adhesive		
15	*a 2302625W	Housing, Freespool Adjust	1	*d	Use 251099W Adhesive Sealant		
16	2305415W	Screw, Flange	6				

Frame and Covers **Hi-Performance Winch (H5CH)** John Deere 750J (E48) Page 1 of 2



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Frame and Covers

Hi-Performance Winch (H5CH)

John Deere 750J (E48)

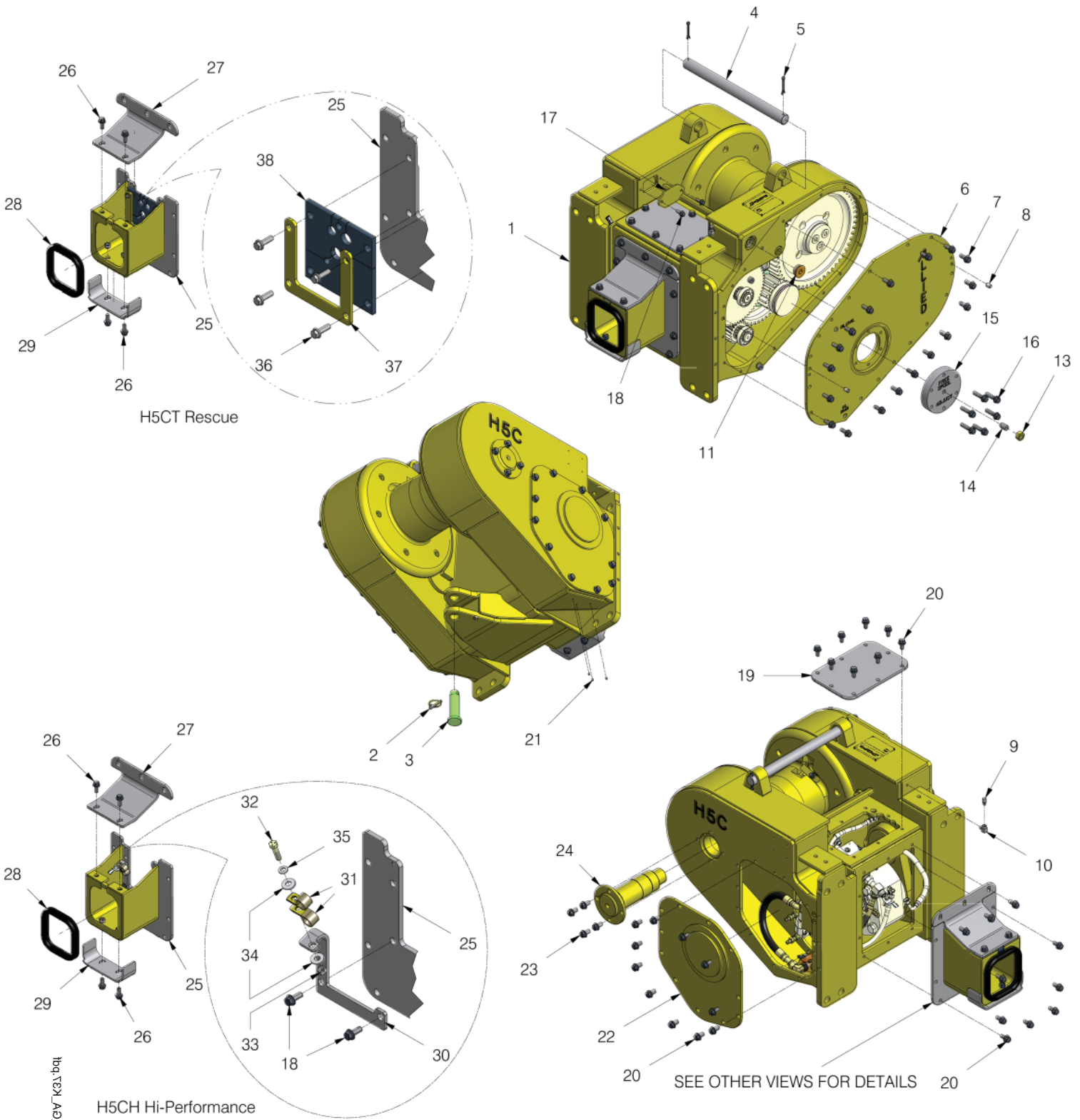
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2306189W	Frame	1	19	2307111W	Plate, Cover	1
2	2303221W	Pin, Retaining	1	20	2307112W	Plate, Cover	1
3	1314656W	Pin, Drawbar	1	21	398567W	Screw, Flange	6
4	93927W	Rod	1	22	2307113W	Gasket, Hose Cover	1
5	15256W	Pin	2	23	2307225W	Gasket, Hose Seal	1
6	*c 2306570W	Cover, LH	1	24	2307226W	Cover	1
7	2303848W	Screw, Flange	19	25	2306994W	Cover, Front	1
8	176208W	Pin	2	26	398817W	Screw, Flange	25
9	2304101W	Breathe, Red	1	27	*d 16243W	Screw	3
10	*b 16151W	Fitting	1	28	2307097W	Cover, RH	1
11	188210W	Fitting, O-Ring	1	29	2303902W	Screw, Flange	4
12	*b 222443W	Fitting, O-Ring	1	30	2302379W	Shaft, Drum	1
13	221717W	Nut	1				
14	2304803W	Screw	1				
15	*a 2302625W	Housing, Freespool Adjust	1		*a	Apply 264159W Adhesive Between Item 15, FS	
16	2305415W	Screw, Flange	6			Adjust Housing, and Item 6, LH Cover	
17	2307261W	Plate, Top Cover	1		*b	Use 246108W Pipe Thread Sealant	
18	2307257W	Top Plate	1		*c	Use 264159W Adhesive	
					*d	Use 251099W Adhesive Sealant	

Frame and Covers

Komatsu D51-22 (K37)

Page 1 of 2



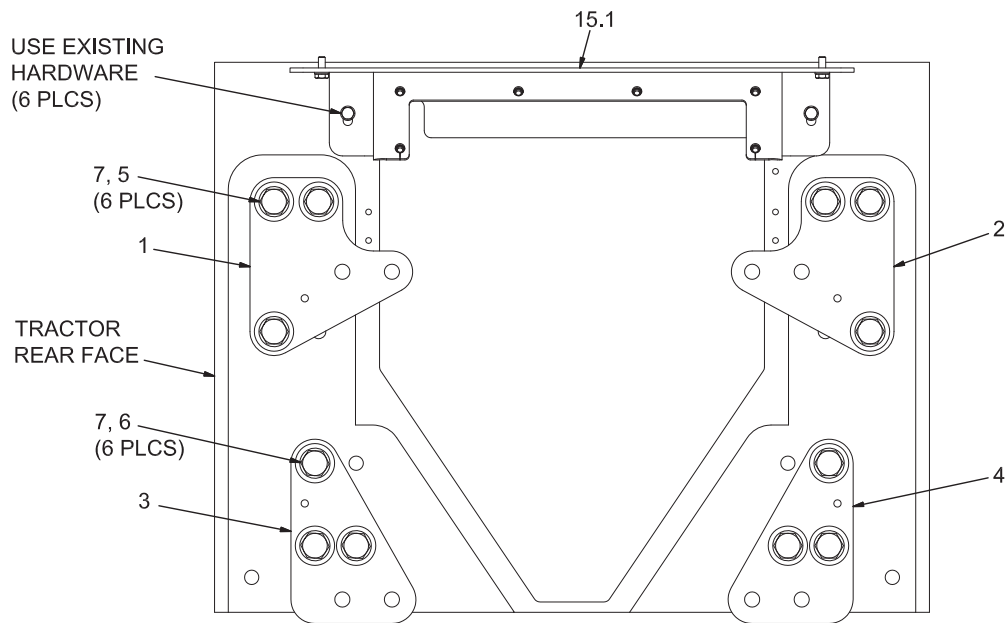
Frame and Covers

Komatsu D51-22 (K37)

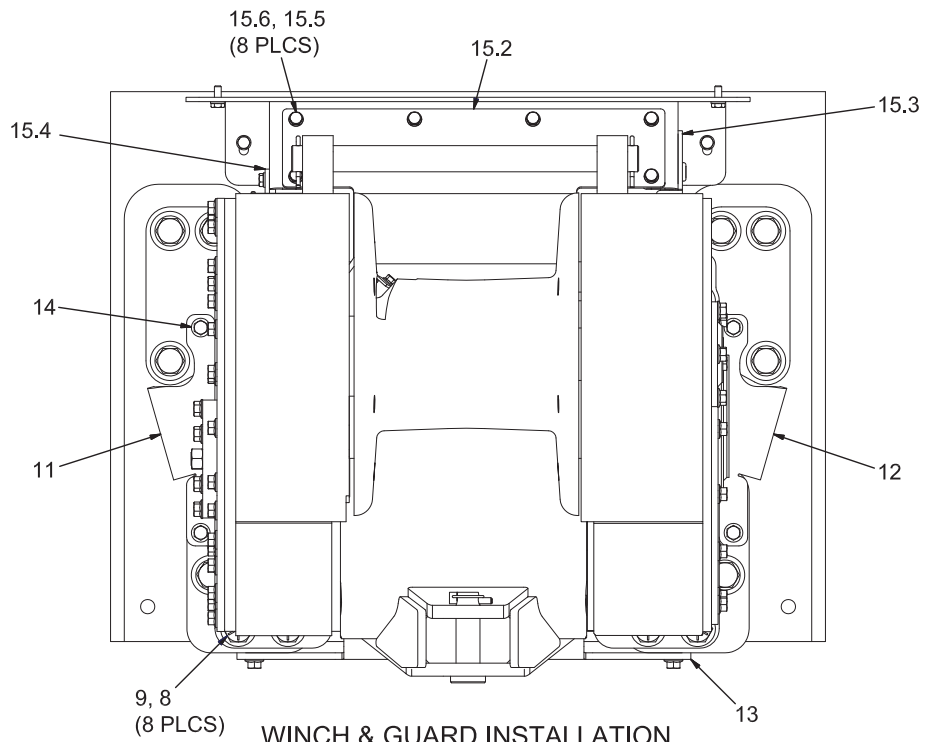
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2306189W	Frame	1	23	2303902W	Screw, Flange	4
2	2303221W	Pin, Retaining	1	24	2302379W	Shaft, Drum	1
3	1314656W	Pin, Drawbar	1	25	2310025	Front Plate, Lower Tunnel	1
4	93927W	Rod	1	26	396820W	Screw, Flange	4
5	15256W	Pin	2	27	2310045	Top Plate, Tunnel	1
6	*c 2306570W	Cover, LH	1	28	237271W	Trim, Edge	2 Ft
7	2303848W	Screw, Flange	19	29	2310213	Guard, Cover	1
8	176208W	Pin	2	30	2310915	Bracket, Hose	1
9	2304101W	Breathe, Red	1	31	209695	Clamp	2
10	*b 16151W	Fitting	1	32	16828W	Capscrew	1
11	188210W	Fitting, O-Ring	1	33	15056W	Nut	1
12	*b 222443W	Fitting, O-Ring	1	34	15176W	Washer	2
13	221717W	Nut	1	35	15156W	Washer	1
14	2304803W	Screw	1	36	398599W	Screw, Flange	4
15	*a 2302625W	Housing, Freespool Adjust	1	37	2310032	Plate, Isolation Clamp	1
16	2305415W	Screw, Flange	6	38	2313698	Isolator	1
17	2307342W	Cover, RH Inner	1				
18	398567W	Screw	4	*a	Apply 264159W Adhesive Between Item 15, FS		
19	2302513W	Cover, Top	1		Adjust Housing, and Item 6, LH Cover		
20	393317W	Screw, Flange	29	*b	Use 246108W Pipe Thread Sealant		
21	*d 16243W	Screw	3	*c	Use 264159W Adhesive		
22	2306509W	Cover, RH	1	*d	Use 251099W Adhesive Sealant		

Mounting Parts
High-Performance Winch (H5CH)
Caterpillar D6K (C80)
Page 1 of 2



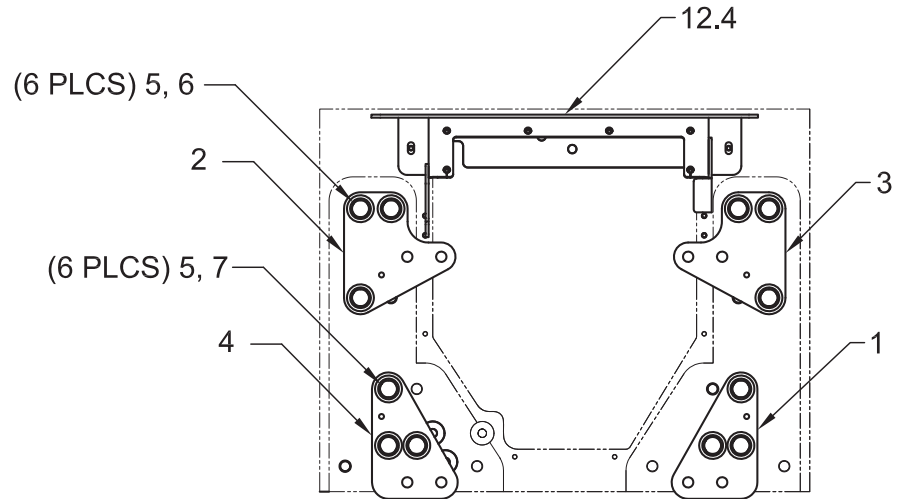
MOUNTING BRACKET INSTALLATION



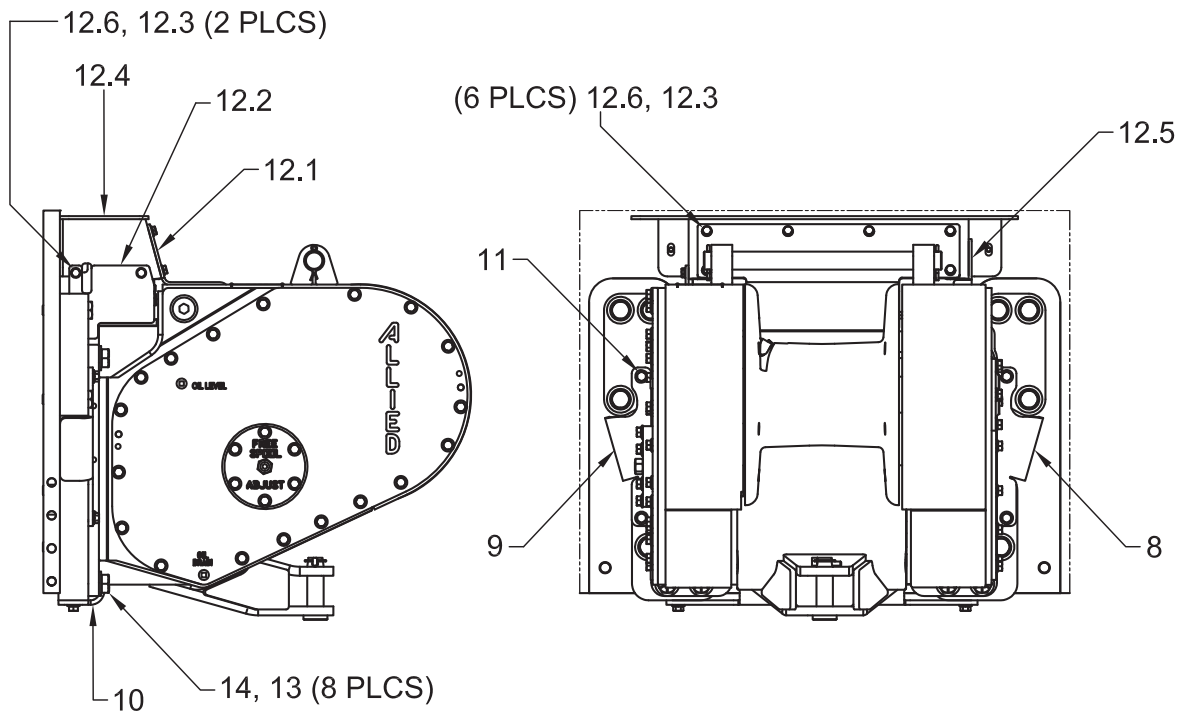
Mounting Parts
High-Performance Winch (H5CH)
 Caterpillar D6K (C80)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2310085	Bracket, LH Upper Mounting	1	13	2310103	Guard, Lower Hose	1
2	2310086	Bracket, RH Upper Mounting	1	14	398817W	Screw	6
3	2310088	Bracket, LH Lower Mounting	1	15	2311302	Guard, Tank	1
4	2310084	Bracket, RH Lower Mounting	1	15.1	2311268	. Guard	1
5	*a 293729W	Capscrew	6	15.2	2311273	. Plate, Top Cover	1
6	*a 274044W	Capscrew	6	15.3	2311270	. Plate, RH Cover	1
7	296434W	Washer, Hard	12	15.4	2311271	. Plate, LH Cover	1
8	*a 221690W	Capcscrew	8	15.5	293628W	. Capscrew	8
9	221780W	Washer, Hard	8	15.6	296420W	. Washer	8
11	2310102	Guard, LH Hose	1				
12	2310101	Guard, RH Hose	1				
				*a	Use 318702W Threadlock		

Mounting Parts
High-Performance Winch (H5CH)
 Caterpillar PL61 (C391)
 Page 1 of 2



MOUNTING BRACKETS INSTALLATION

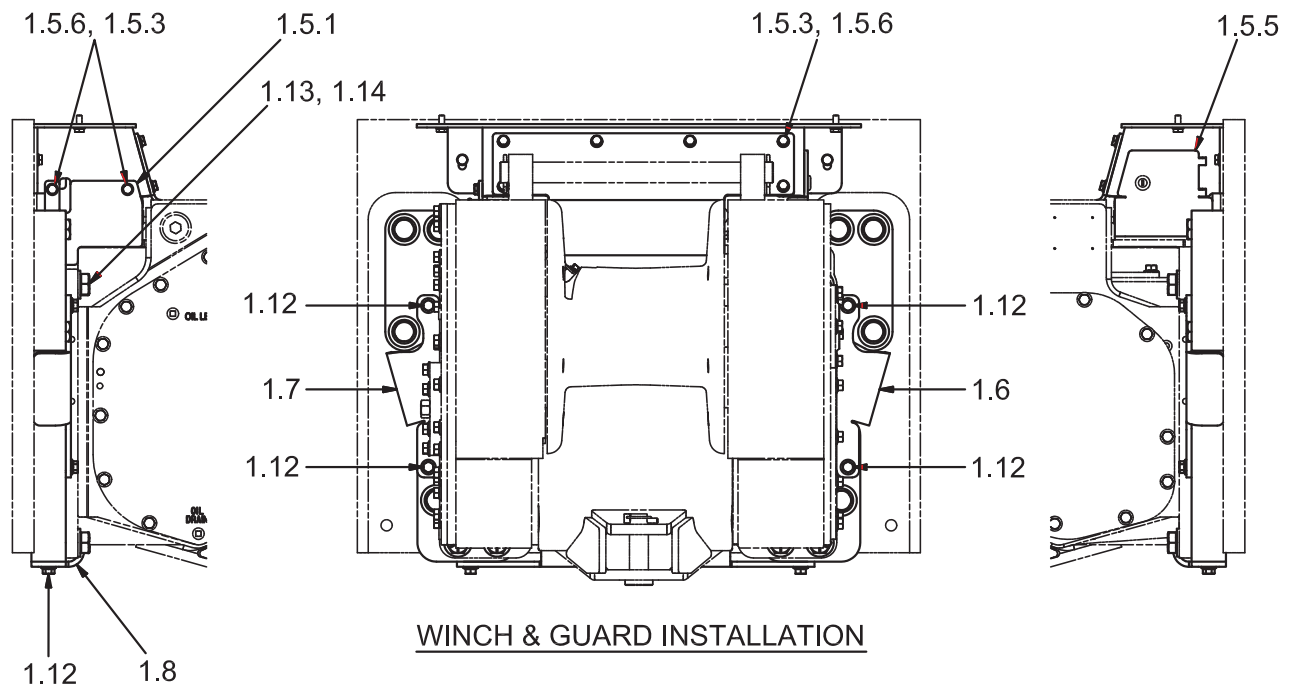
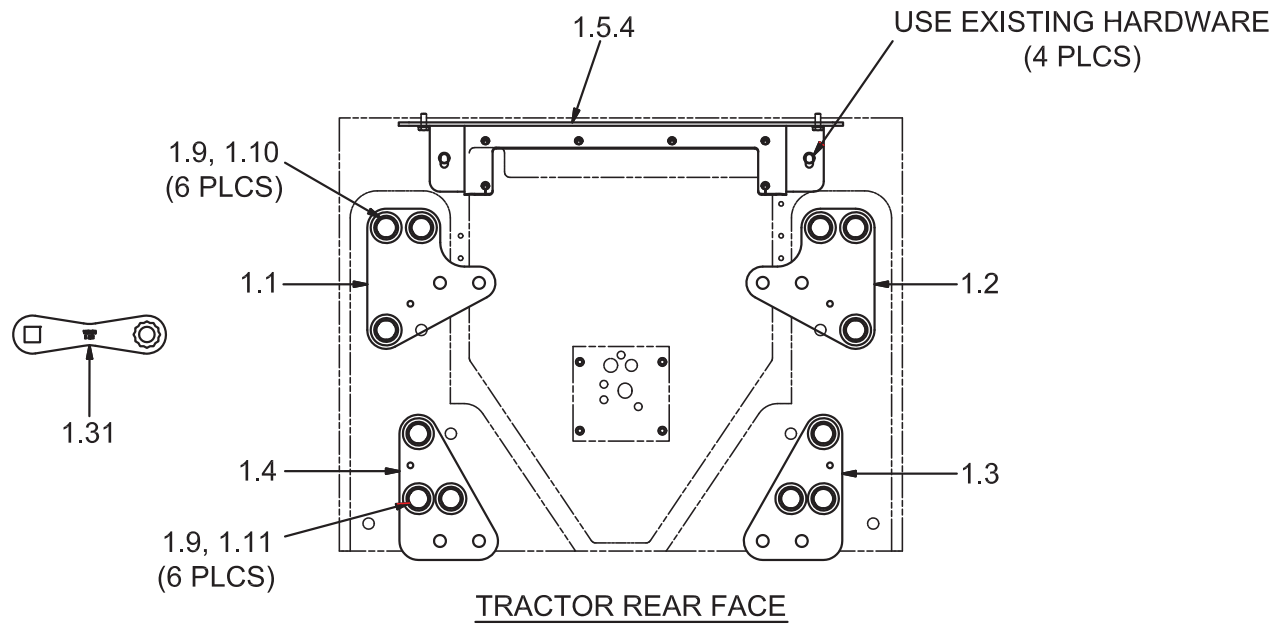


WINCH & GUARD INSTALLATION

Mounting Parts
High-Performance Winch (H5CH)
 Caterpillar PL61 (C391)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2310084	Bracket, RH Lower Mounting	1	12.1	2311271	Plate, LH Cover	1
2	2310085	Bracket, LH Upper Mounting	1	12.2	2311273	Plate, Top Cover	1
3	2310086	Bracket, RH Upper Mounting	1	12.3	293628W	Capscrew	8
4	2310088	Bracket, LH Lower Mounting	1	12.4	2311268	Guard	1
5	296434W	Washer	12	12.5	2311270	Plate, RH Cover	1
6	*a 293729W	Capscrew	6	12.6	296420W	Washer	8
7	*a 274044W	Capscrew	6	13	221780W	Washer	8
8	2310101	Guard, RH Hose	1	14	*a 221690W	Capscrew	8
9	2310102	Guard, LH Hose	1				
10	2310103	Guard, Lower Hose	1		*a	Use 318702W Threadlock	
11	398817W	Screw	6				

Mounting Parts
Rescue Winch (H5CT-D), 2-Speed
 Caterpillar D6K (C80)
 Page 1 of 2



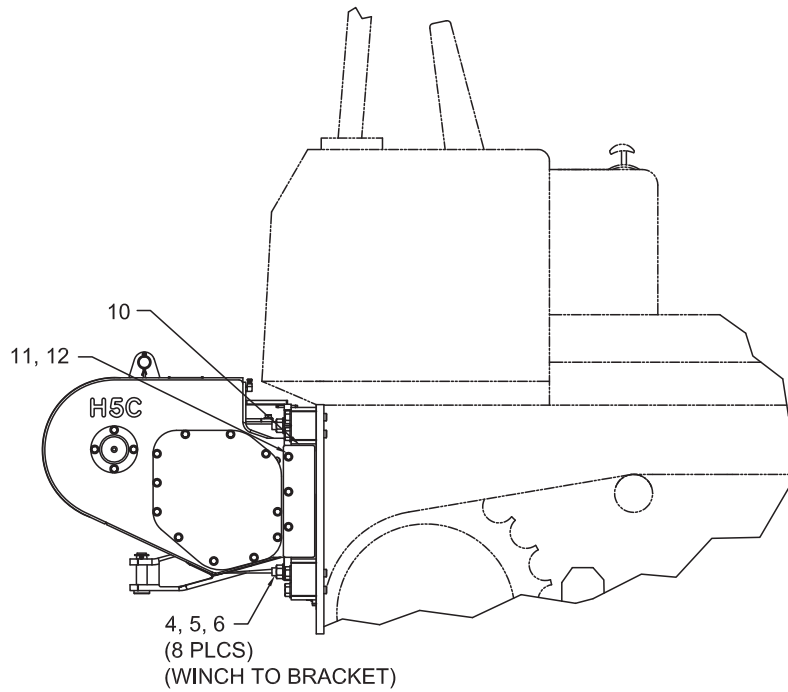
Mounting Parts
Rescue Winch (H5CT-D), 2-Speed
 Caterpillar D6K (C80)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2310085	Bracket, LH Upper Mounting	1	1.7	2310102	Guard, LH Hose	1
1.2	2310086	Bracket, RH Upper Mounting	1	1.8	2310103	Guard, Lower Hose	1
1.3	2310084	Bracket, RH Lower Mounting	1	1.9	296434W	Washer	12
1.4	2310088	Bracket, LH Lower Mounting	1	1.10	*a 293729W	Capscrew	6
1.5.1	2311271	Plate, LH Cover	1	1.11	*a 274044W	Capscrew	6
1.5.2	2311273	Plate, Top Cover	1	1.12	398817W	Screw, Flange	6
1.5.3	293628W	Capscrew	8	1.13	*a 221690W	Capcscrew	8
1.5.4	2311268	Guard	1	1.14	221780W	Washer, Hard	8
1.5.5	2311270	Plate, RH Cover	1	1.31	2314046	Wrench, Torque	1
1.5.6	296420W	Washer	8				
1.6	2310101	Guard, RH Hose	1	*a	Use 318702W Threadlock		

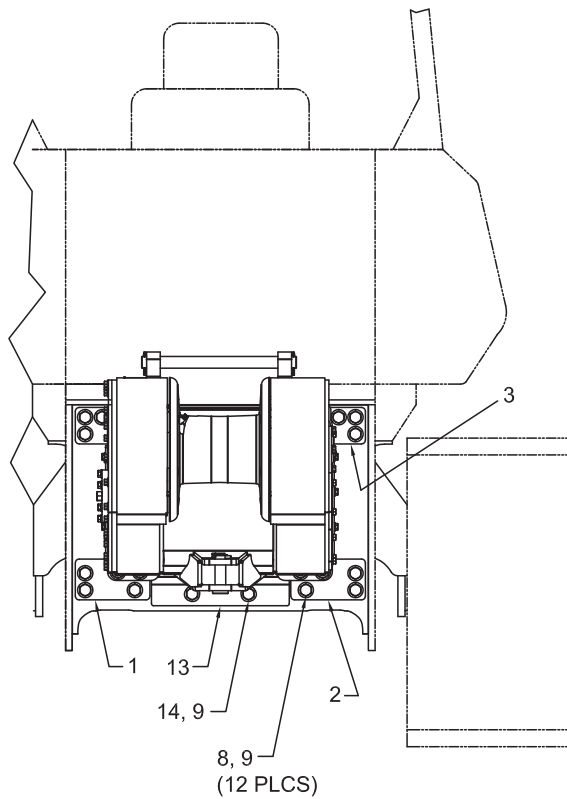
Mounting Parts

John Deere 700J (E39)

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WINCH SIDE VIEW



WINCH BACK VIEW

Mounting Parts

John Deere 700J (E39)

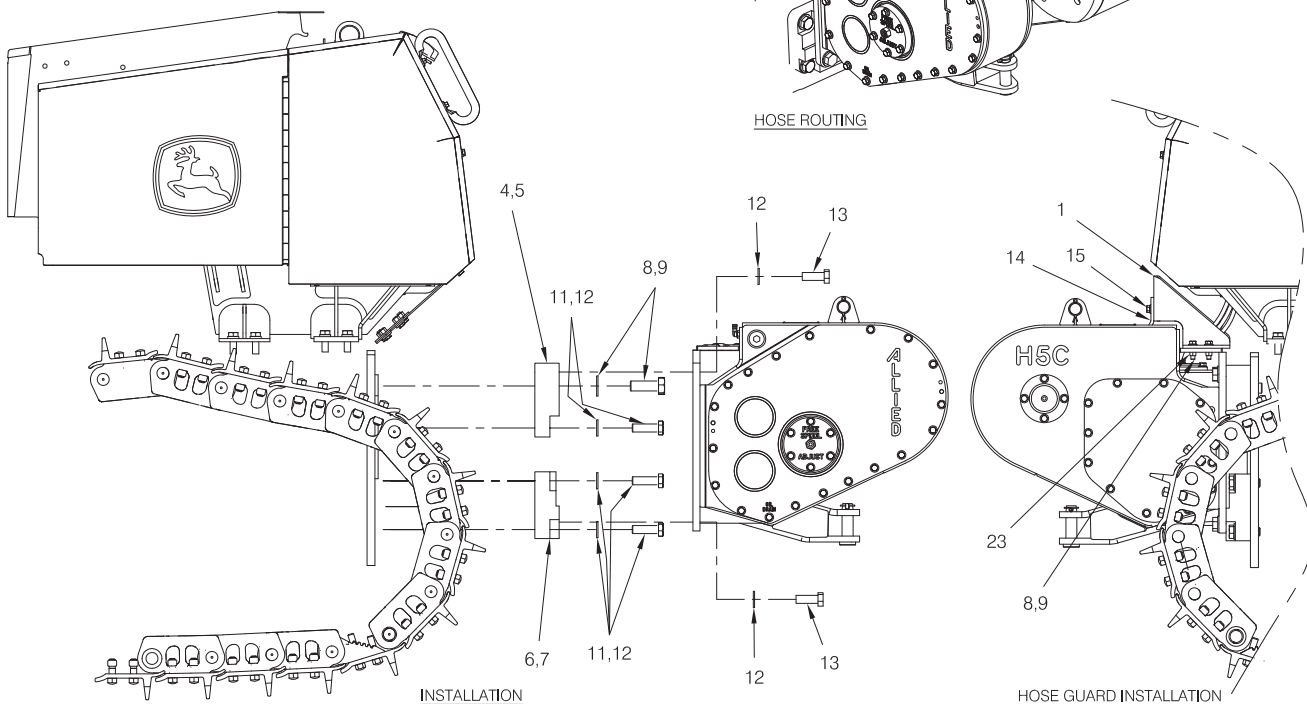
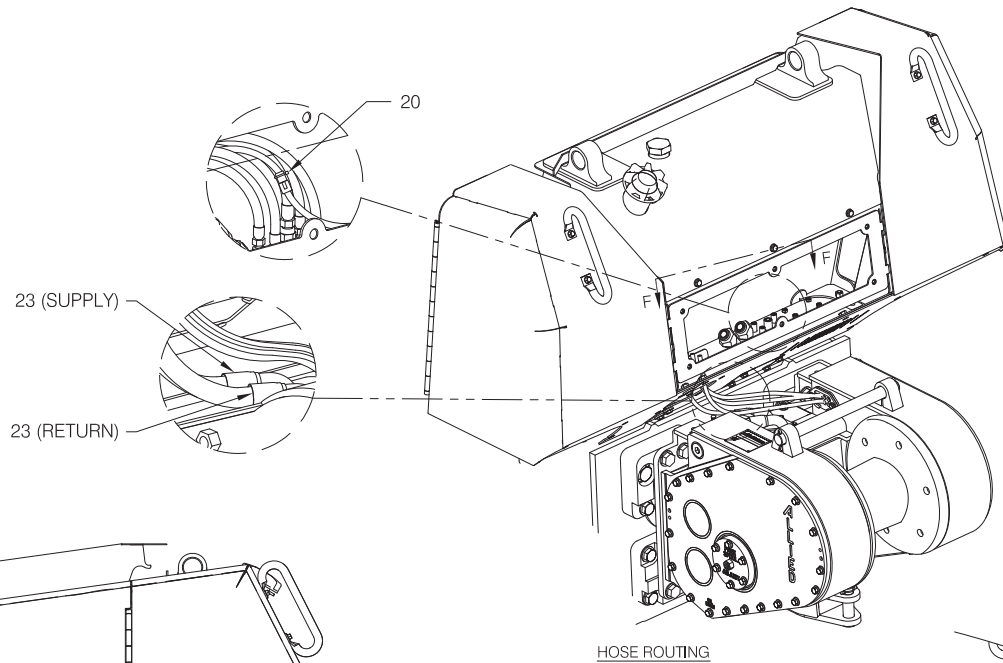
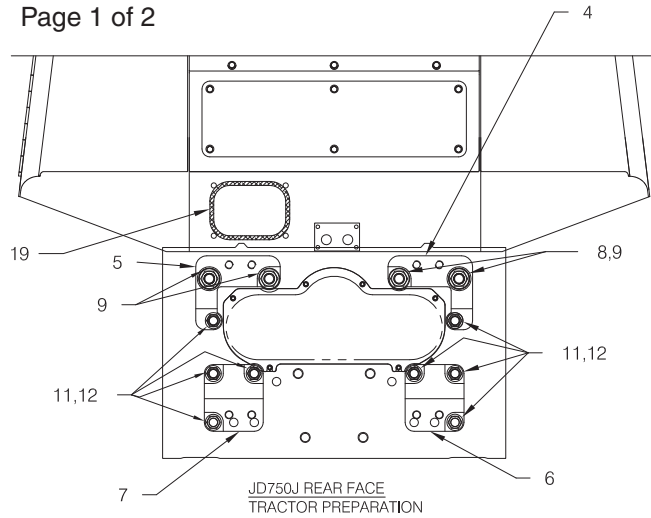
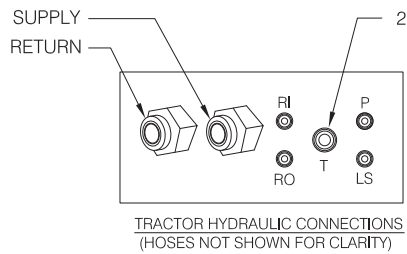
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2303732W	Bracket, LH Bottom Mounting	1	10	2304611W	Guard, Side	2
2	2303731W	Bracket, RH Bottom Mounting	1	11	221771W	Washer	6
3	2303730W	Bracket, Top Mounting	1	12	*a 18586W	Capscrew	6
4	221720W	Nut	8	13	2304612W	Guard, Bottom	1
5	*a 230687W	Capscrew	8	14	*a 2304613W	Capscrew	2
6	221780W	Washer	16				
8	*a 293732W	Capscrew	12		*a	Use 230064W Locktite Kit	
9	296434W	Washer, Hard	14				

Mounting Parts

John Deere 750J (E48)

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Mounting Parts

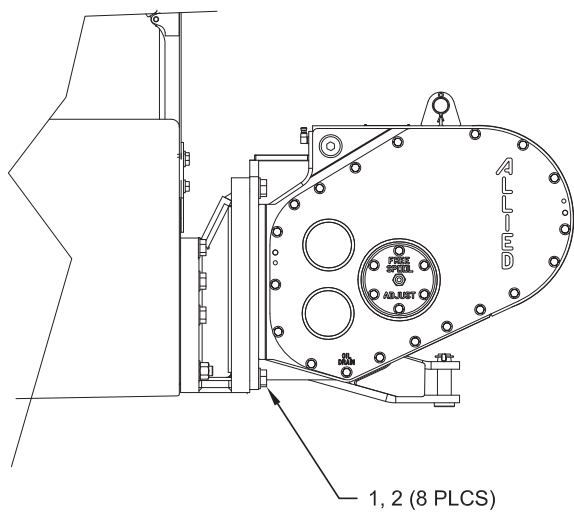
John Deere 750J (E48)

Page 2 of 2

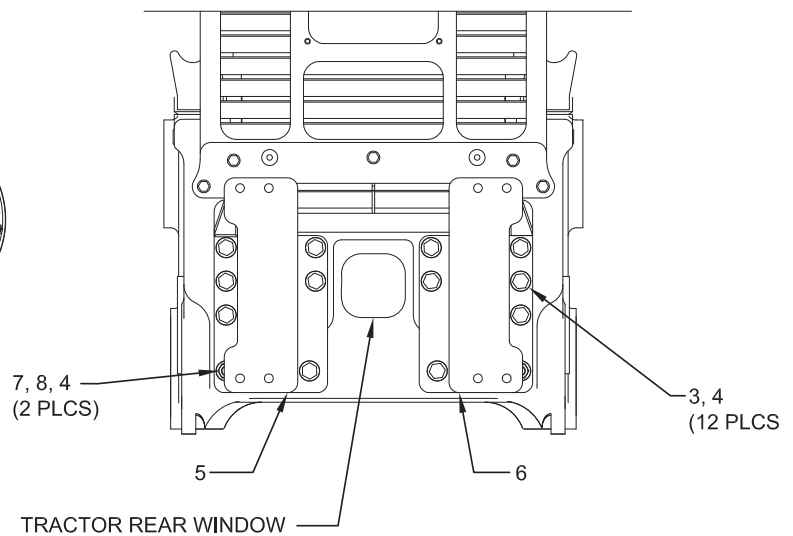
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2307272W	Guard, Hose	1	14	2307270W	Guard, Hose	1
2	2307103W	Fitting	1	15	398820W	Screw, Flange	4
3	220000W	Bolt	2	16	221711W	Nut	2
4	2302923W	Mounting Bracket, RH Upper	1	17	1314566W	Screw, Flange	2
5	2302924W	Mounting Bracket, LH Upper	1	19	225871	Edge, Trim	A/R
6	2302925W	Mounting Bracket, RH Lower	1	20	129563W	Clamp, Strap	A/R
7	2302926W	Mounting Bracket, LH Lower	1	21	R12577882	Sleeve, Cordura	A/R
8	*a 17384W	Capscrew	4	22	R12577880	Sleeve, Cordura	A/R
9	15128W	Washer	4	23	2307274W	Assembly, Hose	2
11	*a 18672W	Capscrew	8				
12	221780W	Washer	16	*a	Use 318702W Threadlock		
13	221692W	Capscrew	8				

Mounting Parts

Komatsu D51EX/PX-22 (K37)



WINCH MOUNTING



MOUNTING BRACKET INSTALLATION

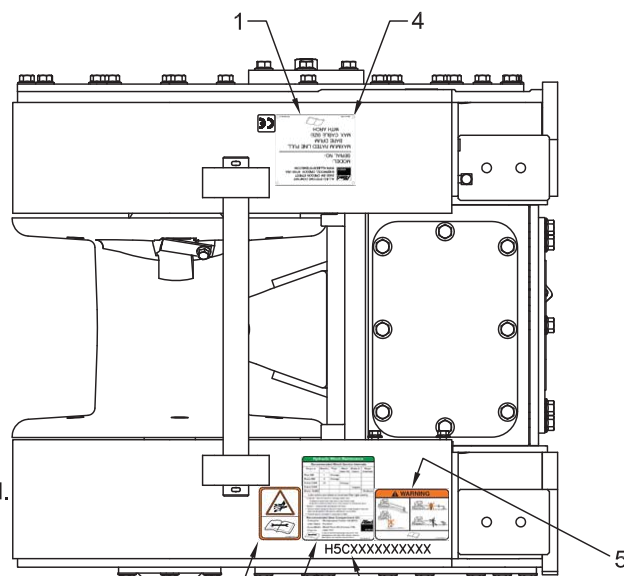
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	*a 221690W	Capscrew	8	6	2306974W	Mounting Bracket, RH	1
2	221780W	Washer	8	7	2310104	Stud	2
3	*a 2311901	Capscrew	12	8	*a 303114W	Nut	2
4	296434W	Washer, Hard	14		*a	Use 318702W Threadlock	
5	2306973W	Mounting Bracket, LH	1				

Nameplate, Labels & Decals

Contact Allied Systems Winch Department if the Nameplate is Needed.



Contact Allied Systems Winch Department if the CE Mark Label is Needed.



STAMP SERIAL NO. USING 1/2 INCH LETTERS ON TOP RH FRAME

WINCH TOP VIEW

Hydraulic Winch Maintenance					
Recommended Winch Service Intervals					
Hours or **	Months **	Filter ***	Winch Gear Oil	Brake & Clutch	Major Overhaul
First 250	1	Change			
Every 500	3	Change			
Every 2,000	12	Change			
Every 5,000				* Inspect	
Every 10,000					* Evaluate

Lube rollers and check oil level and filter light weekly.

* Evaluate = Service based on average winch use;
- if used more than once a day, perform overhaul.
- if used less than once a day, remove covers and check to determine need.

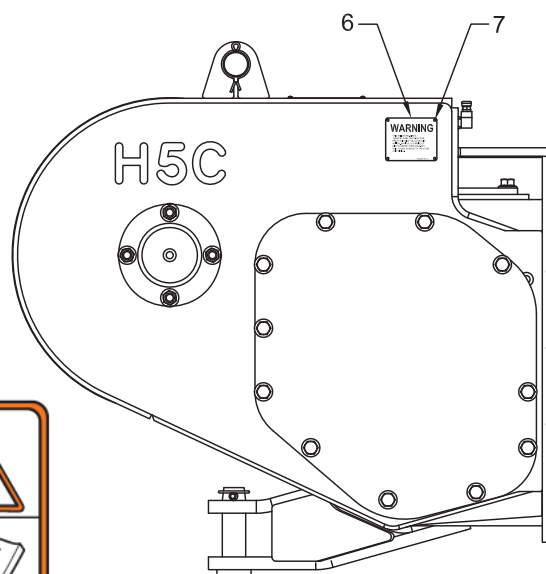
* Inspect = disassemble and inspect for wear.

** Service winch using the tractor's hour meter or the length of time the winch is mounted to the tractor, whichever occurs first.

*** Follow tractor schedule if using tractor filter.

Recommended Gear Compartment Oil:
Caterpillar - Multipurpose Tractor Oil (MTO)
John Deere - Hy-Gard
ExxonMobil - Mobil Fluid 424 (Factory Fill)
Chevron - 1000 THF

Consult service/operating manual for low temperature oils and other details. Tractor final drive oils may be used in winch.



WINCH SIDE VIEW

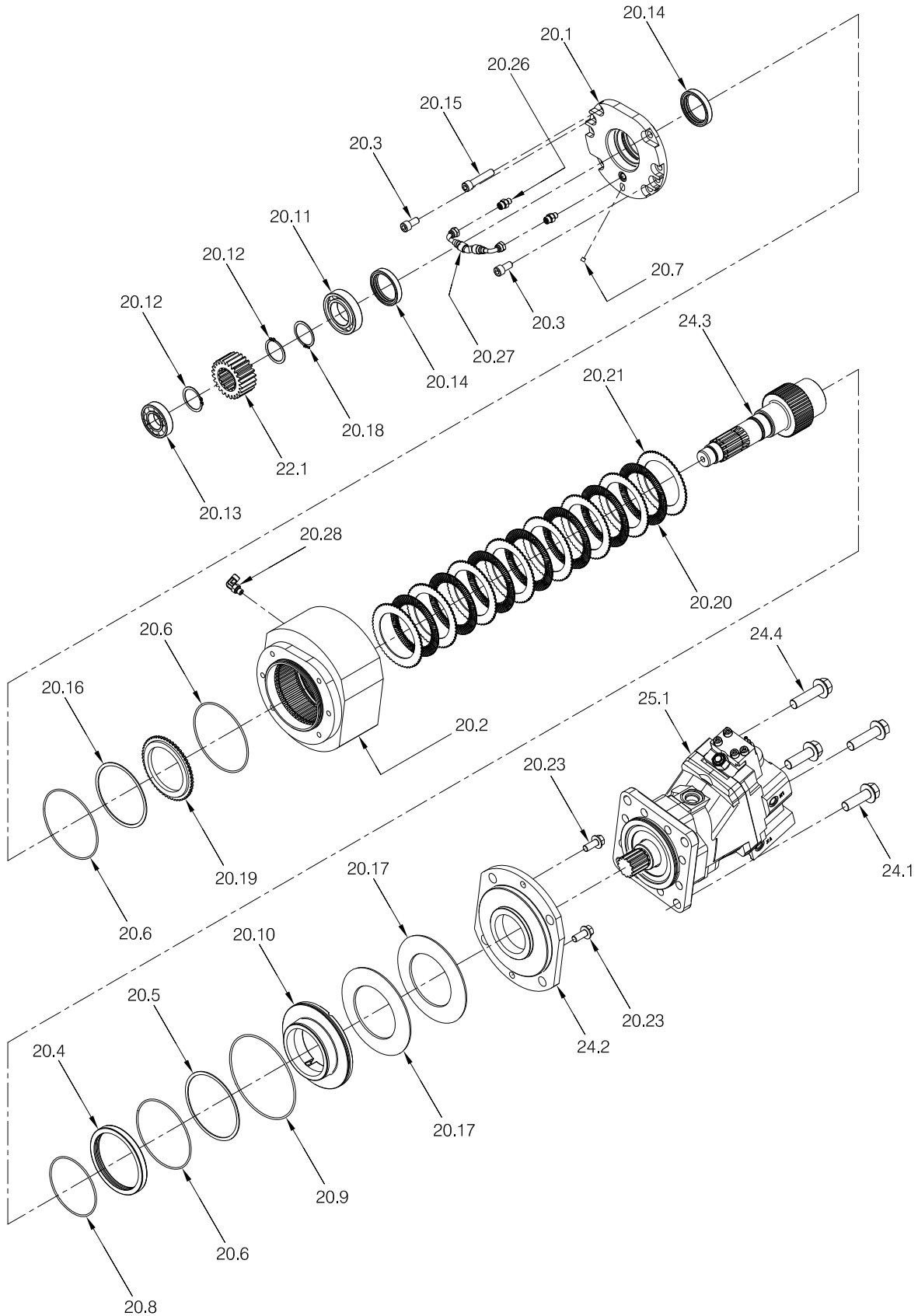
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2	1321665W	Decal, Warning	1	6	*a 2307637W	Plate, Warning - Rescue Winch	1
3	2311329	Decal, Hydraulic Winch Maintenance	1	7	*a 16602W	Screw	4
4	16602W	Screw	4				
5	2311330	Decal, Load & Wire Rope Safety	1		*a John Deere 700J (E39) Only		

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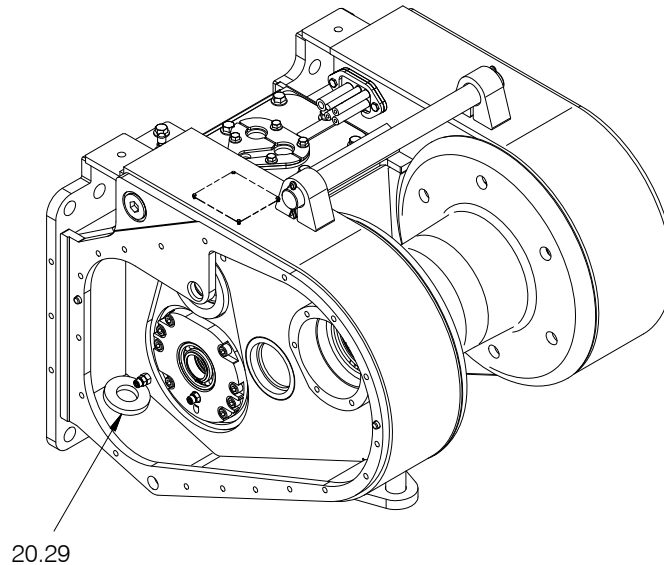
Gear Train/Shaft

Drum Shaft	2-8
Idler Shaft	2-9
Intermediate Gear Shaft	2-10
Motor Shaft	2-2 thru 2-7

Shaft - Motor
High-Performance Winch (H5CH)
 Caterpillar D6K (C80)
 Level 2 Komatsu D51-22 (K37)



Shaft - Motor
High-Performance Winch (H5CH)
 Caterpillar D6K (C80)
 Level 2 Komatsu D51-22 (K37)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
20.1	2306075W	Plate, Brake Mounting	1	20.21	2304874W	Plate, Separator	8
20.2	2306078W	Housing, Brake	1	20.23	398820W	Screw, Flange	2
20.3	Y73G-0816	Capscrew	2	20.26	*a 231439	Fitting	2
20.4	2306599W	Sleeve	1	20.27	2306646W	Hose, Seal Drain	1
20.5	2306604W	Snap Ring, Internal	1	20.28	R833251	Fitting	1
20.6	*c 89776W	O-Ring	3	20.29	R525293	Magnet, Ceramic	1
20.7	*a 141348W	Plug, Pipe	1				
20.8	*c 86596W	O-Ring	1	22.1	2311411	Gear, 24T	1
20.9	*c 87287W	O-Ring	1				
20.10	2306077W	Piston, Brake	1	24.1	399939W	Screw, Flange	2
20.11	41210W	Bearing, Ball	1	24.2	*b 2306076W	Plate, Motor Mounting	1
20.12	*c 12916W	Ring, Snap	2	24.3	2306079W	Shaft, Motor	1
20.13	41207W	Bearing, Ball	1	24.4	398829W	Screw, Flange	2
20.14	*c 2306073W	Seal, Rotary	2				
20.15	Y73G-0840	Capscrew	6	25.1	2306413W	Motor, Hydraulic Var Disp	1
20.16	*c 334475W	Snap Ring, Internal	1				
20.17	219084W	Spring, Belleville	2	*a	Use 246108W Pipe Thread Sealant (HCE-83)		
20.18	*c 12944W	Snap Ring, External	1	*b	Use 246159W Adhesive (HCE-98)		
20.19	334442W	Plate, Pressure	1	*c	Included in Motor, Reducer & Brake Assembly Rebuild Kit, P/N 2311895		
20.20	2306198W	Disc, Friction	7				

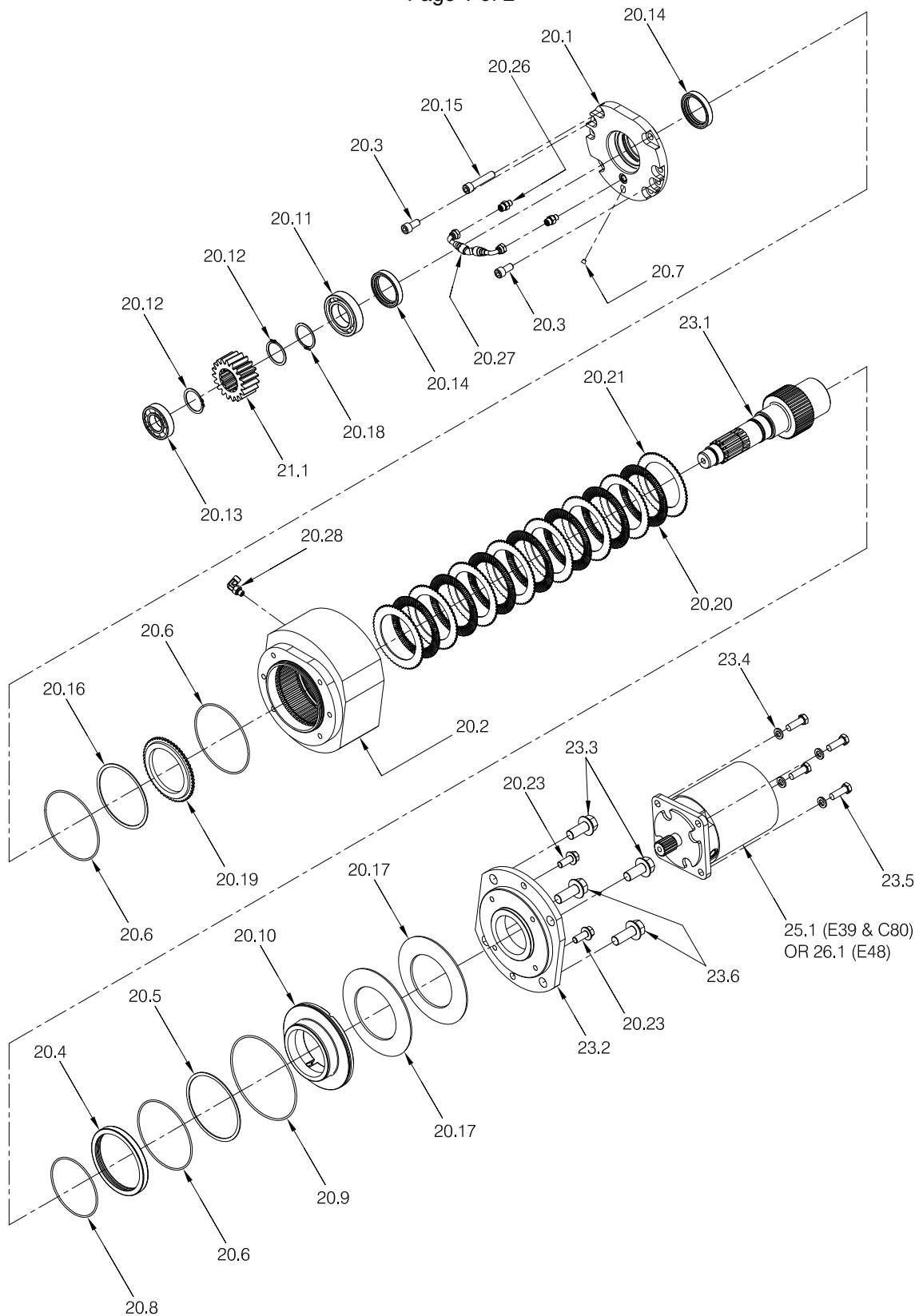
Shaft - Motor**High-Performance Winch (H5CH)**

John Deere 750J (E48); Caterpillar PL61 (C391)

Rescue Winch (H5CT)

John Deere 700J (E39); Caterpillar D6K (C80)

Page 1 of 2



Shaft - Motor

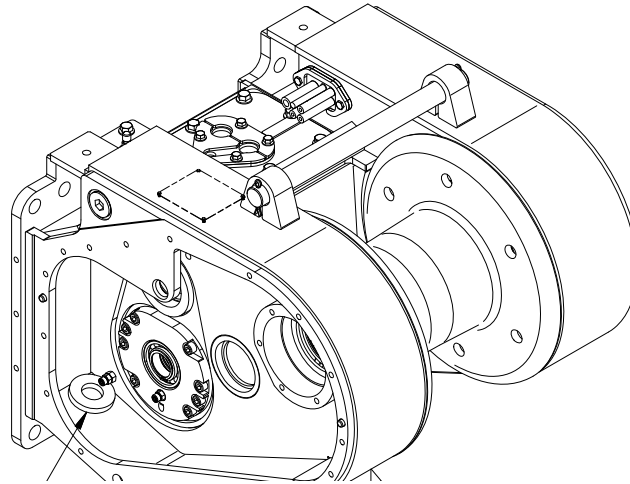
High-Performance Winch (H5CH)

John Deere 750J (E48); Caterpillar PL61 (C391)

Rescue Winch (H5CT)

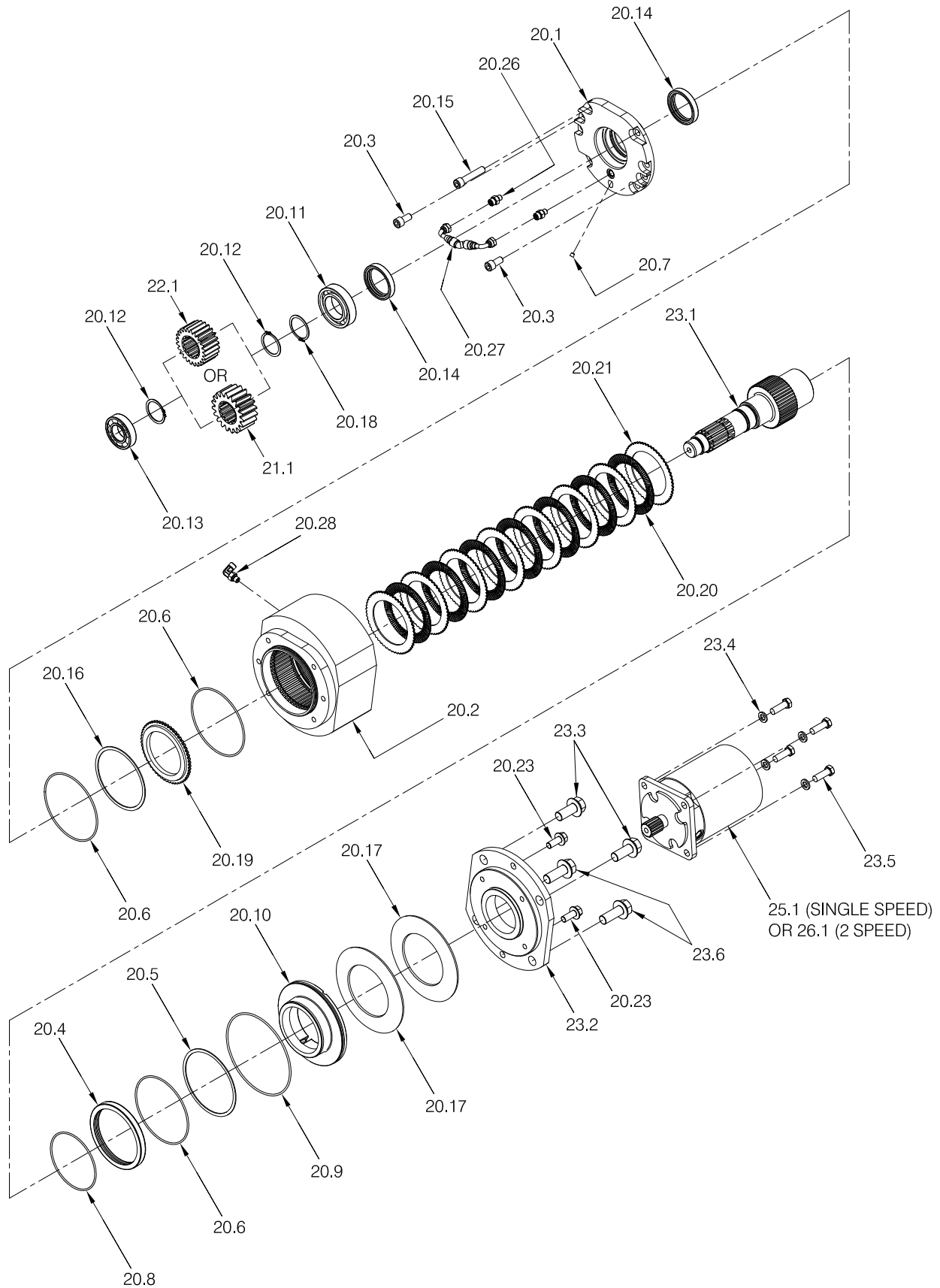
John Deere 700J (E39); Caterpillar D6K (C80)

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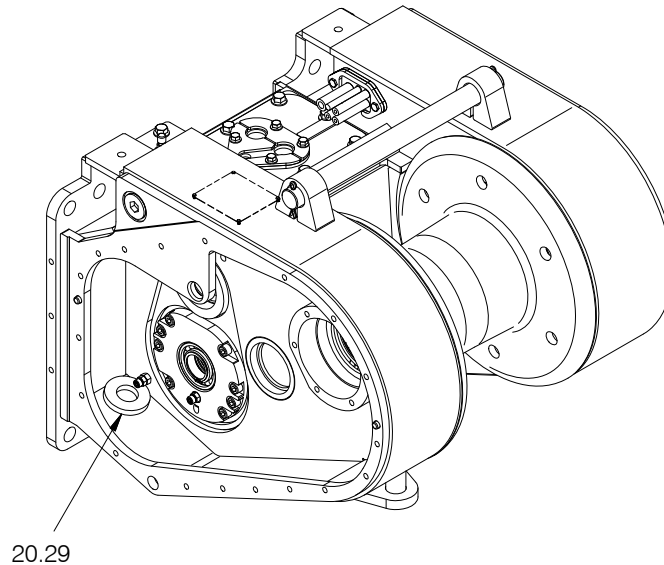


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
20.1	2306075W	Plate, Brake Mounting	1	20.26	*a 231439	Fitting	2
20.2	2306078W	Housing, Brake	1	20.27	2306646W	Hose, Seal Drain	1
20.3	Y73G-0816	Capscrew	2	20.28	R833251	Fitting	1
20.4	2306599W	Sleeve	1	20.29	R525293	Magnet, Ceramic	1
20.5	2306604W	Snap Ring, Internal	1				
20.6	*c 89776W	O-Ring	3	21.1	2306228W	Gear, 19T	1
20.7	*a 141348W	Plug, Pipe	1				
20.8	*c 86596W	O-Ring	1	23.1	2306494W	Shaft, Motor	1
20.9	87287W	O-Ring	1	23.2	*b 2306214W	Plate, Motor Mounting	1
20.10	*c 2306077W	Piston, Brake	1	23.3	398829W	Screw, Flange	2
20.11	41210W	Bearing, Ball	1	23.4	15158W	Washer	4
20.12	*c 12916W	Ring, Snap	2	23.5	18588W	Capscrew	4
20.13	41207W	Bearing, Ball	1	23.6	917373W	Screw, Flange	2
20.14	*c 2306073W	Seal, Rotary	2				
20.15	Y73G-0840	Capscrew	6	25.1	2307694W	Motor, Single Speed (See 3-32)	1
20.16	*c 334475W	Snap Ring, Internal	1				
20.17	219084W	Spring, Belleville	2	26.1	2306938W	Motor, 2 Speed (See 3-31)	1
20.18	*c 12944W	Snap Ring, External	1				
20.19	334442W	Plate, Pressure	1	*a	Use 246108W Pipe Thread Sealant (HCE-83)		
20.20	2306198W	Disc, Friction	7	*b	Use 246159W Adhesive (HCE-98)		
20.21	2304874W	Plate, Separator	8	*c	Included in Motor, Reducer & Brake Assembly		
20.23	398820W	Screw, Flange	2		Rebuild Kit, P/N 2311895		

Shaft - Motor
Rescue Winch (H5CT)
 Level 1, Komatsu D51-22 (K37)

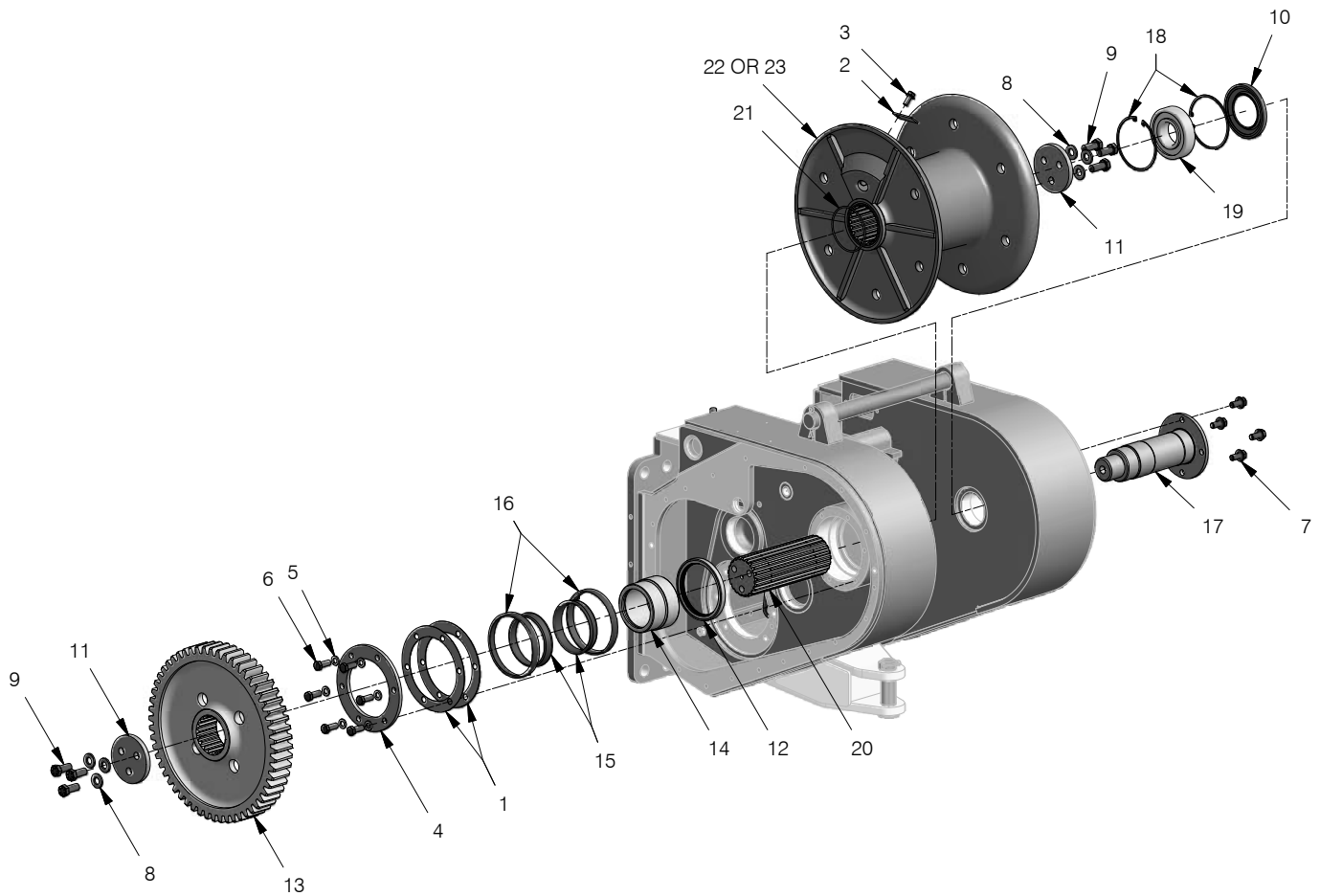


Shaft - Motor
Rescue Winch (H5CT)
 Level 1, Komatsu D51-22 (K37)



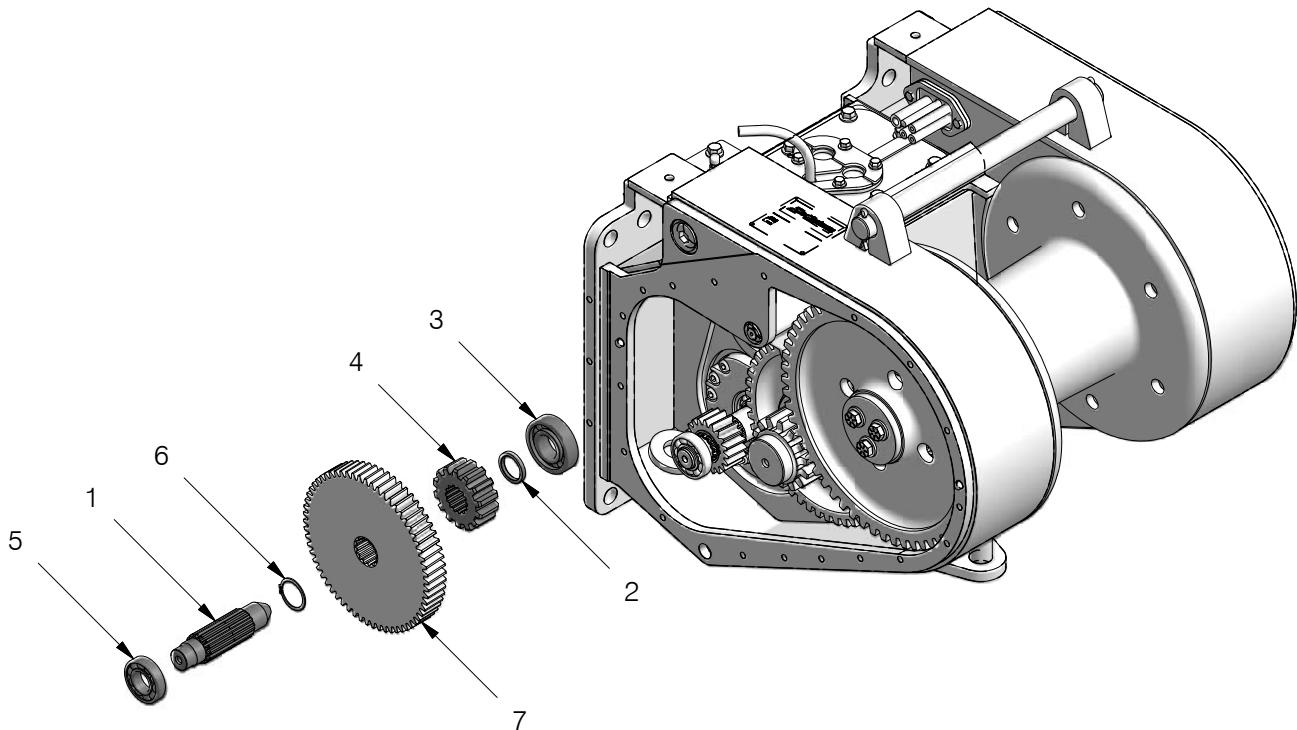
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
20.1	2306075W	Plate, Brake Mounting	1	20.27	2306646W	Hose, Seal Drain	1
20.2	2306078W	Housing, Brake	1	20.28	R833251	Fitting	1
20.3	Y73G-0816	Capscrew	2	20.29	R525293	Magnet, Ceramic	1
20.4	2306599W	Sleeve	1				
20.5	2306604W	Snap Ring, Internal	1	21.1	2306228W	Gear, 19T (Gear Ratio #1 Only)	1
20.6	*c 89776W	O-Ring	3	22.1	2311411	Gear, 24T (Gear Ratio #2 Only)	1
20.7	*a 141348W	Plug, Pipe	1				
20.8	*c 86596W	O-Ring	1	23.1	2306494W	Shaft, Motor	1
20.9	87287W	O-Ring	1	23.2	*b 2306214W	Plate, Motor Mounting	1
20.10	2306077W	Piston, Brake	1	23.3	398829W	Screw, Flange	2
20.11	41210W	Bearing, Ball	1	23.4	15158W	Washer	4
20.12	*c 12916W	Snap Ring	2	23.5	18588W	Capscrew	4
20.13	41207W	Bearing, Ball	1	23.6	917373W	Screw, Flange	2
20.14	*c 2306073W	Seal, Rotary	2				
20.15	Y73G-0840	Capscrew	6	25.1	2307289W	Motor, Single Speed	1
20.16	*c 334475W	Snap Ring, Internal	1	26.1	2306938W	Motor, 2 Speed (See 3-31)	1
20.17	219084W	Spring, Belleville	2				
20.18	*c 12944W	Snap Ring, External	1	*a	Use 246108W Pipe Thread Sealant (HCE-83)		
20.19	334442W	Plate, Pressure	1	*b	Use 246159W Adhesive (HCE-98)		
20.20	2306198W	Disc, Friction	7	*c	Included in Motor, Reducer & Brake Assembly		
20.21	2304874W	Plate, Separator	8		Rebuild Kit, P/N 2311895		
20.23	398820W	Screw, Flange	2				
20.26	*a 231439	Fitting	2				

Shaft - Drum



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2303257W	Shim, .005	A/R	14	2302335W	Spacer	1
2	1314503W	Keeper, Ferrule	1	15	219093W	Cone, Roller Bearing	2
3	1300780W	Screw, Flange	1	16	219094W	Cup, Roller Bearing	2
4	2303256W	Retainer	1	17	2302379W	Shaft, RH Drum	1
5	15158W	Washer	6	18	12956W	Ring, Snap	2
6	16830W	Capscrew	6	19	219095W	Bearing, Roller	1
7	2303902W	Screw, Flange	4	20	2302334W	Shaft, LH Drum	1
8	221775W	Washer	6	21	203533	O-Ring	1
9	Y17C-1024	Capscrew	6	22	2302338W	Drum, Overwind	1
10	133523W	Seal, Oil	1	23	2303247W	Drum, Underwind	1
11	*a 2302336W	Retainer	2				
12	339681W	Seal, Oil	1		*a Use 246159W Adhesive (HCE-98)		
13	2302333W	Gear, Drum	1				

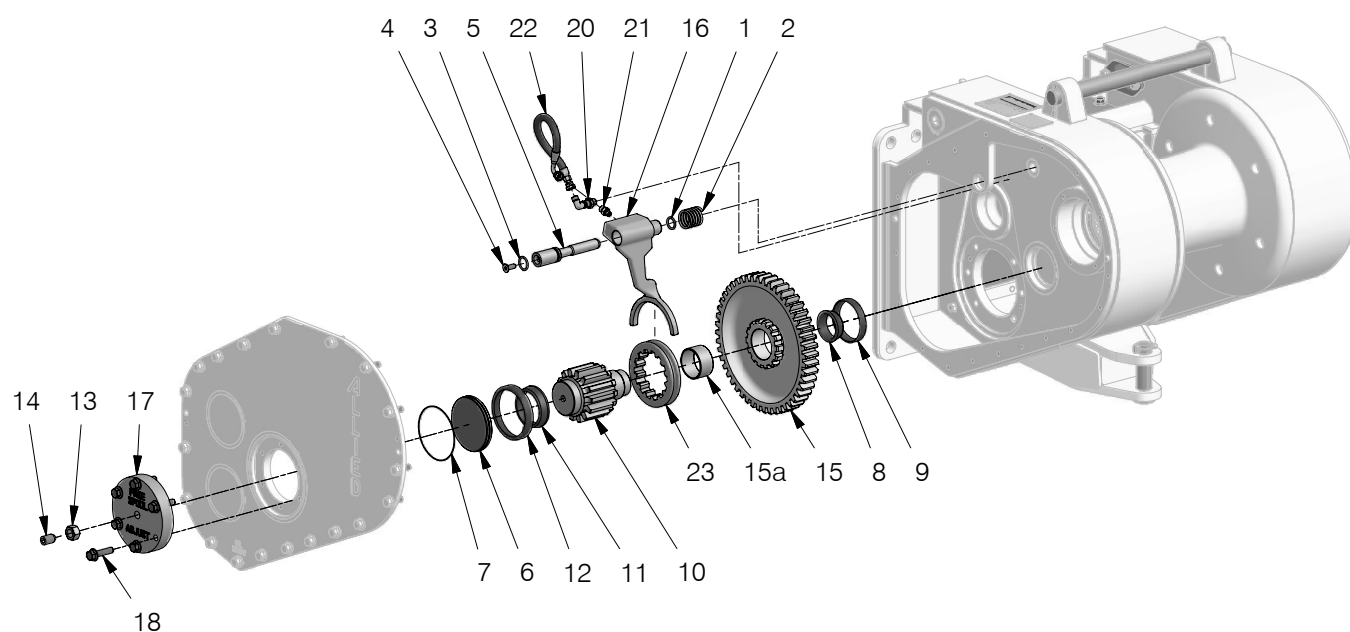
Shaft - Idler



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2307282W	Shaft, Idler	1	6	12916W	Ring, Snap	1
2	2300842W	Spacer	1	7	2306229W	Gear, 62T (Ratio #1 Only)	1
3	2304580W	Bearing, Cylinder Roller	1	*a	2311412	Gear, 84T (Ratio #2 Only)	1
4	219066W	Gear, Pinion	1				
5	41207W	Bearing, Ball	1	*a	First Used on S/N H5C-1024		

Shaft - Intermediate Gear

With Freespool

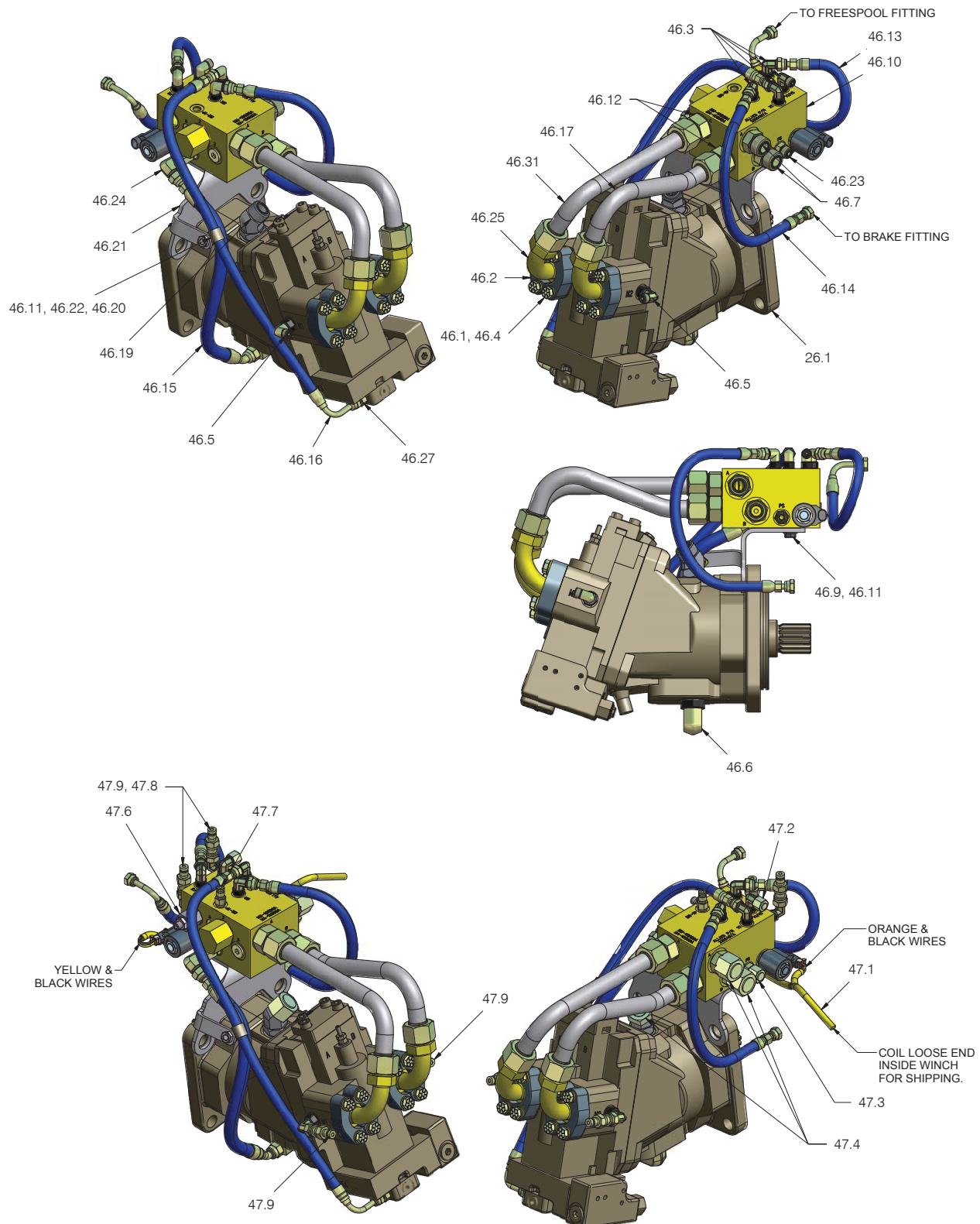


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	61142W	O-Ring	1	12	2302515W	Cup, Roller Bearing	1
2	2303906W	Spring, Freespool	1	13	221717W	Nut	1
3	61056W	O-Ring	1	14	2304803W	Screw	1
4	Y09G-0616	Capscrew	1	15	225050W	Assembly, Intermediate Gear	1
5	2303907W	Shaft, Freespool	1	15	NSS	. Gear, Intermediate	1
6	2302624W	Piston, Freespool Adjust	1	15	NSS	. Bushing	1
7	159940W	O-Ring	1	16	2303908W	Fork, Freespool Shifter	1
8	2305923W	Cone, Roller Bearing	1	17	2302625W	Housing, Freespool Adjust	1
9	45733W	Cup, Roller Bearing	1	18	2305415W	Screw, Flange	6
10	2305915W	Shaft, Pinion	1	21	231439	Fitting	1
11	219114W	Cone, Roller Bearing	1	22	2307037W	Assembly, Hose	1

Hydraulics/Controls

BRAKE-OFF Manifold	3-50
Control Manifold Assembly	3-42 thru 3-45
Control Lever Assembly	3-55 thru 3-57
Control Lever Installation	3-37 thru 3-39
Control Valve	3-52
Counterbalance Manifold Assembly	3-46 & 3-47
Cross Port Relief Assembly	3-53
Directional Manifold	3-48 & 3-49
Handlever Assembly	3-58
Hydraulic Filter Assembly	3-34
Hydraulic Group, External	3-28 thru 3-33
Hydraulic Group, Internal	3-2 thru 3-27
Hydraulic Motor, Single Speed	3-36
Hydraulic Motor, Two-Speed	3-35
Logic Manifold, Series II	3-51
Manifold Valve Assembly	3-54
Pump Assembly	3-41
Pump & Suction Hose Installation	3-40
Switch Assembly	3-59

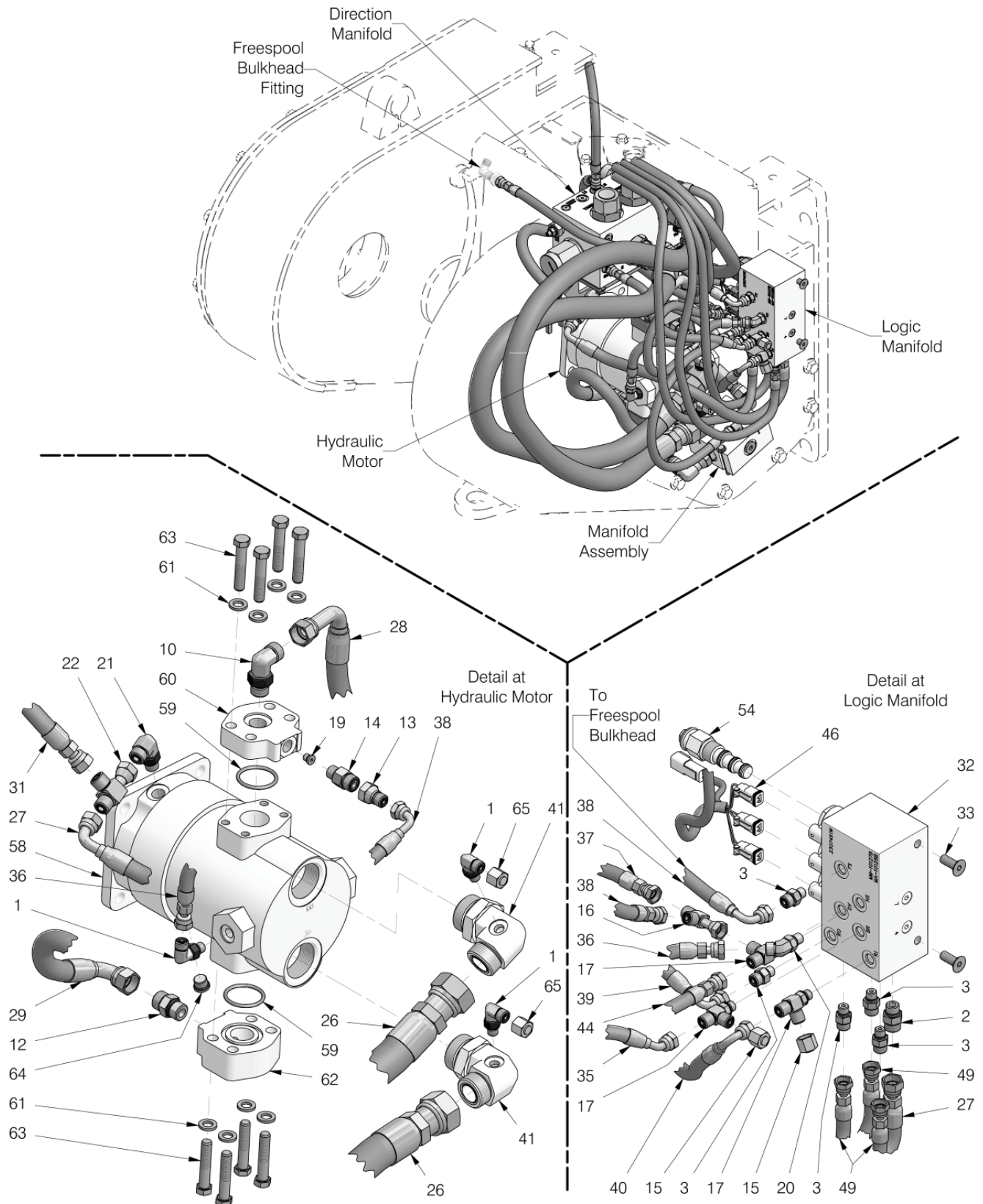
Hydraulic Group, Internal High-Performance Winch (H5CH) Caterpillar D6K (C80)



Hydraulic Group, Internal
High-Performance Winch (H5CH)
 Caterpillar D6K (C80)

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
26.1	2306413W	Motor, Hydraulic VAR DISP	1	46.19	231463	Fitting	1
46.1	15157W	Washer	8	46.20	R13803039	Cup, Insulation	1
46.2	236973	Clamp, Half	4	46.21	2310554	Bracket, Manifold	1
46.3	R833251	Fitting	4	46.22	16597W	Capscrew	1
46.4	R13801834	Capscrew	8	46.23	231440	Fitting	1
46.5	R833253	Fitting	2	46.24	R833301	Fitting	1
46.6	R833260	Fitting	1	46.25	2310603	Assembly, Fitting with O-Rings	2
46.7	231443	Fitting	2	46.27	R833103	Fitting	1
46.9	16805W	Capscrew	2	46.31	2310535	Assembly, Tube - Motor Port A	1
46.10	2310407	Manifold, Control (See 3-42)	1	47.1	2311343	Harnes, Winch Wire	1
46.11	15134W	Washer	3	47.2	232984	Fitting	1
46.12	231450	Fitting	2	47.3	231822	Fitting	1
46.13	2310339	Assembly, Hose - FREESPOOL	1	47.4	231821	Fitting	3
46.14	2310543	Assembly, Hose	1	47.6	2311594	Assembly, Directional Valve	1
46.15	2310340	Assembly, Hose	1	47.7	R14040	Coupler, Male	1
46.16	2307036W	Assembly, Hose	1	47.8	R833251	Fitting	2
46.17	2310536	Assembly, Tube - Motor Port B	1	47.9	2307625W	Coupler, Quick Male	4

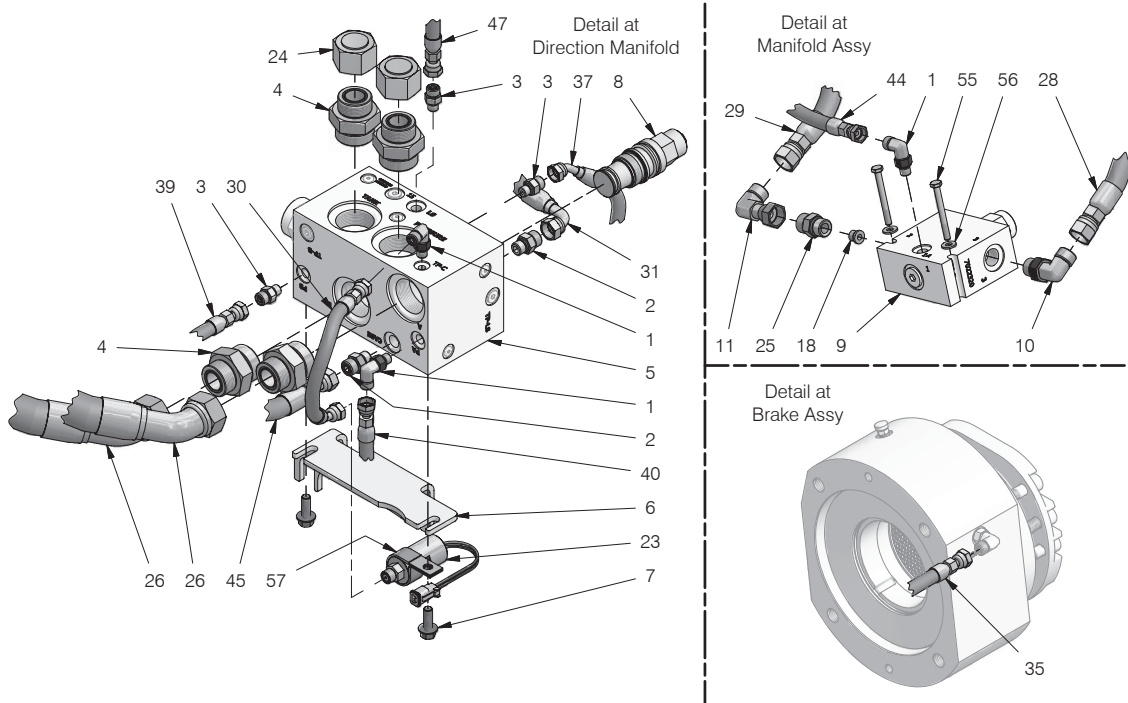
Hydraulic Group, Internal **High-Performance Winch (H5CH)** John Deere 750J (E48)



Hydraulic Group, Internal

High-Performance Winch (H5CH)

John Deere 750J (E48)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2311500	Fitting	6	30	2307344W	Assembly, Hose	1
2	231440	Fitting	3	31	2307039W	Assembly, Hose	1
3	231439	Fitting	8	32	2307491W	Manifold, Logic Control (See 3-51)	1
4	R833133	Fitting	4	33	Y09G-0616	Capscrew	1
5	2307008W	Manifold, Directional (See 3-49)	1	35	2307033W	Assembly, Hose	1
6	2307061W	Bracket, Manifold Mounting	1	36	2307047W	Assembly, Hose	1
7	398567W	Flangescrew	2	37	2307036W	Assembly, Hose	1
8	2307265W	Valve, Counterbalance	1	38	2307032W	Assembly, Hose	2
	243815	. Kit, Seal	1	39	2307038W	Assembly, Hose	1
9	2307443W	Manifold, Brake-Off (See 3-50)	1	40	2307208W	Assembly, Hose	1
10	231452	Fitting	2	41	2307123W	Fitting	2
11	R833802	Fitting	1	44	2307472W	Assembly, Hose	1
12	231441	Fitting	1	45	2300721W	Assembly, Hose	1
13	242629	Fitting	1	46	2307293W	Harness, Wire	1
14	2307398W	Valve, Check	1	47	2307040W	Assembly, Hose	1
15	232984	Fitting	2	49	2307042W	Assembly, Hose	3
16	236855	Fitting	1	54	2311608W	Assembly, Directional Valve Cartridge	1
17	R833400	Fitting	3	55	18475W	Capscrews	2
18	2307482W	Fitting	1	56	15127W	Washer	2
19	2307446W	Fitting	1	57	R2528352	Clip, Insulation	1
20	R833200	Fitting	1	58	2306938W	Motor, Hydraulic 2 Speed Vane, 15 Cuin (See 3-35)	1
21	R833257	Fitting	1	59	237120	O-Ring	2
22	231955	Fitting	1	60	2307400W	Manifold, Three-Part	1
23	2307291W	Switch, Pressure	1	61	15157W	Washer	8
24	231820	Fitting	2	62	2307432W	Block, Port	1
25	2307456W	Fitting	1	63	230894	Capscrew	8
26	2307283W	Assembly, Hose	2	64	229383	Fitting	1
27	2307613W	Assembly, Hose	1	65	2307625W	Fitting	2
28	2307470W	Assembly, Hose	1				
29	2307471W	Assembly, Hose	1				

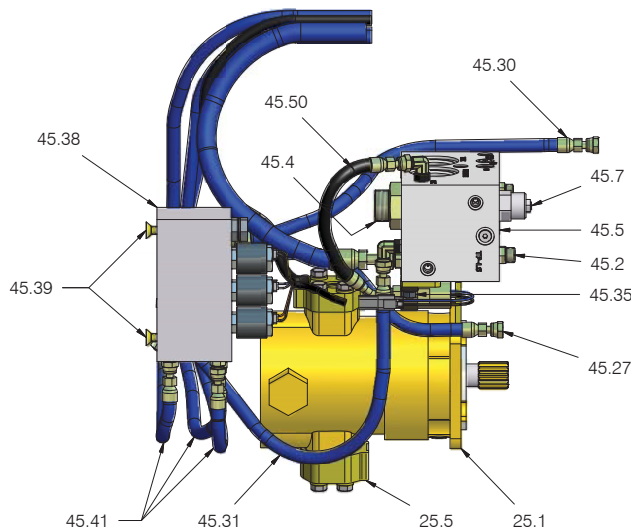
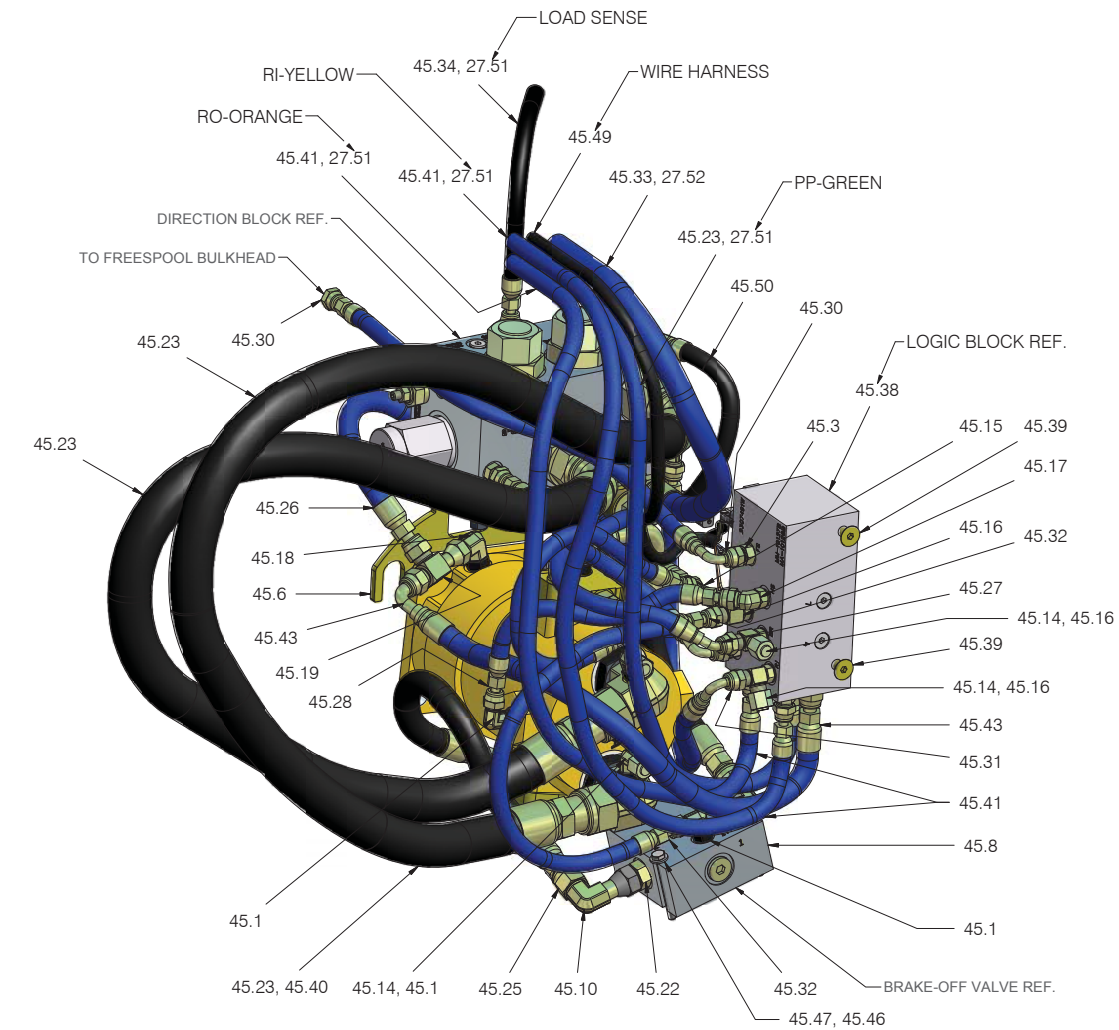
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Hydraulic Group, Internal High-Performance Winch (H5CH)

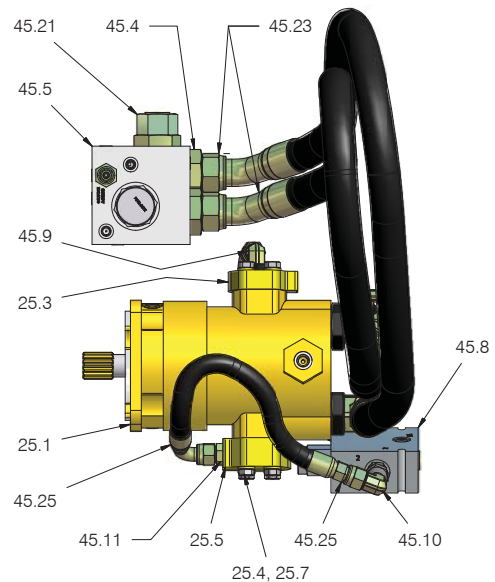
John Deere 750J (E48)

First Used on S/N H5C-1062

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FRONT VIEW

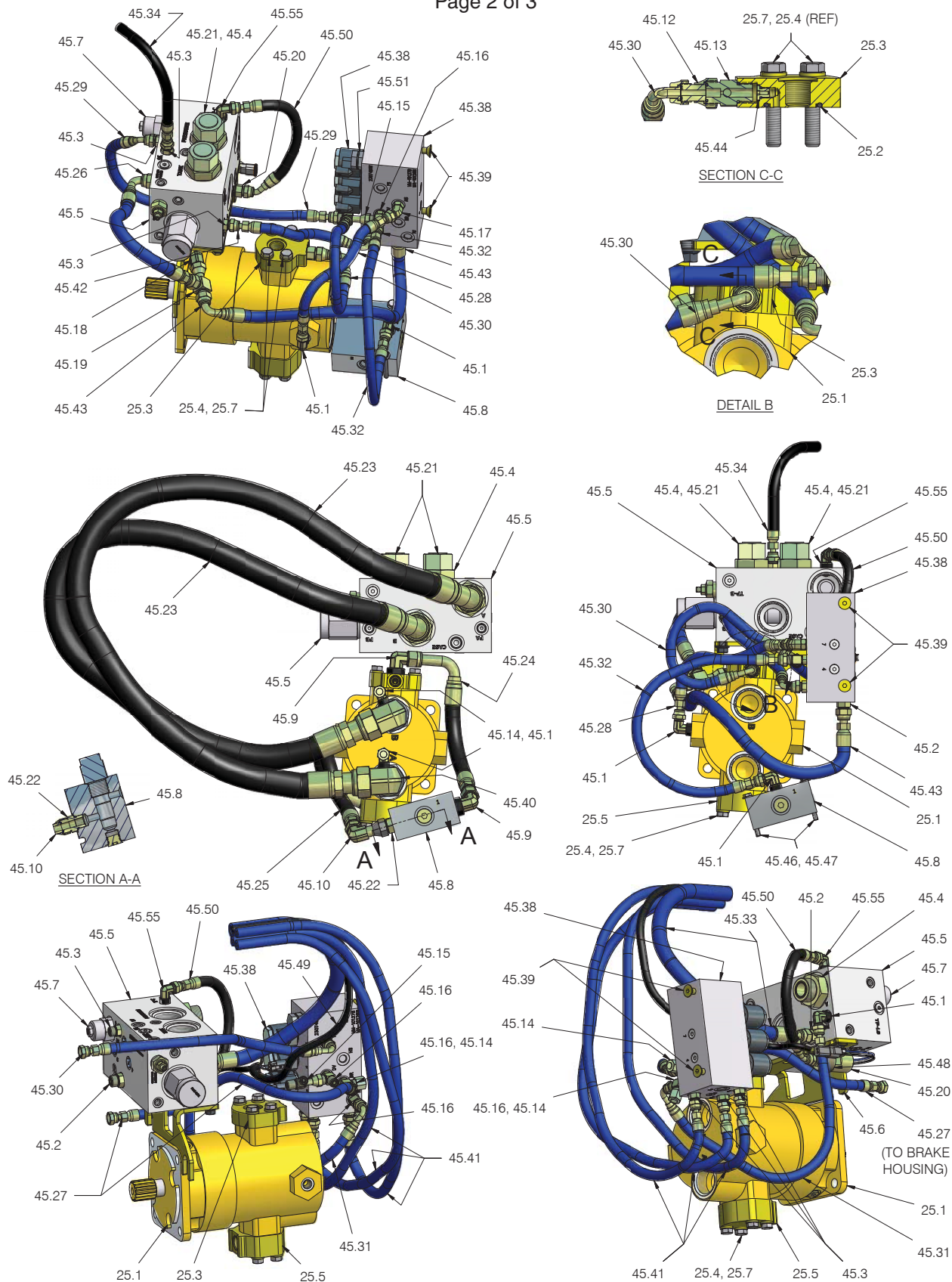


Hydraulic Group, Internal High-Performance Winch (H5CH)

John Deere 750J (E48)

First Used on S/N H5C-1062

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Hydraulic Group, Internal

High-Performance Winch (H5CH)

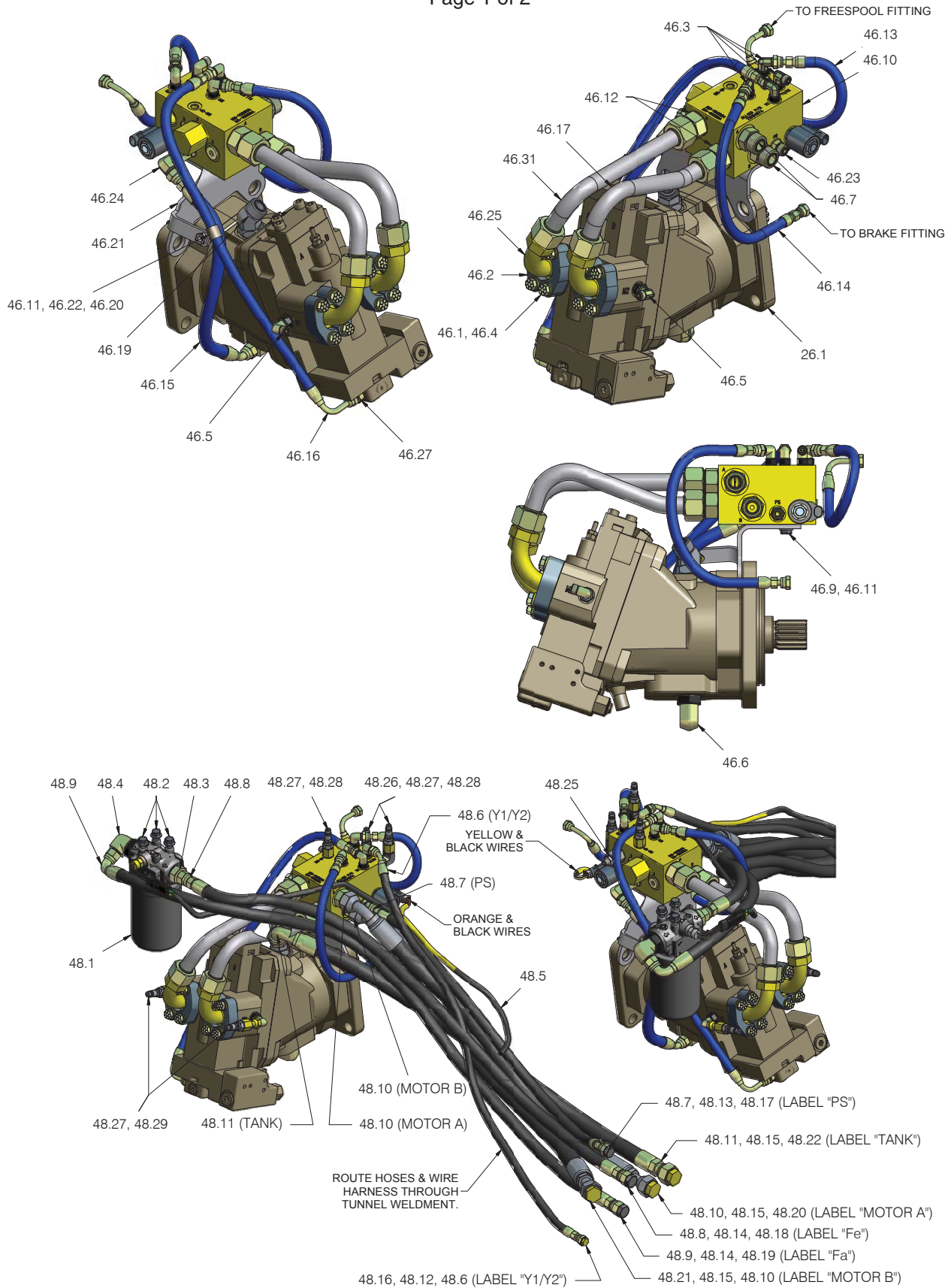
John Deere 750J (E48)

First Used on S/N H5C-1062

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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
25.1	2306938W	Motor, Hydraulic 2 Speed Vane, 15 Cuin (See 3-35)	1	45.32	*j 2307472W	Assembly, Hose	1
25.2	79980W	O-Ring	2	45.33	*k 2307213W	Assembly, Hose	1
25.3	2307400W	Manifold, 3 Port	1	45.34	*l 2307040W	Assembly, Hose	1
25.4	15157W	Washer	8	45.35	398567W	Flangescrew	2
25.5	2307432W	Block, Port	1	45.36	R834201	Fitting	4
25.6	229383	Fitting	1	45.37	232960	Fitting	1
25.7	221543W	Capscrew	8	45.38	2307491W	Manifold, Logic Series II (See 3-51)	1
45.1	R833251	Fitting	5	45.39	Y09G-0616	Capscrew	2
45.2	231440	Fitting	3	45.40	2307123W	Fitting	2
45.3	231439	Fitting	8	45.41	*m 2307042W	Assembly, Hose	3
45.4	R833133	Fitting	4	45.42	*n 2307038W	Assembly, Hose	1
45.5	2307008W	Manifold, Directional (See 3-49)	1	45.43	*o 2307613W	Assembly, Hose	1
45.6	2307061W	Bracket, Manifold Mounting	1	45.44	2307446W	Fitting	1
45.7	2307265W	Valve, Counter Balance	1	45.45	2307482W	Fitting, Orifice	1
	243815	. Kit, Seal	1	45.46	18475W	Capscrew	2
45.8	2307443W	Assembly, Manifold (See 3-50)	1	45.47	15127W	Washer	2
45.9	231452	Fitting	2	45.48	R2528352	Clip, Insulation	1
45.10	R833802	Fitting	1	45.49	2307293W	Harness, Winch Wire	1
45.11	231441	Fitting	1	45.50	2307344W	Assembly, Hose	1
45.12	242629	Fitting	1	45.51	2311608	Valve, Directional Cartridge	1
45.13	2307398W	Valve, Check	1	45.55	*p 2311500	Assembly, Fitting with .015 Orifice	1
45.14	232984	Fitting	2				
45.15	236855	Fitting	1	*a	Motor A to Direction Block A, Motor B to Direction Block B		
45.16	R833400	Fitting	3	*b	Brake-Off Valve #3 to Brake-Off Motor Port B		
45.17	R833200	Fitting	1	*c	Brake-Off Valve #2 to Brake-Off Motor Port A		
45.18	R833257	Fitting	1	*d	Motor Case to Direction Block Case Port		
45.19	231955	Fitting	1	*e	Brake to Logic Block BR		
45.20	2307291W	Switch, Pressure	1	*f	Logic Block HS to Motor 2-Speed Speed		
45.21	231820	Fitting	2	*g	Direction Block DV to Logic Block DV		
45.22	2307456W	Fitting	1	*h	Brake-Off Motor Port B to Logic Block DV. Logic Block FS to Freespool Bulkhead		
45.23	*a 2307283W	Assembly, Hose	2	*i	Direction Block PA to Logic Block RI		
45.24	*b 2307470W	Assembly, Hose	1	*j	Brake-Off Valve #1A to Logic Block DV		
45.25	*c 2307471W	Assembly, Hose	1	*k	Direction Block Case to Tractor Case		
45.26	*d 2307039W	Assembly, Hose	1	*l	Direction Block LS to Tractor Load Sense		
45.27	*e 2307033W	Assembly, Hose	1	*m	Logic Block PP to Tractor Pilot Supply, Logic Block RO to Tractor RO; Logic Block RI to Tractor RI		
45.28	*f 2307047W	Assembly, Hose	1				
45.29	*g 2307036W	Assembly, Hose	1	*n	Direction Block PB to Logic Block RO		
45.30	*h 2307032W	Assembly, Hose	2	*o	Logic Block PD to Motor Case		
45.31	*i 2307206W	Assembly, Hose	1	*p	First Used on S/N H5C-1041		

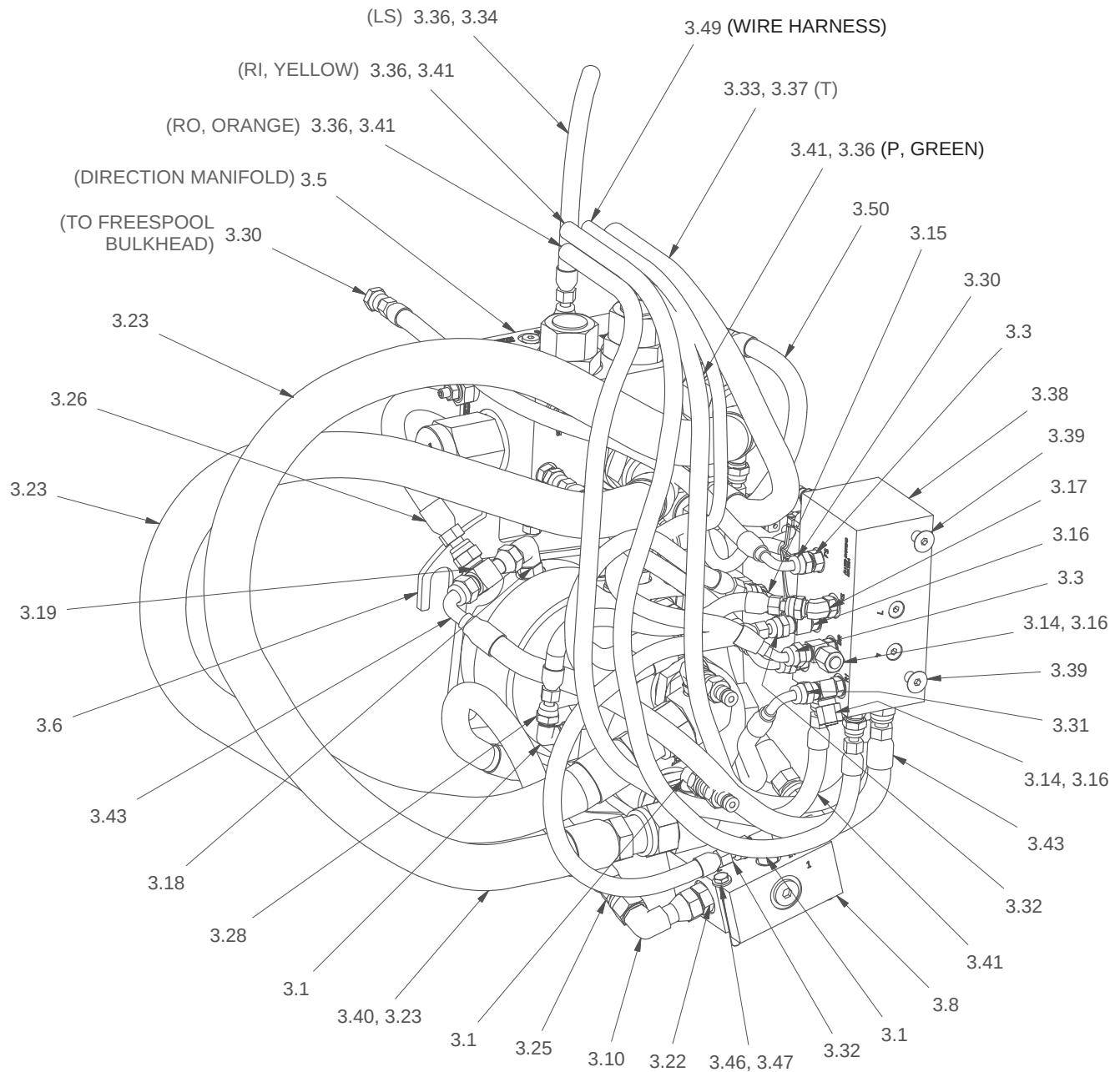
Hydraulic Group, Internal **Level 2, High-Performance Winch (H5CH)** Komatsu D51-22 (K37) Page 1 of 2



Hydraulic Group, Internal
Level 2, High-Performance Winch (H5CH)
 Komatsu D51-22 (K37)
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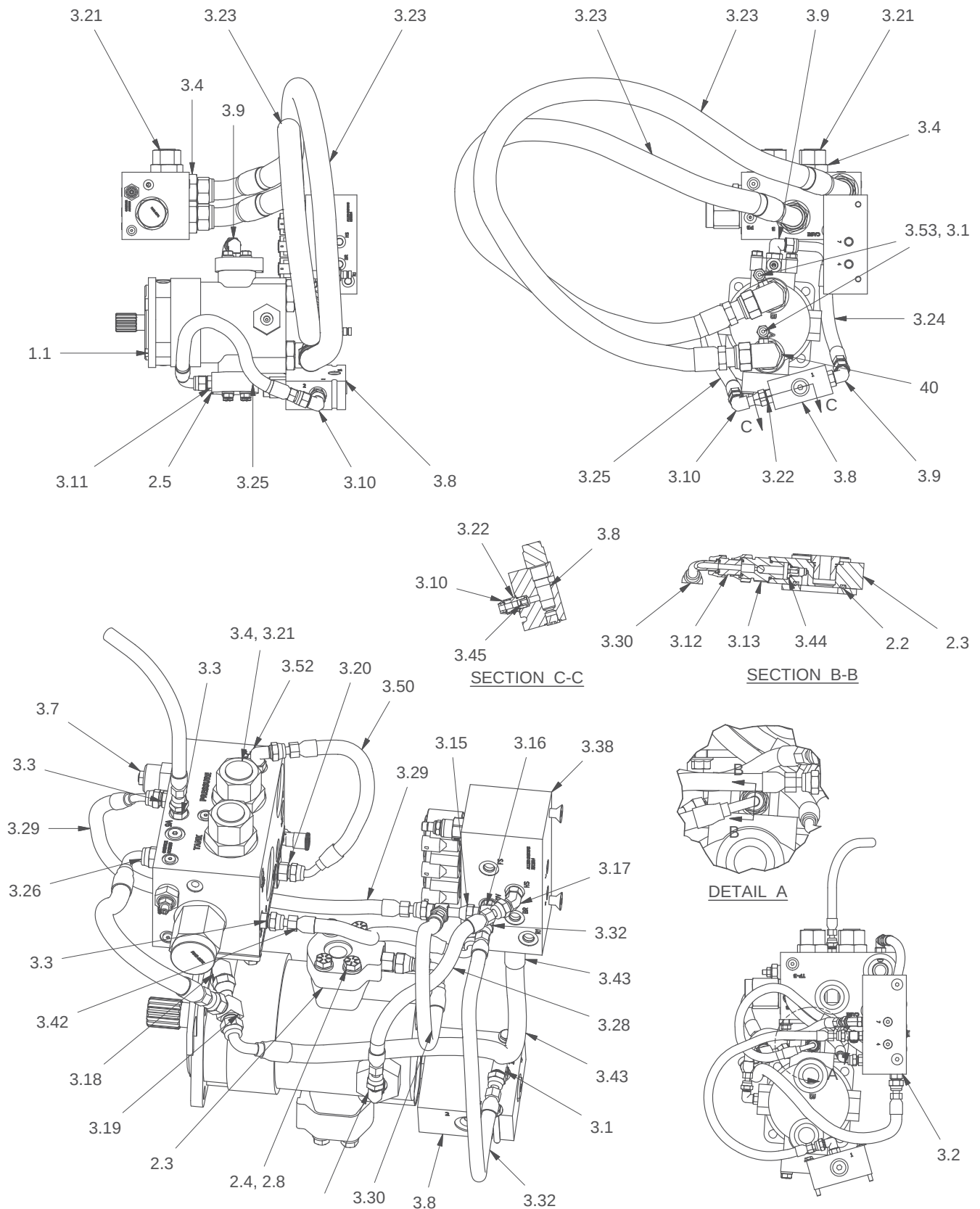
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
26.1	2306413W	Motor, Hydraulic VAR DISP	1	48.1	2304111W	Assembly, Filter	1
46.1	15157W	Washer	8		2304112W	. Filter Element	1
46.2	236973	Clamp, Half	4		2304862W	. Pressure Switch	1
46.3	R833251	Fitting	4		2305132W	. Filter Head	1
46.4	R13801834	Capscrew	8	48.2	134803W	Screw, Flange	3
46.5	R833253	Fitting	2	48.3	R833115	Fitting	1
46.6	R833260	Fitting	1	48.4	235314	Fitting	1
46.7	231443	Fitting	2	48.5	2310922	Harness, Winch Wire	1
46.9	16805W	Capscrew	2	48.6	2310754	Assembly, Hose - Y1/Y2	1
46.10	2310407	Manifold, Control (See 3-42)	1	48.7	2310564	Assembly, Hose - PS	1
46.11	15134W	Washer	3	48.8	2310565	Assembly, Hose - Fe	1
46.12	231450	Fitting	2	48.9	2310566	Assembly, Hose - Fa	1
46.13	2310339	Assembly, Hose - FREESPOOL	1	48.10	2310832	Assembly, Hose	2
46.14	2310543	Assembly, Hose	1	48.11	2310563	Assembly, Hose - Drain	1
46.15	2310340	Assembly, Hose	1	48.12	R834200	Fitting	1
46.16	2307036W	Assembly, Hose	1	48.13	R834201	Fitting	1
46.17	2310536	Assembly, Tube - Motor Port B	1	48.14	232960	Fitting	2
46.19	231463	Fitting	1	48.15	R834204	Fitting	3
46.20	R13803039	Cup, Insulation	1	48.16	2310917	Label, Y1/Y2	1
46.21	2310554	Bracket, Manifold	1	48.17	2306152W	Label, PS	1
46.22	16597W	Capscrew	1	48.18	2306157W	Label, Fe	1
46.23	231440	Fitting	1	48.19	2310918	Label, Fa	1
46.24	R833301	Fitting	1	48.20	2310919	Label, Motor A	1
46.25	2310603	Assembly, Fitting with O-Rings	2	48.21	2310920	Label, Motor B	1
46.27	R833103	Fitting	1	48.22	2307242W	Label, Tank	1
46.31	2310535	Assembly, Tube - Motor Port A	1	48.25	2311594	Assembly, Directional Valve	1
				48.26	254261	Fitting	2
				48.27	2310634	Nipple	5
				48.28	2310365	Fitting	3
				48.29	254002	Fitting	2

Hydraulic Group, Internal
High-Performance Winch (H5CH), 2 Speed
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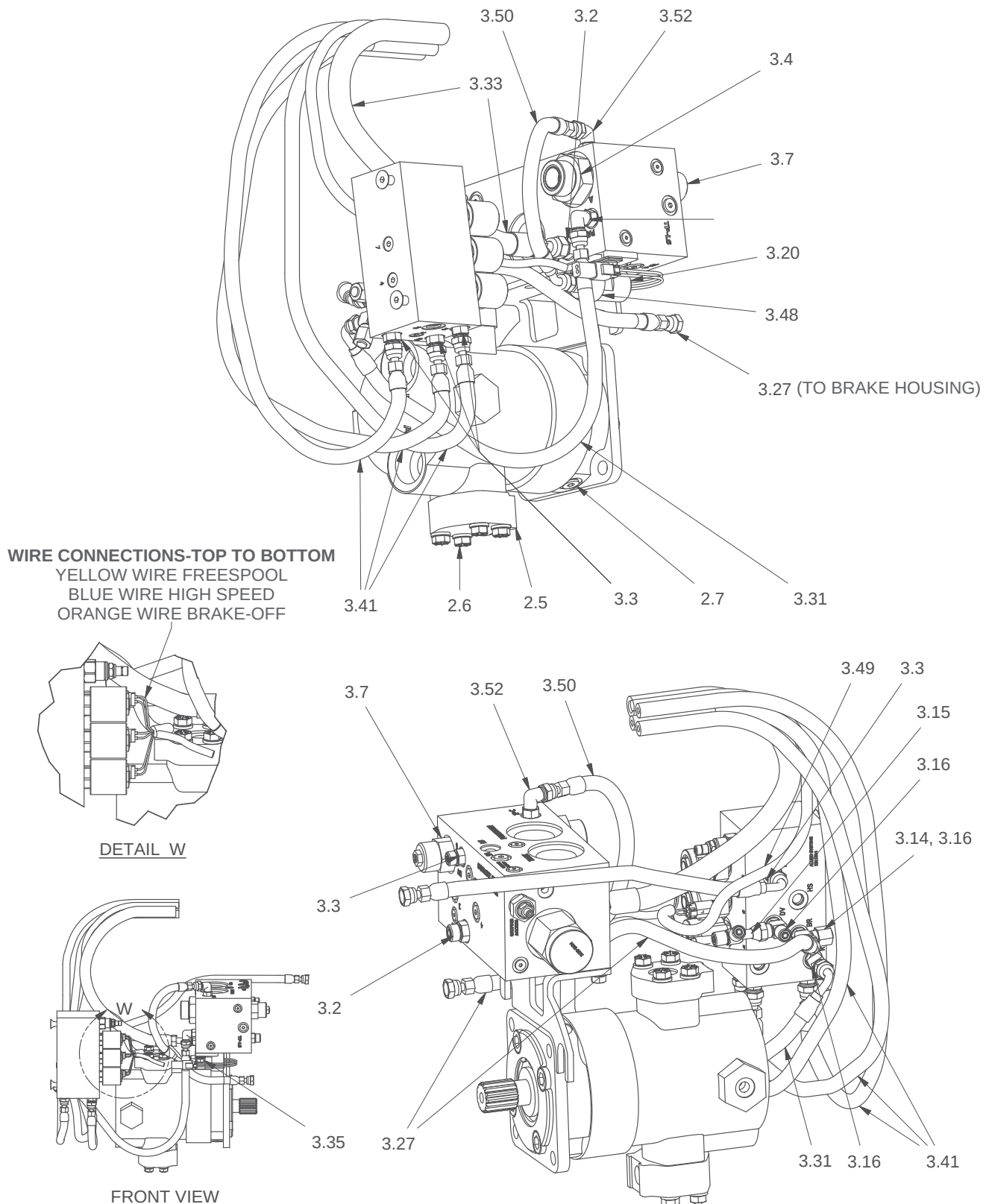
Hydraulic Group, Internal High-Performance Winch (H5CH), 2 Speed

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Hydraulic Group, Internal High-Performance Winch (H5CH), 2 Speed

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Hydraulic Group, Internal
High-Performance Winch (H5CH), 2 Speed
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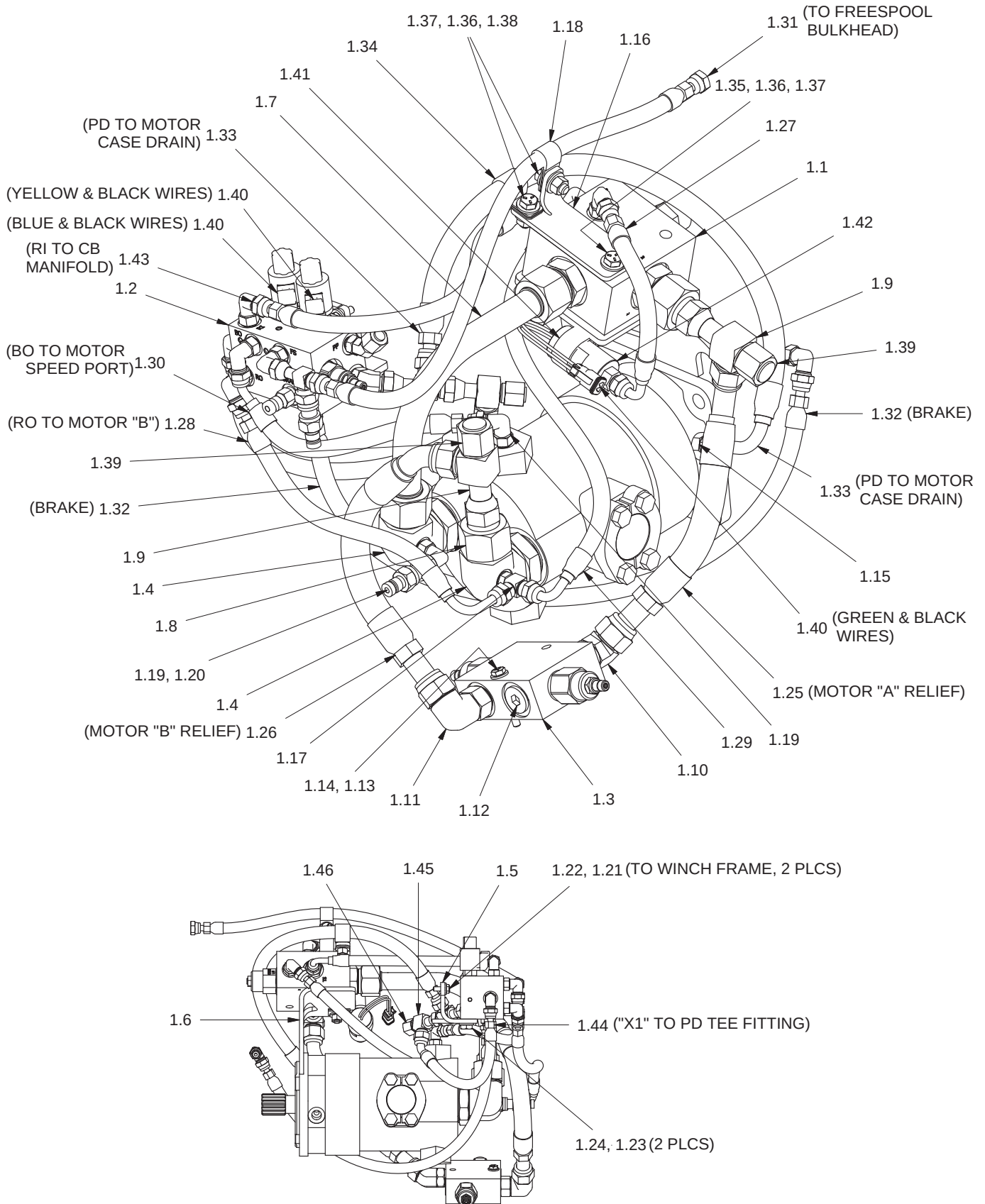
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2306938W	Motor, Hydraulic 2 Speed Vane, 15 Cuin (See 3-35)	1	3.22	2307456W	Fitting	1
				3.23	2307283W	Assembly, Hose	2
2.2	79980W	O-Ring, High Temperature	2	3.24	2307470W	Assembly, Hose	1
2.3	2307400W	Manifold, 3-Port	1	3.25	2307471W	Assembly, Hose	1
2.4	15157W	Washer	8	3.26	2307039W	Assembly, Hose	1
2.5	2307432W	Manifold, Port	1	3.27	2307033W	Assembly, Hose	1
2.6	R13811059	Capscrew	4	3.28	2313153	Assembly, Hose	1
2.7	229383	Fitting	1	3.29	2307036W	Assembly, Hose	1
2.8	R13801834	Capscrew	4	3.30	2307032W	Assembly, Hose	2
				3.31	2307206W	Assembly, Hose	1
3.1	R833251	Fitting	5	3.32	2307472W	Assembly, Hose	1
3.2	231440	Fitting	3	3.33	2307213W	Assembly, Hose	1
3.3	231439	Fitting	8	3.34	2307040W	Assembly, Hose	1
3.4	R833133	Fitting	4	3.35	398567W	Screw, Flanged	2
3.5	2307008W	Manifold, Directional (See 3-49)	1	3.36	R834201	Fitting	4
3.6	2307061W	Bracket, Manifold Mounting	1	3.37	232960	Fitting	1
3.7	2307265W	Valve, Counter Balance	1	3.38	2311614	Assembly, Control Manifold (See 3-43)	1
	243815	. Kit, Seal	1	3.39	Y09G-0616	Capscrew	2
3.8	2307443W	Assembly, Brake-Off Manifold (See 3-50)	1	3.40	2307123W	Fitting	2
3.9	231452	Fitting	2	3.41	2307042W	Assembly, Hose	3
3.10	R833802	Fitting	1	3.42	2307038W	Assembly, Hose	1
3.11	231441	Fitting	1	3.43	2307613W	Assembly, Hose	1
3.12	242629	Fitting	1	3.44	2307446W	Fitting, Orifice	1
3.13	2307398W	Valve, Check	1	3.45	2307482W	Fitting, Orifice	1
3.14	232984	Fitting	2	3.46	18475W	Capscrew	2
3.15	236855	Fitting	1	3.47	15127W	Washer	2
3.16	R833400	Fitting	3	3.48	R2528352	Clip, Insulation	1
3.17	R833200	Fitting	1	3.49	2307293W	Harness, Winch Wire	1
3.18	R833257	Fitting	1	3.50	2307344W	Assembly, Hose	1
3.19	231955	Fitting	1	3.52	*a 2311500	Assembly, Fitting	1
3.20	2307291W	Switch, Pressure	1	3.53	2307625W	Coupler, Quick Male	2
3.21	231820	Fitting	2				
				*a	First Used on S/N H5C-1041		

Hydraulic Group, Internal

Rescue Winch (H5CT-D)

Caterpillar D6K (C80)

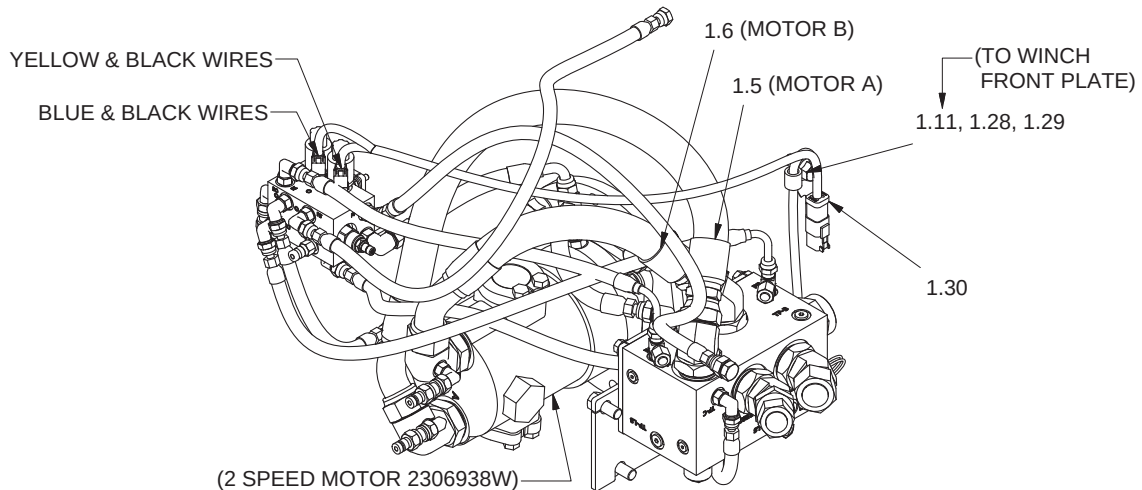
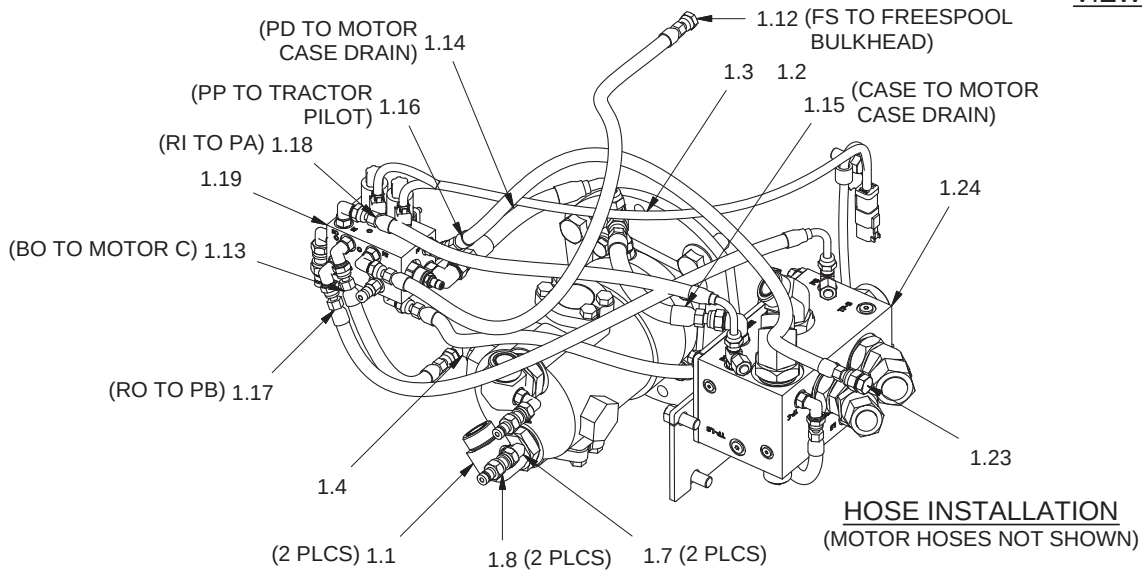
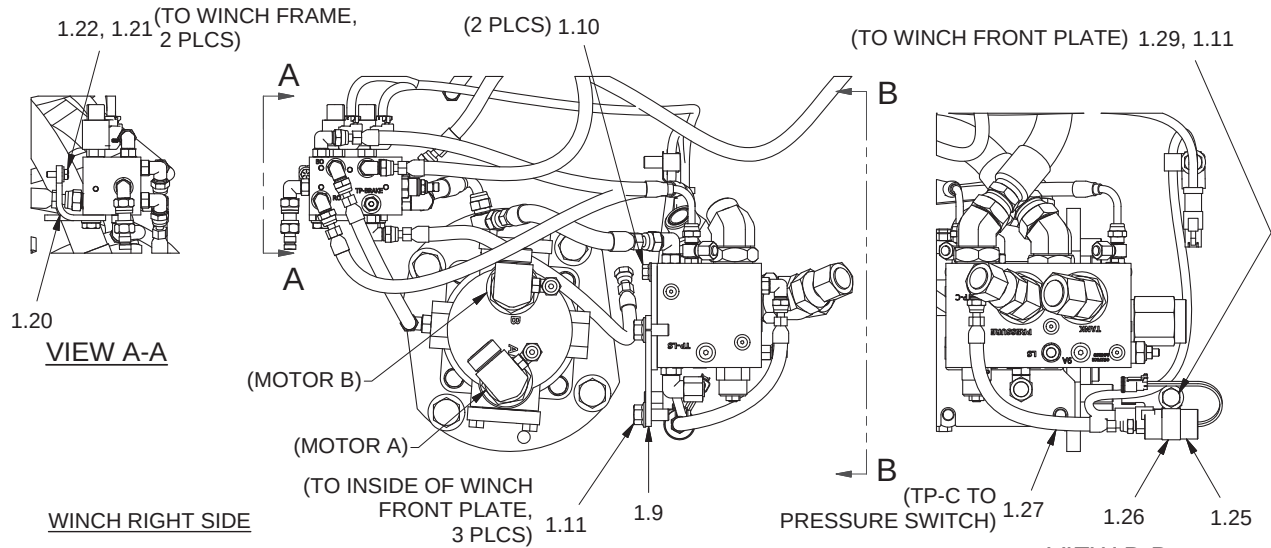
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Hydraulic Group, Internal
Rescue Winch (H5CT-D)
 Caterpillar D6K (C80)
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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2313634	Assembly, Counterbalance Manifold (See 3-46)	1	1.23	296420W	Washer	2
1.2	2313635	Assembly, Control Manifold (See 3-44)	1	1.24	Y09C-M1025	Capscrew	2
1.3	2307440W	Assembly, Cross Port Relief (See 3-53)	1	1.25	2307772W	Assembly, Hose	1
1.4	2307123W	Fitting	2	1.26	2313640	Assembly, Hose	1
1.5	2313443	Bracket, Manifold	1	1.27	2313636	Assembly, Hose	1
1.6	2307403W	Bracket, Manifold Mounting	1	1.28	2313637	Assembly, Hose	1
1.7	2312197	Assembly, 2 Speed Rescue Tube	1	1.29	2313638	Assembly, Hose	1
1.8	2307104W	Fitting	1	1.30	2313639	Assembly, Hose	1
1.9	R834053	Fitting	2	1.31	257331	Assembly, Hose	1
1.10	R833211	Fitting	1	1.32	243178	Assembly, Hose	1
1.11	R833266	Fitting	1	1.33	2313641	Assembly, Hose	1
1.12	233693W	Fitting, O-Ring	2	1.34	209589	Clamp	1
1.13	Y01C-0432	Capscrew	1	1.35	18542W	Capscrew	1
1.14	15127W	Washer	1	1.36	221767W	Washer	6
1.15	231440	Fitting	1	1.37	221707W	Nut	3
1.16	2310168	Plate	1	1.38	16805W	Capscrew	2
1.17	R833400	Fitting	1	1.39	R834254	Fitting	2
1.18	R13803039	Clip, Insulation	1	1.40	2312218	Harness, Winch Wire	1
1.19	R833251	Fitting	2	1.41	R2528352	Clip, Insulation	1
1.20	2307625W	Coupler, Quick Male	1	1.42	2307291W	Switch, Pressure	1
1.21	221763W	Washer	2	1.43	2313695	Assembly, Hose	1
1.22	224120W	Capscrew	2	1.44	2313765	Assembly, Hose	1
				1.45	231955	Fitting	1
				1.46	231822	Fitting	1

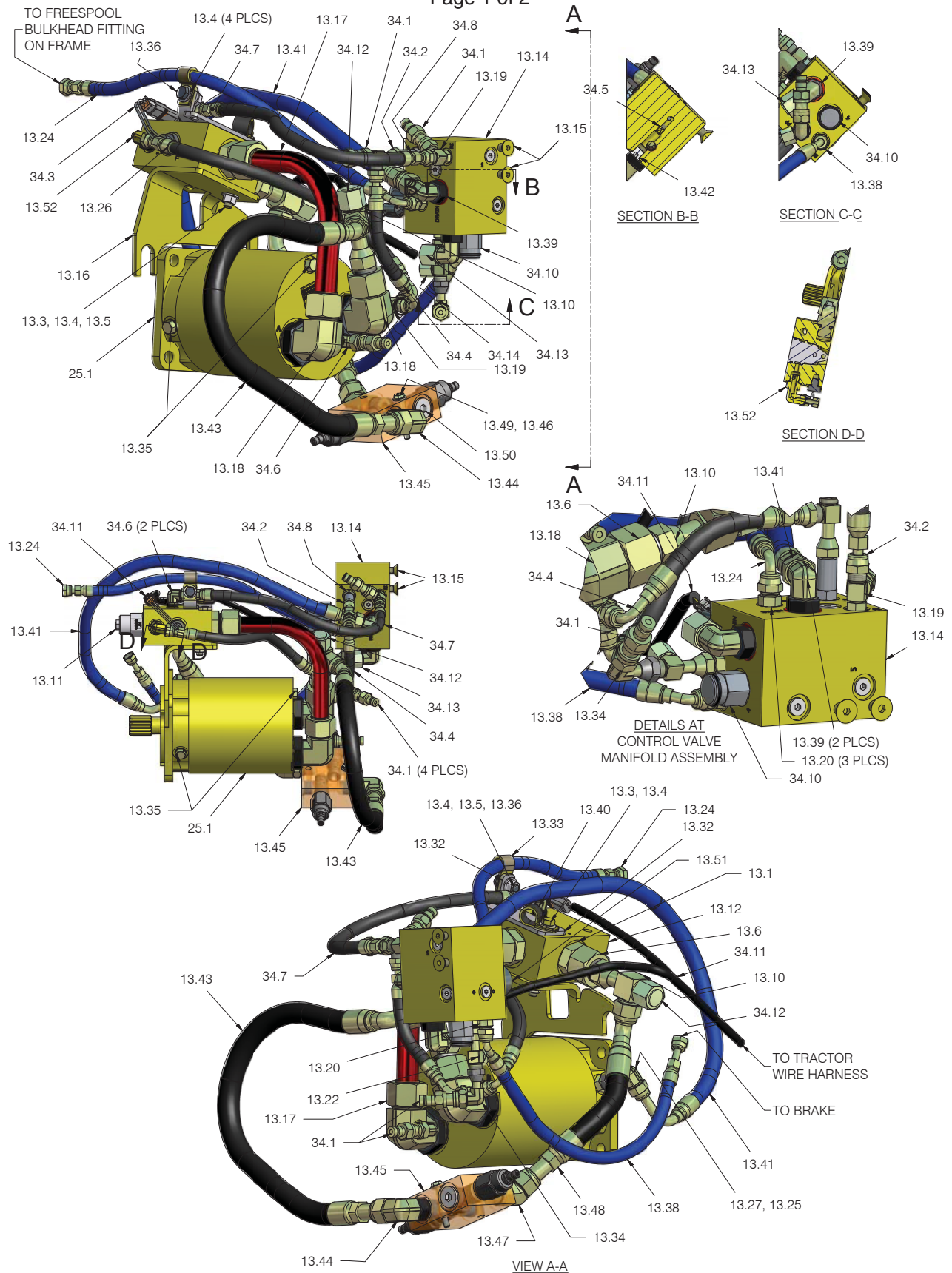
Hydraulic Group, Internal **Hi-Performance Winch (H5CH)** Caterpillar PL61 (C391) Page 1 of 2



Hydraulic Group, Internal
Hi-Performance Winch (H5CH)
 Caterpillar PL61 (C391)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2307123W	Fitting	2	1.17	2313662	Assembly, Hose	1
1.2	231440	Fitting	1	1.18	2313458	Assembly, Hose	1
1.3	231955	Fitting	1	1.19	2313473	Assembly, Control Manifold (3-45)	1
1.4	R833253	Fitting	1	1.20	2313443	Bracket, Manifold	1
1.5	2313460	Assembly, Hose	1	1.21	221763W	Washer	2
1.6	2313461	Assembly, Hose	1	1.22	224120W	Capscrew	2
1.7	R833251	Fitting	2	1.23	R834201	Fitting	1
1.8	2307625W	Coupler, Quick Male	2	1.24	2313486	Assembly, Direction Manifold (3-48)	1
1.9	2313446	Bracket, Manifold	1	1.25	2307291W	Switch, Pressure	1
1.10	398567	Screw, Flange	2	1.26	227398	Clamp	1
1.11	398817	Screw, Flange	5	1.27	2313566	Assembly, Hose	1
1.12	257331	Assembly, Hose	2	1.28	R13807642	Clip, Insulation	1
1.13	2313456	Assembly, Hose	1	1.29	2313663	Clip, Harness Mounting	2
1.14	2312458	Assembly, Hose	1	1.30	2313568	Harness, Winch Wire	1
1.15	242818	Assembly, Hose	1	1.31	Y09C-M1025	Capscrew	2
1.16	2313457	Assembly, Hose	1	1.32	296420	Washer	2

Hydraulic Group, Internal
Rescue Winch (H5CT)
 John Deere 700J (E39)
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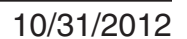
Hydraulic Group, Internal

Rescue Winch (H5CT)

John Deere 700J (E39)

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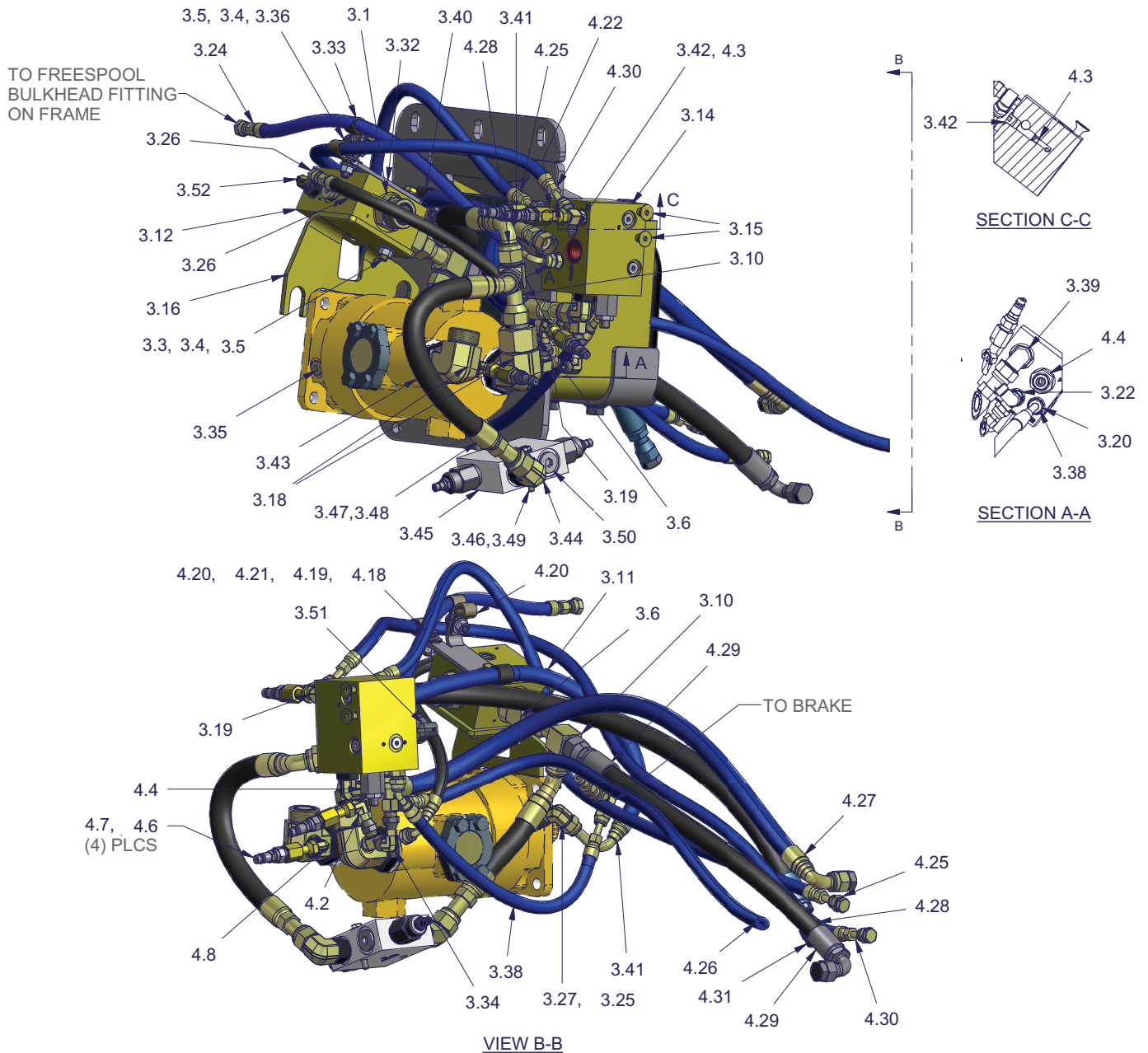
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
13.1	231444	Fitting	2	13.44	R833266	Fitting	1
13.3	18542W	Capscrew	1	13.45	2307440W	Assembly, Cross Port Relief (See 3-53)	1
13.4	15134W	Washer	4				
13.5	15056W	Nut	2	13.46	15127W	Washer	1
13.6	2307104W	Fitting	2	13.47	R833211	Fitting	1
13.10	R834053	Fitting	2	13.48	2307772W	Assembly, Hose	1
13.11	2307265W	Valve, Counter Balance	1	13.49	Y01C-0432	Capscrew	1
	243815	. Kit, Seal	1	13.50	233693W	Fitting, O-Ring	2
13.12	2307632W	Manifold, T17A Modified	1	13.51	250365	Cartridge, Valve	1
13.14	2307551W	Valve, Control - Rescue	1	13.52	*c 2311339	Assembly, Fitting with .015 Orifice	1
		Manifold Assembly (See 3-52)	1		2310698	. Fitting, Modified	1
13.15	*a Y09G-0616	Capscrew	2		2310181	. Plug, Orifice	1
13.16	2307403W	Bracket, Manifold Mounting	1				
13.17	2307767W	Assembly, Motor Tube	1	25.1	2307694W	Motor, Single Speed Vane (See 3-36)	1
13.18	2307123W	Fitting	2				
13.19	R833400	Fitting	2	34.1	2307625W	Coupler, Quick, Male	4
13.20	231439	Fitting	3	34.2	236855	Fitting	1
13.22	236855	Fitting	1	34.3	*b 2307904W	Switch, Temperature	1
13.24	2310637	Assembly, Hose	1	34.4	2310581	Assembly, Hose	1
13.25	231440	Fitting	1	34.5	2310181	Plug, Orifice	1
13.26	2307773W	Assembly, Hose	1	34.6	R833251	Fitting	2
13.27	R833801	Fitting	1	34.7	2310582	Assembly, Hose	1
13.32	2310168	Plate	1	34.8	2310688	Fitting	1
13.33	R13803039	Clip, Insulation	1	34.10	2311611	Assembly, Directional Valve	1
13.34	R833800	Fitting	1	34.11	2307629W	Harness, Winch Wire	1
13.35	209423	Fitting	2	34.12	R834254	Fitting	2
13.36	16805W	Capscrew	1	34.13	R834253	Fitting	1
13.38	2307208W	Assembly, Hose	1	34.14	232984	Fitting	1
13.39	231452	Fitting	2				
13.40	209589	Clamp	1				
13.41	2307774W	Assembly, Hose	1		*a	Use 383789W Adhesive Sealant	
13.42	222442W	Fitting, O-Ring	1		*b	E39 Only	
13.43	2307775W	Assembly, Hose	1		*c	First Used on S/N H5C-1039	



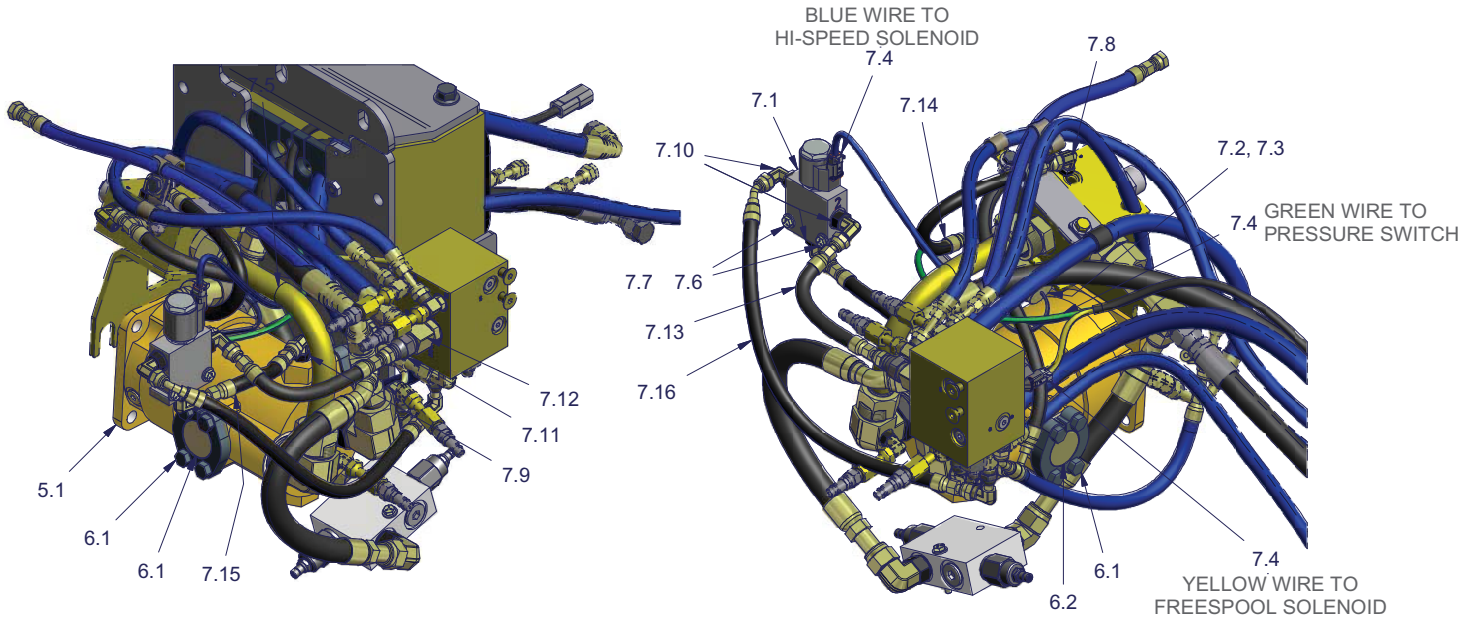
Hydraulic Group, Internal
Level 1, Rescue Winch, 1-Speed (H5CT-E/U)
 Komatsu D51-22 (K37)
 Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
13.1	231444	Fitting	2	13.51	2310430	Valve, Cartridge	1
13.3	*a 18542W	Capscrew	1		R15668	. Kit, Seal	1
13.4	15134W	Washer	4		252134	. Valve, Cartridge	1
13.5	15056W	Nut	2		2313921	. Coil, Valve	1
13.6	2307104W	Fitting	2	13.52	2311339	Assembly, Fitting with .015 Orifice	1
13.10	R834053	Fitting	2		2310698	. Fitting, Modified	1
13.11	2307265W	Valve, Counter Balance	1		2310181	. Plug, Orifice	1
	243815	. Kit, Seal	1	25.1	2307694W	Motor, Single Speed Vane, 15 Cuin (See 3-36)	1
13.12	2307632W	Manifold, T17A Modified	1				
13.14	2307551W	Valve, Control - Rescue Manifold Assembly (See 3-52)	1	35.2	R833800	Fitting	1
13.15	*a Y09G-0616	Capscrew	2	35.3	15961W	Fitting	1
13.16	2307403W	Bracket, Manifold Mounting	1	35.4	2307680W	Assembly, Valve	1
13.17	2307767W	Assembly, Motor Tube	1	35.5	2307926W	Harness, Winch Wire	1
13.18	2307123W	Fitting	2	35.6	2310634	Nipple	5
13.19	R833400	Fitting	2	35.7	254002	Fitting	5
13.20	231439	Fitting	3	35.8	R833251	Fitting	1
13.22	236855	Fitting	1	35.16	235387	Fitting	1
13.24	2310637	Assembly, Hose	1	35.17	229345	Fitting	1
13.25	231440	Fitting	1	35.18	16805W	Capscrew	1
13.26	2307773W	Assembly, Hose	1	35.19	15134W	Washer	2
13.27	R833801	Fitting	1	35.20	R13803039	Clip, Insulation	2
13.32	2310168	Plate	1	35.21	15056W	Nut	1
13.33	R13803039	Clip, Insulation	1	35.22	R833400	Fitting	1
13.34	R833800	Fitting	1	35.25	2310006	Assembly, Hose - RO	1
13.35	209423	Fitting	2	35.26	2310001	Assembly, Hose - PP	1
13.36	16805W	Capscrew	1	35.27	2310002	Assembly, Hose - Drain	1
13.38	2307208W	Assembly, Hose	1	35.28	2310003	Assembly, Hose - Motor B	1
13.39	231452	Fitting	2	35.29	2310004	Assembly, Hose - Motor A	1
13.40	209589	Clamp	1	35.30	2310005	Assembly, Hose - RI	1
13.41	2307774W	Assembly, Hose	1	35.31	232960	Fitting	3
13.42	222442W	Fitting, O-Ring	1	35.32	2307238W	Label - RO	1
13.43	2307775W	Assembly, Hose	1	35.33	2307239W	Label - RI	1
13.44	R833266	Fitting	1	35.34	2307242W	Label - Tank	1
13.45	2307440W	Assembly, Cross Port Relief (See 3-53)	1	35.35	2307241W	Label - Pilot	1
13.46	15127W	Washer	1	35.36	2310919	Label - Motor A	1
13.47	R833211	Fitting	1	35.37	2310920	Label - Motor B	1
13.48	2307772W	Assembly, Hose	1	35.38	R834200	Fitting	3
13.49	*a Y01C-0432	Capscrew	1				
13.50	233693W	Fitting, O-Ring	2	*a	Use 383789W Adhesive Sealant		

Hydraulic Group, Internal
Level 1, Rescue Winch, 2-Speed (H5CT-D)
 Komatsu D51-22 (K37)
 Page 1 of 2



Hydraulic Group, Internal
Level 1, Rescue Winch, 2-Speed (H5CT-D)
 Komatsu D51-22 (K37)
 Page 2 of 2



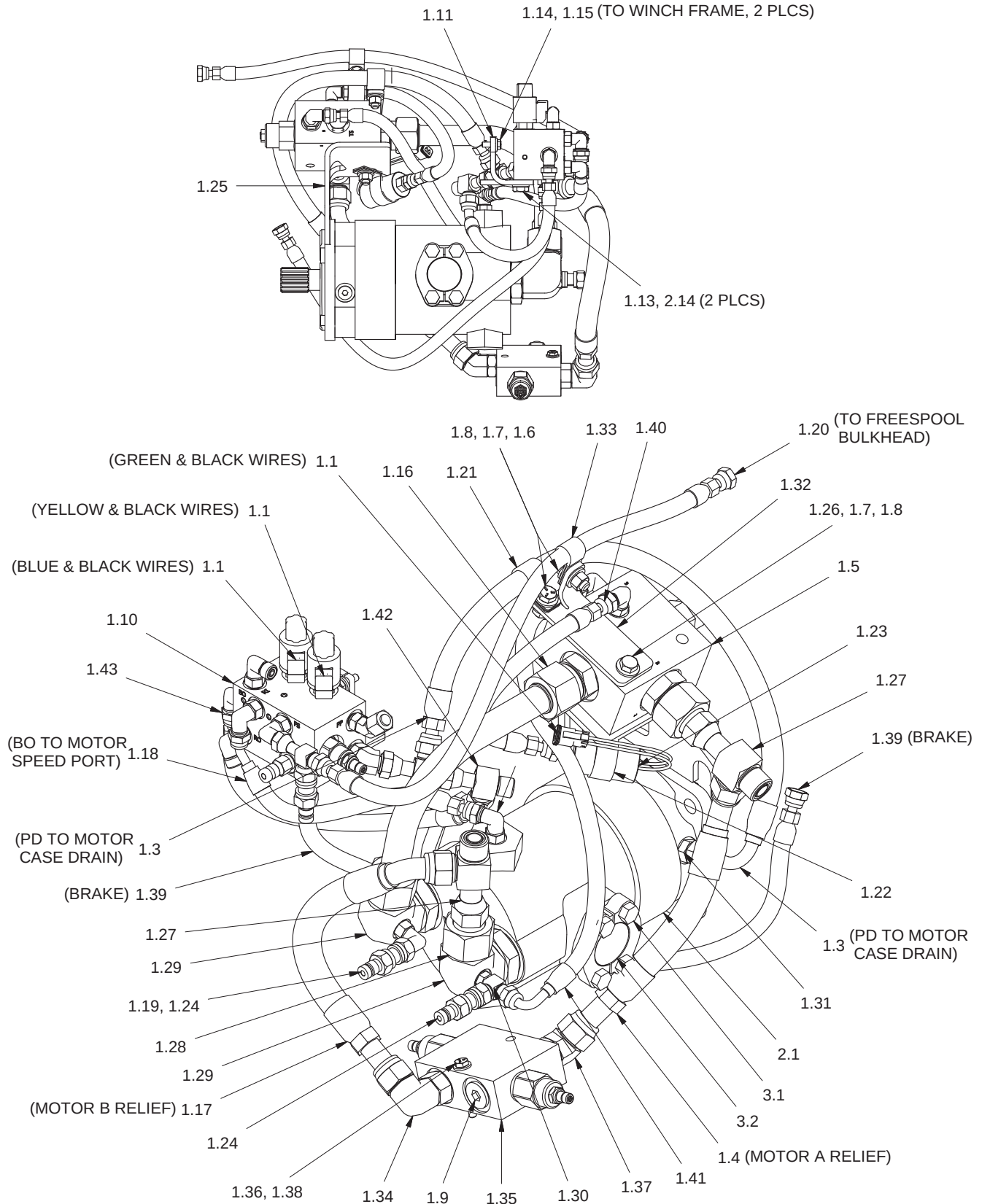
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
13.1	231444	Fitting	2	13.49	*a Y01C-0432	Capscrew	1
13.3	*a 18542W	Capscrew	1	13.50	233693W	Fitting, O-Ring	2
13.4	15134W	Washer	4	13.51	2310430	Valve, Cartridge	1
13.5	15056W	Nut	2		R15668	. Kit, Seal	1
13.6	2307104W	Fitting	2		252134	. Valve, Cartridge	1
13.10	R834053	Fitting	2		2313921	. Coil, Valve	1
13.11	2307265W	Valve, Counter Balance	1	13.52	*b 2311339	Assembly, Fitting with .015 Orifice	1
	243815	. Kit, Seal	1		2310698	. Fitting, Modified	1
13.12	2307632W	Manifold, T17A Modified	1		2310181	. Plug, Orifice	1
13.14	2307551W	Valve, Control - Rescue Manifold	1	13.53	2307625W	Coupler, Quick Male	1
		Assembly (See 3-52)	1				
13.15	*a Y09G-0616	Capscrew	2	5.1	2306938W	Motor, Hydraulic 2 Speed Vane, 15 Cuin (See 3-35)	1
13.16	2307403W	Bracket, Manifold Mounting	1				
13.18	2307123W	Fitting	2	6.1	11740	Kit, Split Flange	2
13.19	R833400	Fitting	2	6.2	24531	Fitting	2
13.20	231439	Fitting	3				
13.22	236855	Fitting	1	7.1	2307833W	Assembly, Manifold Valve (See 3-54)	1
13.24	2310637	Assembly, Hose	1	7.2	2307291W	Clip, Insulation	1
13.25	231440	Fitting	1	7.3	R2528352	Assembly, Valve	1
13.26	2307773W	Assembly, Hose	1	7.4	2312218	Harness, Winch Wire	1
13.27	R833801	Fitting	1	7.5	2312197	Assembly, Tube, 2 Speed Rescue	1
13.32	2310168	Plate	1	7.6	18468W	Capscrew	2
13.33	R13803039	Clip, Insulation	1	7.7	15127W	Washer	2
13.34	R833800	Fitting	1	7.8	2311500	Assembly, Fitting	1
13.35	229383	Fitting	2	7.9	R833251	Fitting	1
13.36	16805W	Capscrew	1	7.10	R833253	Fitting	3
13.38	2307208W	Assembly, Hose	1	7.11	R833700	Fitting	1
13.39	231452	Fitting	2	7.12	231466	Fitting	1
13.40	209589	Clamp	1	7.13	15056W	Nut	1
13.41	2307774W	Assembly, Hose	1	7.14	2312209	Assembly, Hose	1
13.42	222442W	Fitting, O-Ring	1	7.15	2312210	Assembly, Hose	1
13.43	2307775W	Assembly, Hose	1	7.16	2312212	Assembly, Hose	1
13.44	R833266	Fitting	1				
13.45	2307440W	Assembly, Cross Port Relief (See 3-53)	1				
13.46	15127W	Washer	1				
13.47	R833211	Fitting	1				
13.48	2307772W	Assembly, Hose	1				
				*a	Use 383789W Adhesive Sealant		
				*b	First Used on S/N H5C-1039		

Hydraulic Group, Internal **Level 1, Rescue Winch, 2-Speed (H5CT-D)**

Komatsu D51-22 (K37)

First Used on S/N H5C-1092

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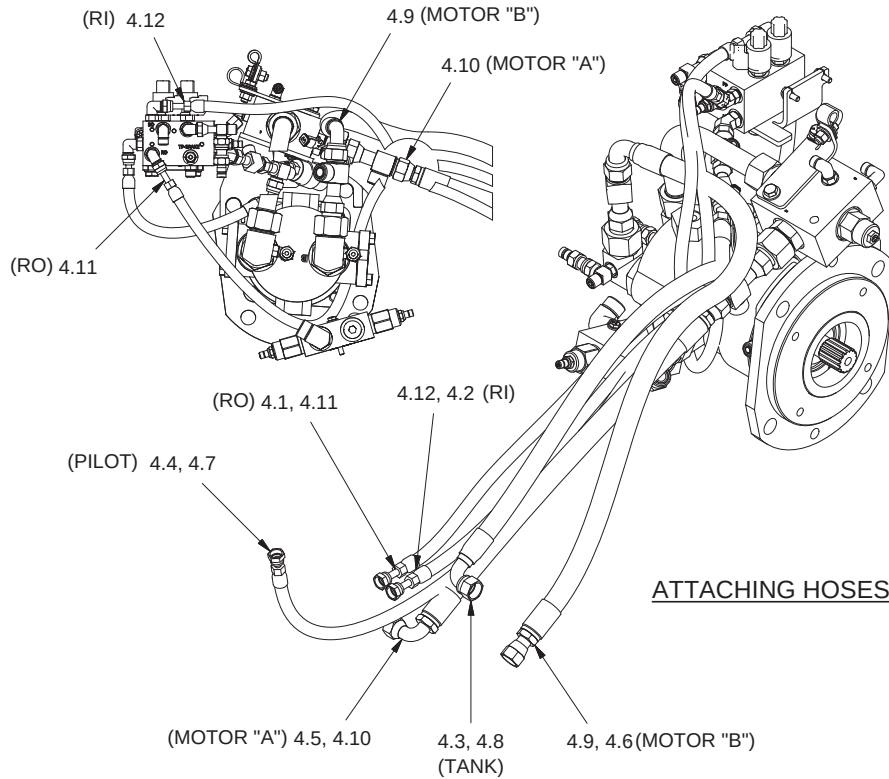
Hydraulic Group, Internal

Level 1, Rescue Winch, 2-Speed (H5CT-D)

Komatsu D51-22 (K37)

First Used on S/N H5C-1092

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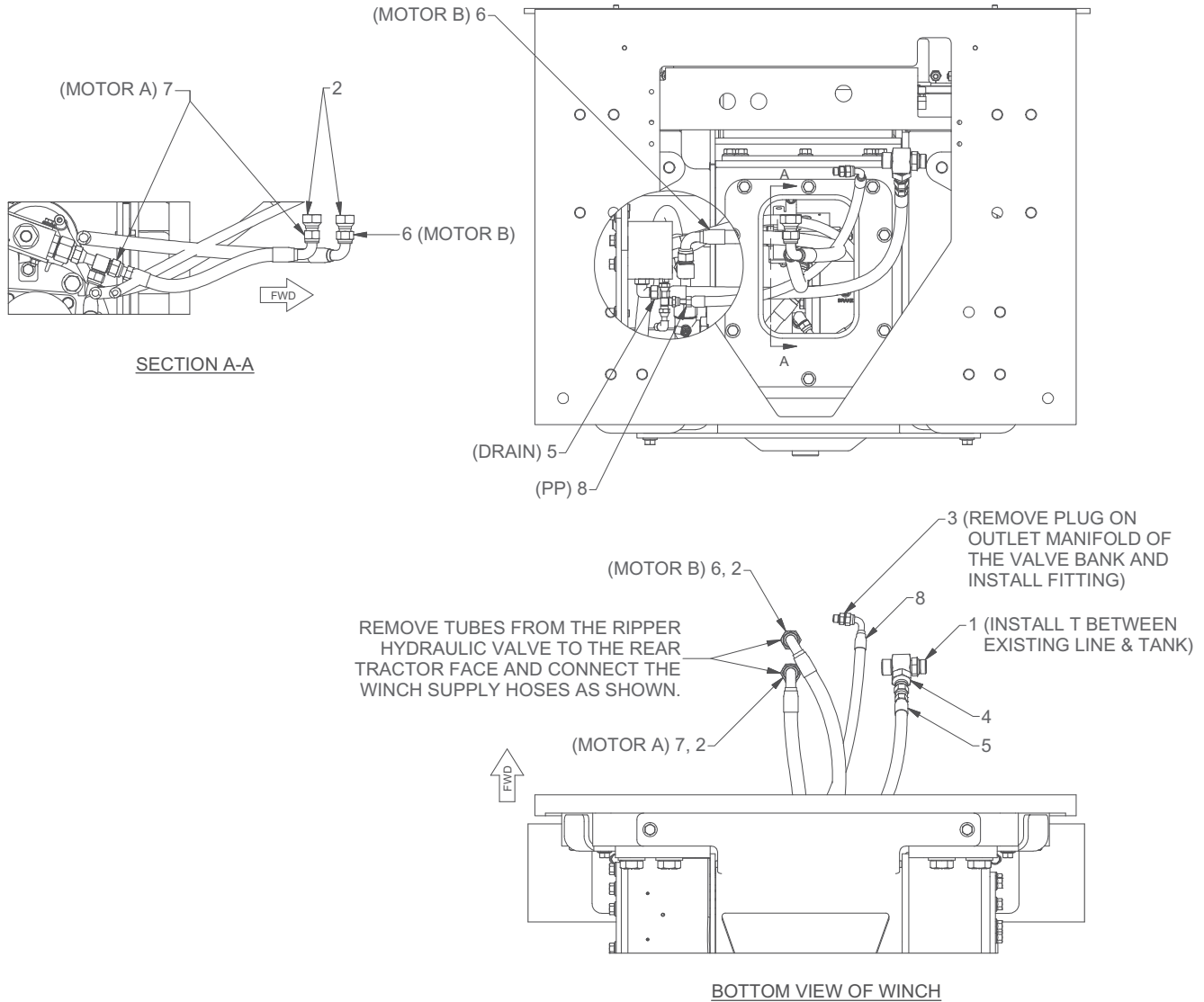


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2312218	Harness, Winch Wire	1	1.32	2310168	Plate	1
1.2	229383	Fitting	1	1.33	R13803039	Clip, Insulate	1
1.3	2313641	Assembly, Hose	1	1.34	R833266	Fitting	1
1.4	2307772W	Assembly, Hose	1	1.35	2307440W	Assembly, Cross Port Relief (See 3-53)	1
1.5	2313705	Assembly, Manifold, Counterbalance (See 3-47)	1	1.36	15127W	Washer	1
1.6	16805W	Capscrew	2	1.37	R833211	Fitting	1
1.7	221767W	Washer	6	1.38	Y01C-0432	Capscrew	1
1.8	221707W	Nut	3	1.39	243178	Assembly, Hose	1
1.9	233693W	Fitting, O-Ring	2	1.40	2313715	Assembly, Hose	1
1.10	2313635	Assembly, Control Manifold (See 3-44)	1	1.41	2313638	Assembly, Hose	1
1.11	2313443	Bracket, Manifold	1	1.42	231955	Fitting	1
1.12	296420W	Washer	2	1.43	2313765	Assembly, Hose	1
1.13	Y09C-M1025	Capscrew	2	2.1	2306938W	Motor, Hydraulic 2 Speed Vane, 15 Cuin (See 3-35)	1
1.14	224120W	Capscrew	2	3.1	11740	Kit, Split Flange	2
1.15	221763W	Washer	2	3.2	24531	Fitting	2
1.16	2312197	Assembly, Tube - 2 Speed Rescue	1	4.1	2307238W	Label, RO	1
1.17	2313640	Assembly, Hose	1	4.2	2307239W	Label, RI	1
1.18	2313639	Assembly, Hose	1	4.3	2307242W	Label, Tank	1
1.19	R833251	Fitting	2	4.4	2307241W	Label, Pilot	1
1.20	257331	Assembly, Hose	1	4.5	2310919	Label, Motor "A"	1
1.21	209589	Clamp	1	4.6	2310920	Label, Motor "B"	1
1.22	R2528352	Clip, Insulate	1	4.7	2311701	Assembly, Hose	1
1.23	2307291W	Switch, Pressure	1	4.8	2313910	Assembly, Hose	1
1.24	2307625W	Coupler, Quick Male	2	4.9	2310003	Assembly, Hose	1
1.25	2307403W	Bracket, Manifold Mounting	1	4.10	2310004	Assembly, Hose	1
1.26	18542W	Capscrew	1	4.11	2313710	Assembly, Hose	1
1.27	R834053	Fitting	2	4.12	2311572	Assembly, Hose	1
1.28	2307104W	Fitting	1				
1.29	2307123W	Fitting	2				
1.30	R833400	Fitting	1				
1.31	231440	Fitting	1				

Hydraulic Group, External

Rescue Winch (H5CT-D)

Caterpillar D6K (C80)

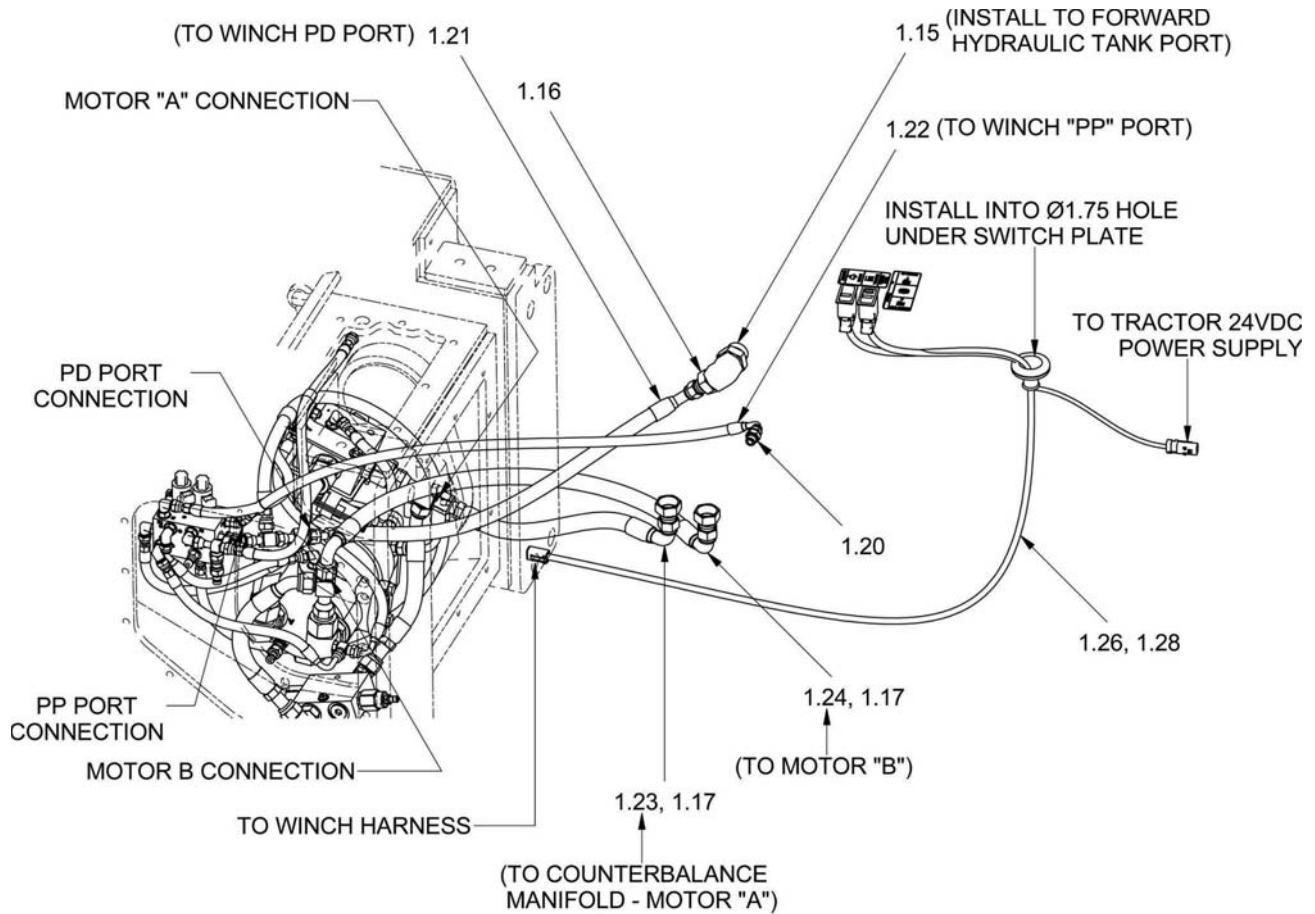


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	231467	Fitting	1	5	235535	Assembly, Hose	1
2	2307910W	Fitting	2	6	2313054	Assembly, Hose	1
3	231440	Fitting	1	7	2313055	Assembly, Hose	1
4	231809	Fitting	1	8	2313053	Assembly, Hose	1

Hydraulic Group, External

Rescue Winch (H5CT-D), 2-Speed

Caterpillar D6K (C80)



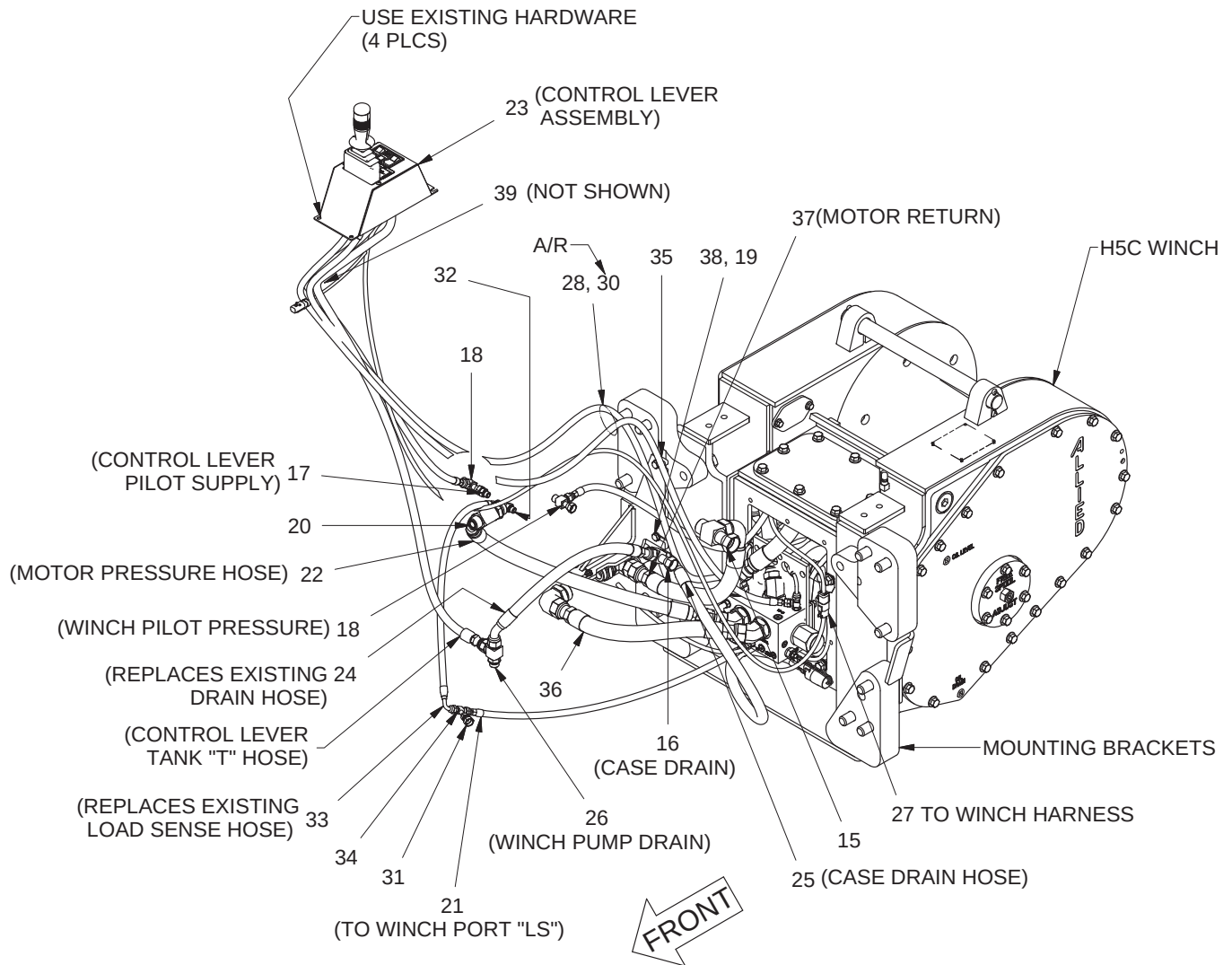
HYDRAULIC INSTALLATION

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.15	R833272	Fitting	1	1.22	2310591	Assembly, Hose	1
1.16	231809	Fitting	1	1.23	2313055	Assembly, Hose	1
1.17	2307910W	Fitting	2	1.24	2313054	Assembly, Hose	1
1.20	R833103	Fitting	1	1.26	2313643	Harness, Console Wire	1
1.21	2313674	Assembly, Hose	1	1.28	213257	Strap, Tie	20

Hydraulic Group, External

High Performance Winch (H5CH)

Caterpillar PL61 (C391)



HYDRAULIC INSTALLATION

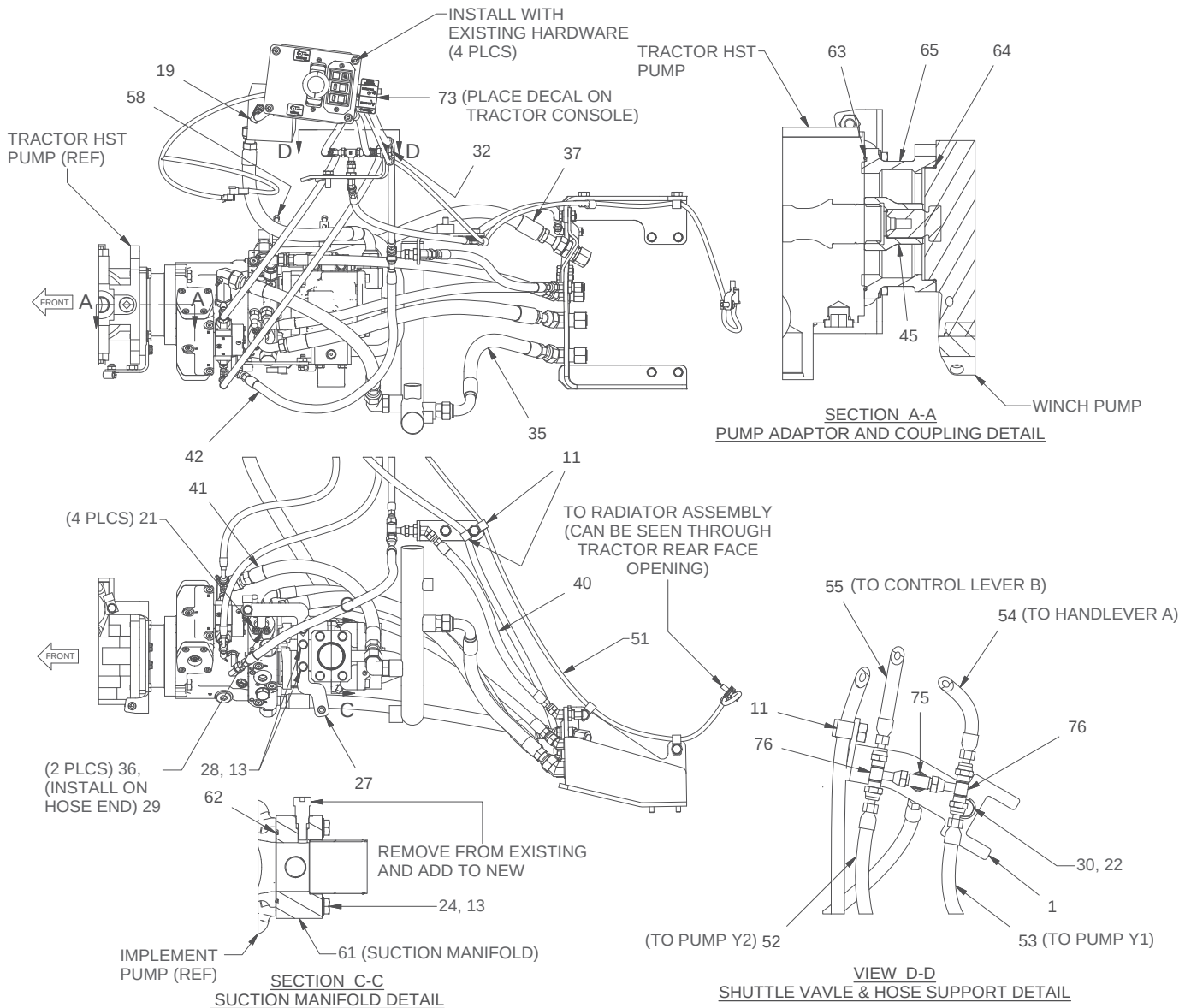
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
15	R834056	Fitting	1	27	2313567	Wire Harness, Console	1
16	R834003	Fitting	1	28	R13846	Sleeve, Cordura	7.5 Ft
17	231440	Fitting	1	30	213257	Strap, Tie	20
18	231955	Fitting	2	31	242629	Fitting	1
19	296420W	Washer	2	32	R833253	Fitting	1
20	2313660	Fitting	1	33	2313453	Assembly, Hose	1
21	2313454	Assembly, Hose	1	34	R834000	Fitting	1
22	2313455	Assembly, Hose	1	35	2313667	Assembly, Filter	1
23	2313451	Assembly, Control Lever (See 3-57)	1	36	2313668	Assembly, Hose	1
24	2313505	Assembly, Hose	1	37	2313670	Assembly, Hose	1
25	2313506	Assembly, Hose	1	38	Y09C-M1025	Capscrew	2
26	R833407	Fitting	1	39	222328	Grommet	1 Ft

Hydraulic Group, External

High Performance Winch (H5CH)

Komatsu D51-22 (K37)

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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2311513	Support, Hose	1	14	232053	Fitting	1
2	2311507	Support, Hose	1	15	2311535	Assembly, Pump (See 3-41)	1
3	2311505	Bracket, Bulkhead	1	16	296426W	Washer	2
4	R834106	Fitting	1	17	*a Y19C-M1650	Capscrew	2
5	272-0352	Fitting	2	18	2311550	Clip, Harness Mounting	1
6	272-0350	Fitting	2	19	231955	Fitting	1
7	232356	Fitting	2	20	222535W	Fitting	4
8	2307081W	Fitting	1	21	*a Y17C-0624	Capscrew	8
9	2311527	Support, Hose	1	22	296422W	Washer	17
10	2311528	Spacer	1	23	*a 293647W	Capscrew	4
11	R13807642	Clip, Insulation	12	24	293637W	Capscrew	4
12	2311532	Assembly, Control Lever Console (See 3-56)	1	25	221771W	Washer	2
13	296420W	Washer	17	26	*a 221569W	Capscrew	2
				27	2311553	Bracket	1

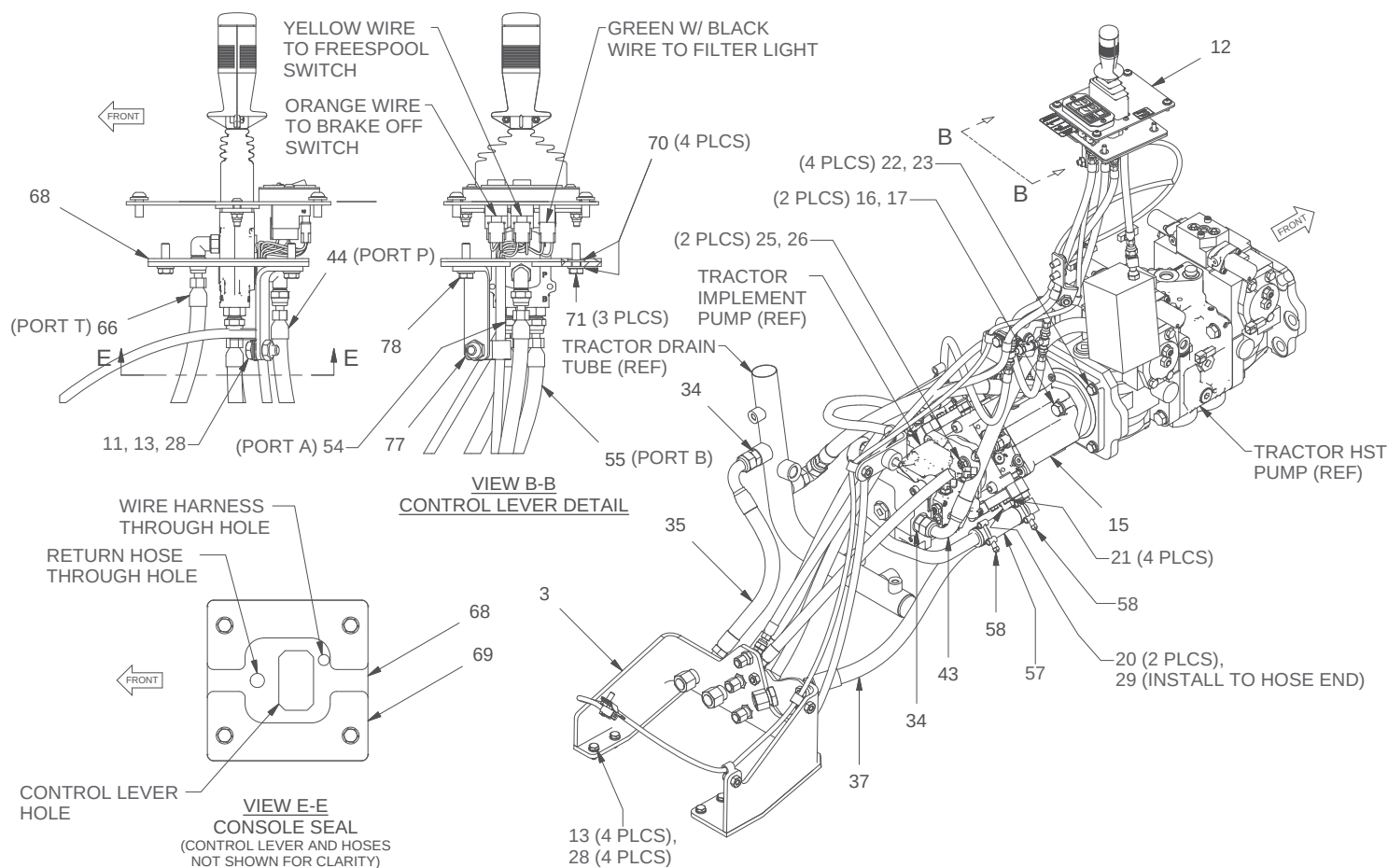
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Hydraulic Group, External

High Performance Winch (H5CH)

Komatsu D51-22 (K37)

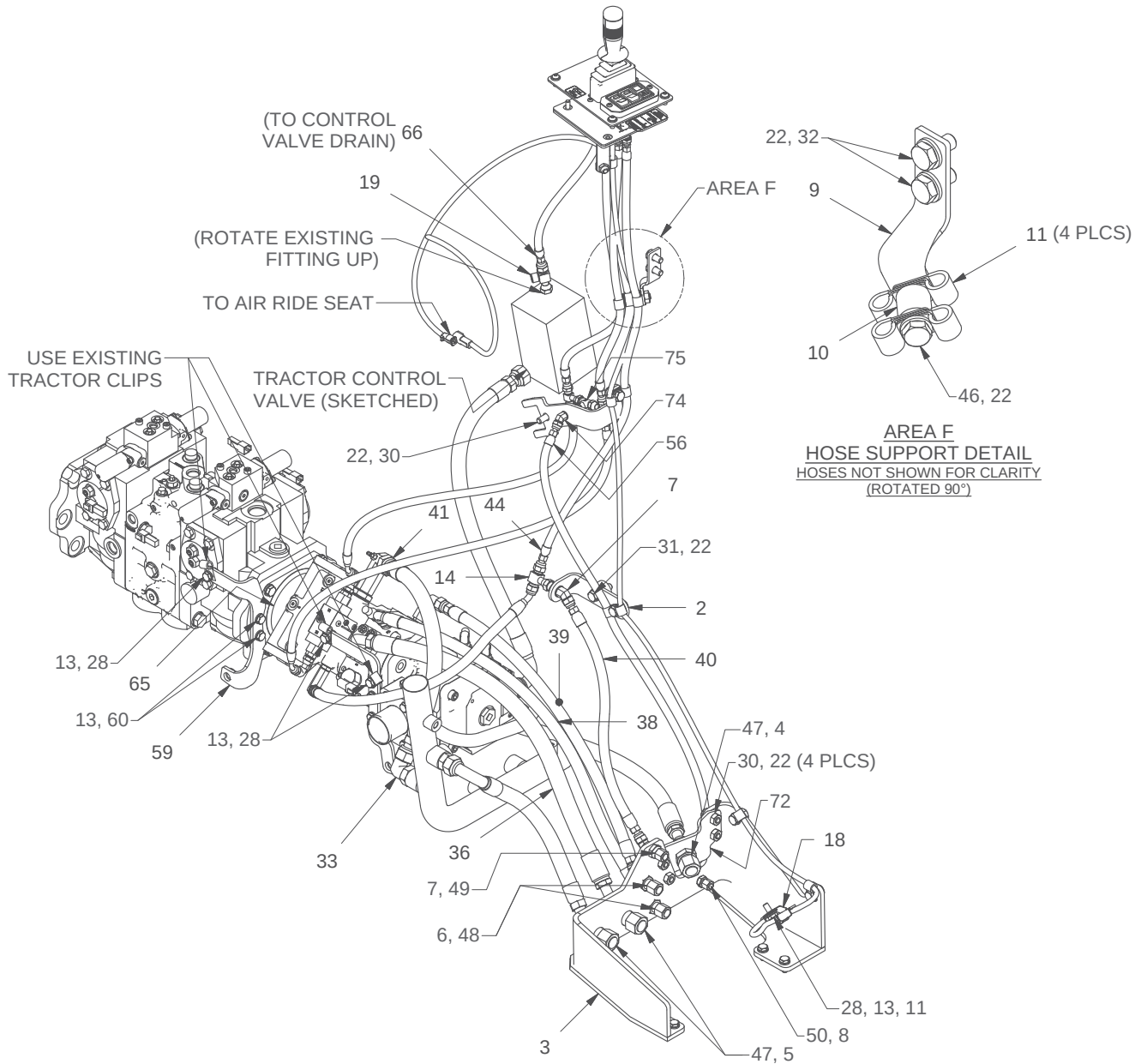
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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
28	293628W	Capscrew	11	41	2311563	Assembly, Hose	1
29	2304110W	O-Ring	2	42	2311566	Assembly, Hose	1
30	293645W	Capscrew	5	43	2311579	Assembly, Hose	1
31	248986	Capscrew	1	44	2311578	Assembly, Hose	1
32	293644W	Capscrew	6	45	2311587	Coupling	1
33	2311989	Assembly, Fittings with O-Rings	1	46	293651W	Capscrew	1
34	2311988	Assembly, Fittings with O-Rings	2	47	231821	Fitting	3
35	2311574	Assembly, Hose	1	48	R834253	Fitting	2
36	2311570	Assembly, Hose	1	49	231822	Fitting	1
37	2311571	Assembly, Hose	1	50	232984	Fitting	1
38	2311569	Assembly, Hose	1	51	2311605	Harness, Wire	1
39	2311568	Assembly, Hose	1	52	2311565	Assembly, Hose	1
40	2311573	Assembly, Hose	1	53	2311567	Assembly, Hose	1

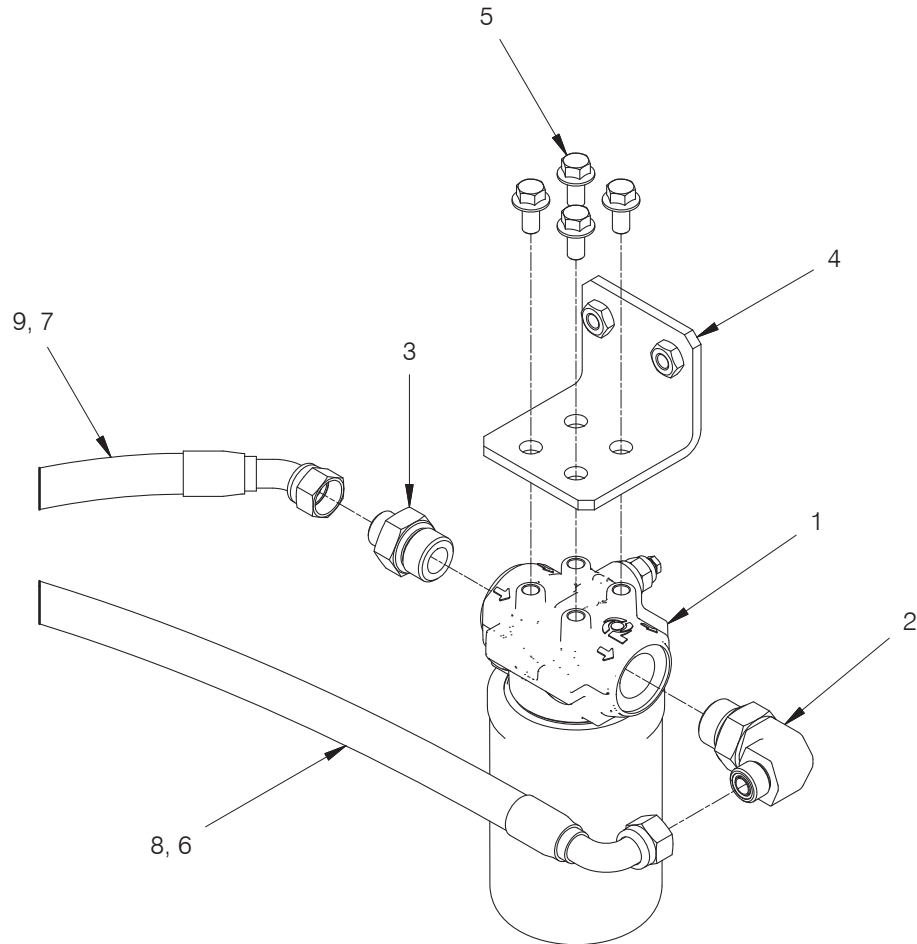
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Hydraulic Group, External **High Performance Winch (H5CH)** Komatsu D51-22 (K37) Page 3 of 3



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
54	2311575	Assembly, Hose	1	69	2311866	Plate, Clamp	2
55	2311576	Assembly, Hose	1	70	296418W	Washer	8
56	2311572	Assembly, Hose	1	71	R13809366	Capscrew	3
57	2311931	Hose, Suction	1	72	2311877	Bracket, Hose	1
58	R13809931	Clamp, T-Bolt	2	73	2310414	Decal, Switch Panel	1
59	2311788	Bracket, Hose Support	1	74	272-0348	Fitting	1
60	236805	Capscrew	2	75	2311932	Assembly, Shutter Valve	1
61	2311523	Manifold, Suction	1		2311886	. Valve, Shuttle	1
62	2311779	O-Ring, Komatsu	1		Y098629-011	. O-Ring	2
63	2305732W	O-Ring, Komatsu	1	76	R834000	Fitting	2
64	2311781	O-Ring, Komatsu	1	77	2311991	Harness Mounting	1
65	2311539	Adaptor, Pump	1	78	251199	Capscrew	1
66	2311577	Assembly, Hose	1				
68	2311865	Seal, Control Lever	1				
				*a	Use 318702W Thread Lock		

Hydraulic Filter Assembly **High Performance Winch (H5CH)** Caterpillar D6K (C80)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311261	Assembly, Filter	1				
1	2305713W	. Assembly, Filter	1	4	2311277	. Bracket, Mounting	1
	2305132W	. Head, Filter	1	5	134803W	. Screw, Flange	4
	2304112W	. Element, Filter	1	6	2310595	. Assembly, Hose	1
	2305712W	. Switch, Pressure	1	7	2311581	. Assembly, Hose	1
2	235314	. Fitting	1	8	2310918	. Label, Fa	1
3	R833115	. Fitting	1	9	2306157W	. Label, Fe	1

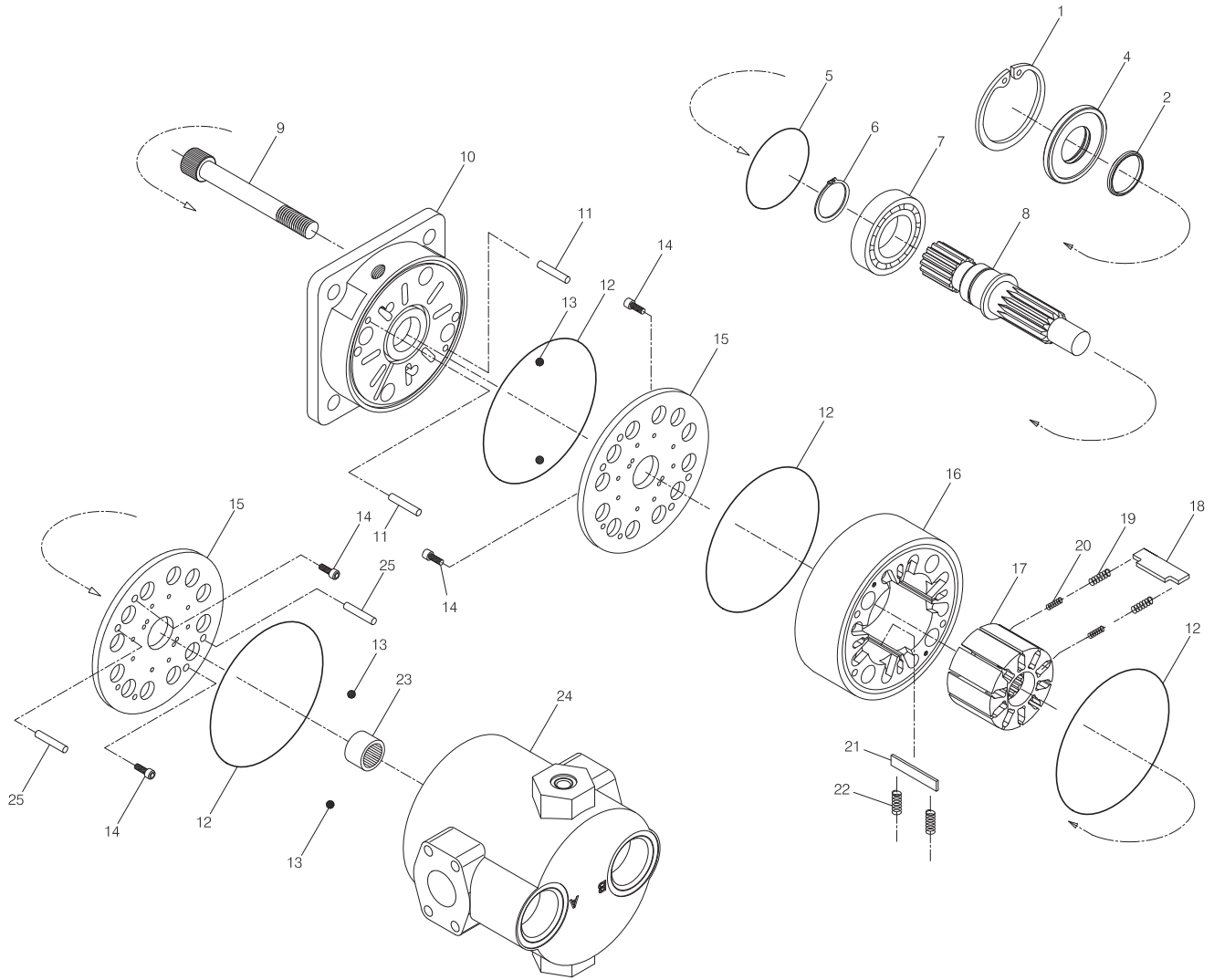
Hydraulic Motor, Two-Speed

High Performance Winch (H5CH)

John Deere 750J (E48)

Rescue Winch (H5CT)

Komatsu D51 (K37)



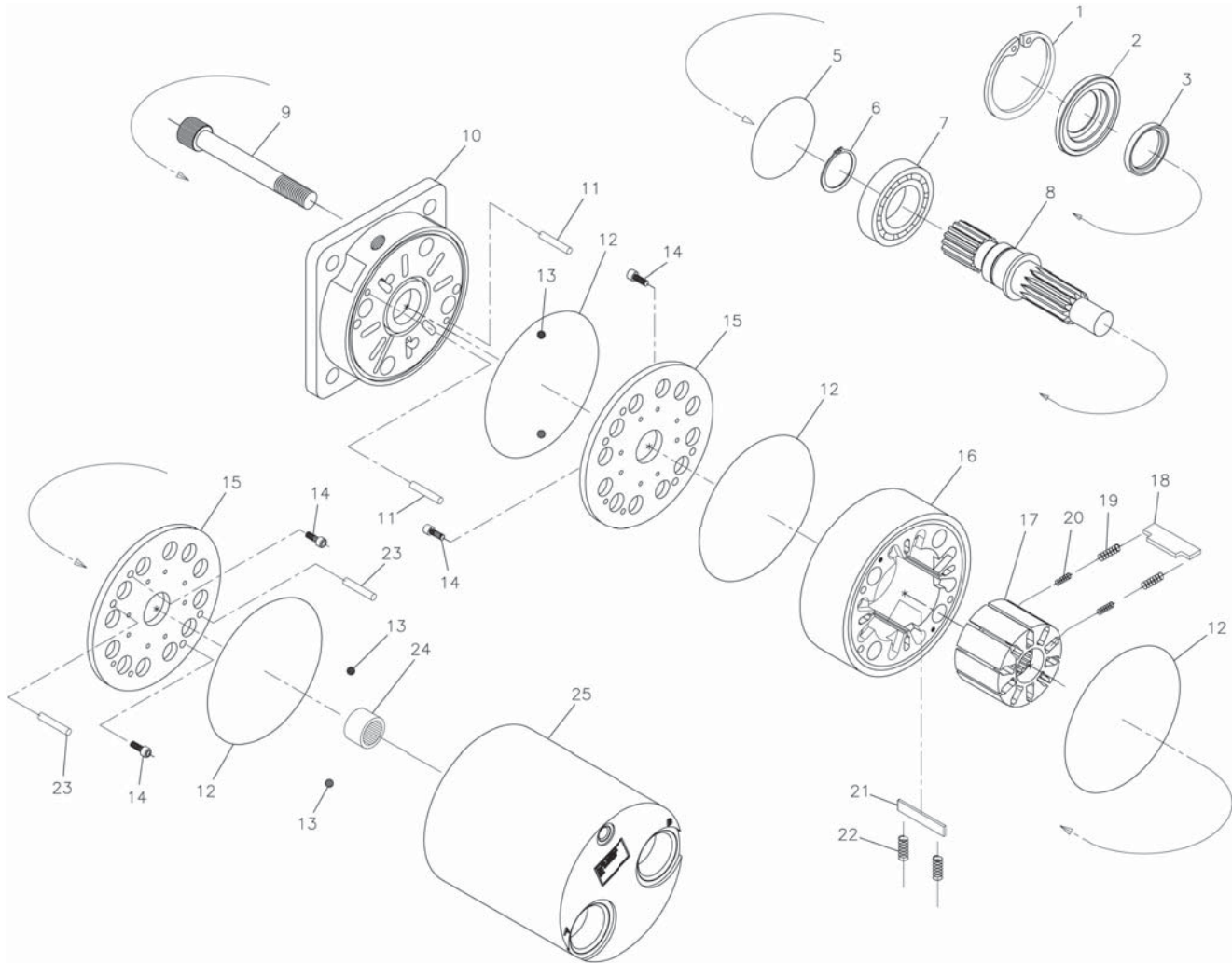
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306938W	Hydraulic Motor, 2-Speed	1				
1	*a 238060	. Ring, Snap	1	16	238070	. Stator	1
2	*a 238056	. Seal	1	17	238073	. Rotor	1
4	*a 238061	. Seal Plate	1	18	*b 238074	. Vane, Rotor	10
5	*a 238058	. O-Ring	1	19	*b 238075	. Spring, Outer	20
6	238062	. Ring, Snap	1	20	*b 238076	. Spring, Inner	20
7	238063	. Bearing	1	21	*b 238072	. Vane, Stator	4
8	238064	. Shaft	1	22	*b 238071	. Spring, Vane	8
9	238065	. Bolt	4	23	238078	. Bearing, Needle	1
10	NSS	. Housing	1	24	NSS	. Rear Housing	1
11	238067	. Pin, Front Dowel	2	25	238080	. Pin, Rear Dowel	2
12	*a 238059	. O-Ring	4				
13	238077	. Check, Ball	4				
14	238068	. Screw	4				
15	2307962W	. Plate, Timing	2				
					*a	Included in Seal Kit 2307244W	
					*b	Included in Vane & Spring Kit 246726	

Hydraulic Motor, Single Speed

Level 1, Rescue Winch (H5CT)

Caterpillar D6K (C80)

Komatsu D51-22 (K37)

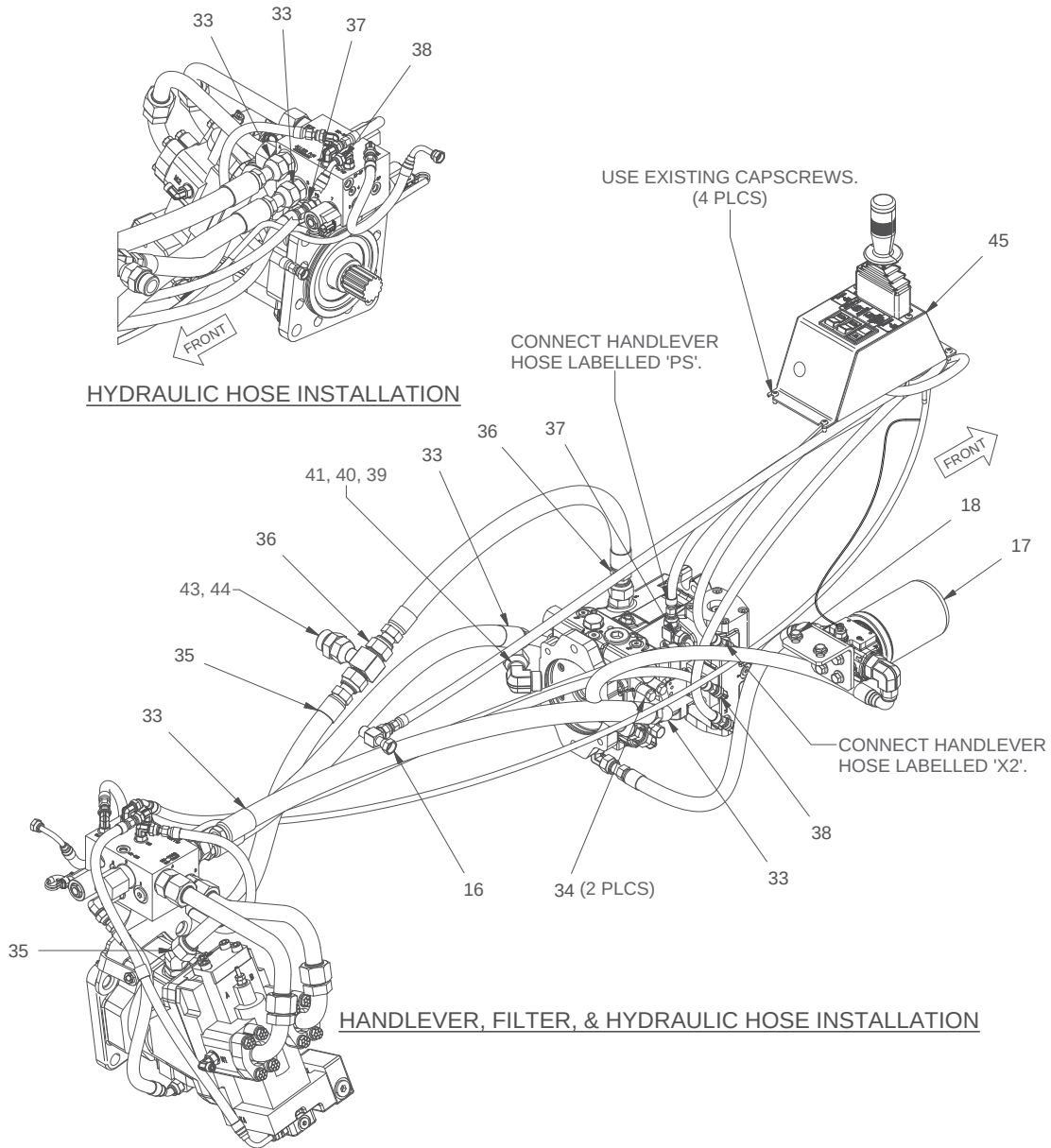


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307694W	Hydraulic Motor, Single Speed					
	2307289W	.. Motor, Single Speed Vane	1	15	2307962W	.. Timing Plate	2
1	*a 238060	.. Ring, Snap	1	16	238070	.. Stator	1
2	*a 238061	.. Plate, Seal	1	17	238073	.. Rotor	1
3	*a 238056	.. Seal	1	18	*b 238074	.. Vane, Rotor	10
5	*a 238058	.. O-Ring	1	19	*b 238075	.. Spring, Outer	20
6	238062	.. Ring, Snap	1	20	*b 238076	.. Spring, Inner	20
7	238063	.. Bearing	1	21	*b 238072	.. Vane, Stator	4
8	238064	.. Shaft	1	22	*b 238071	.. Spring, Vane	8
9	238065	.. Bolt	4	23	238080	.. Pin, Rear Dowel	2
10	NSS	.. Housing	1	24	238078	.. Bearing, Needle	1
11	238067	.. Pin, Front Dowel	2	25	NSS	.. Housing, Rear	1
12	*a 238059	.. O-Ring	4				
13	238077	.. Check, Ball	4				
14	238068	.. Screw	4				
					*a	Included in Seal Kit 2307244W	
					*b	Included in Vane & Spring Kit 246726	

Control Lever Installation

High Performance Winch (H5CH)

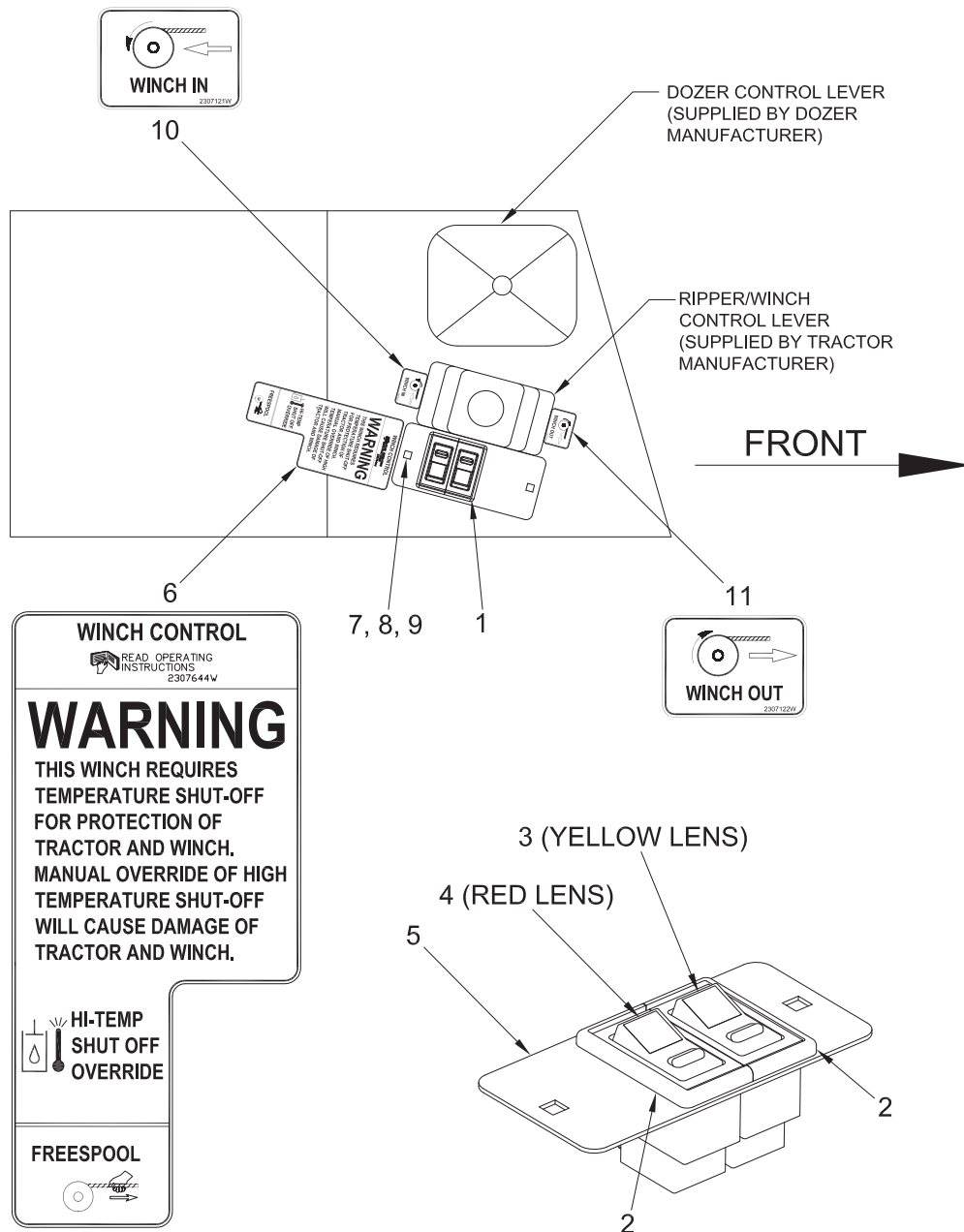
Caterpillar D6K (C80)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
16	231955	Fitting	1	38	2311541	Assembly, Hose	1
17	2311261	Assembly, Filter (See 3-34)	1	39	R833804	Fitting	1
18	2303609W	Screw, Flange	2	40	2311560	Assembly, Hose	1
33	2311564	Assembly, Hose	2	41	2311561	Assembly, Hose	1
34	229447	Kit, Split Flange	2	43	2311097	Fitting	1
35	R12303	Assembly, Hose	1	44	R833127	Fitting	1
36	2311582	Assembly, Hose	1	45	2313790	Assembly, Control Lever (See 3-55)	1
37	2311562	Assembly, Hose	1				

Control Lever Installation

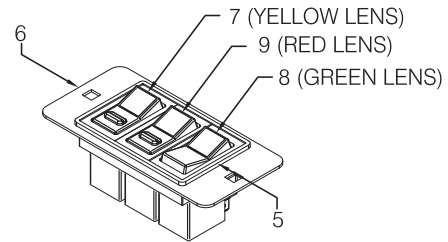
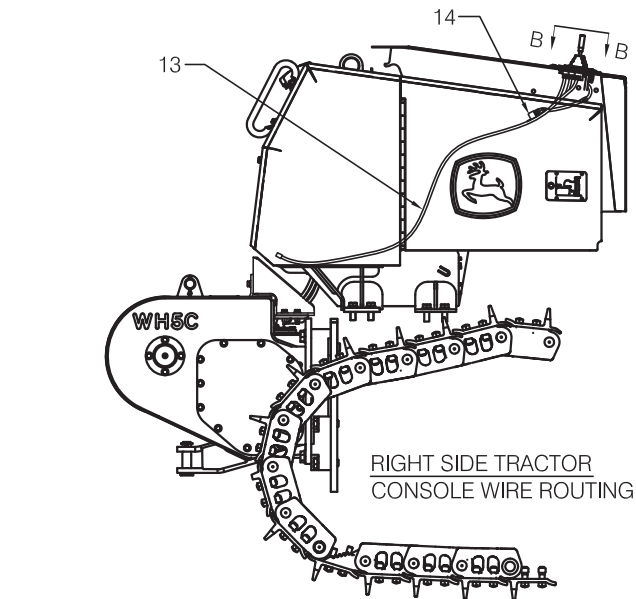
John Deere 700J (E39)



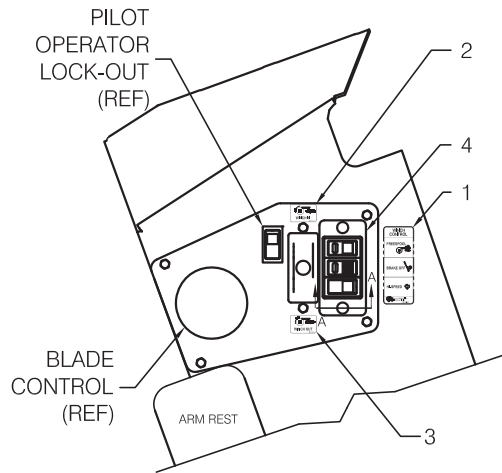
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2310616	Assembly, Switch Panel	1	7	220000W	Bolt	2
2	234505	. Frame, Mounting	2	8	15113W	Nut	4
3	2310013	. Assembly, Switch	1	9	15127W	Washer	6
4	2310506	. Assembly, Switch	1	10	2307121W	Decal, Winch In	1
5	2310602	. Plate, Switch Mounting	1	11	2307122W	Decal, Winch Out	1
6	2307644W	Decal, Swith Panel	1				

Control Lever Installation

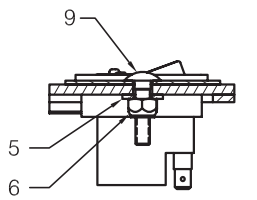
John Deere 750J (E48)



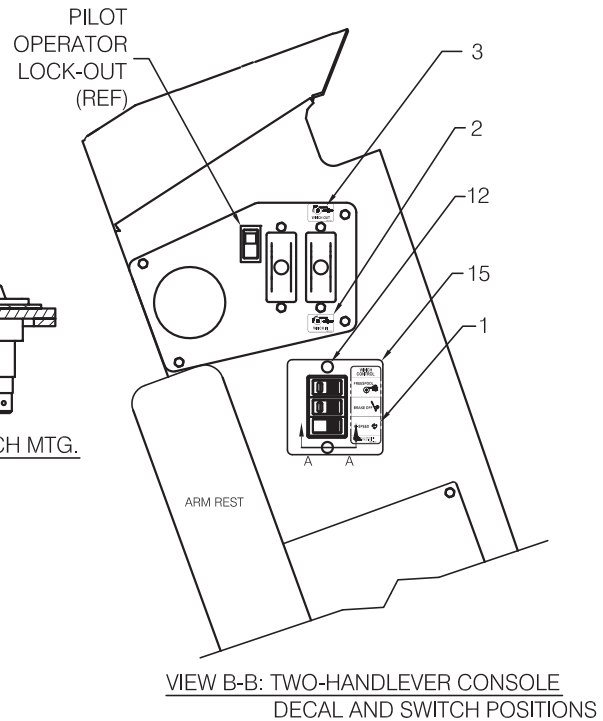
SWITCH PANEL ASSEMBLY



VIEW B-B: SINGLE HANDLEVER CONSOLE
DECAL AND SWITCH POSITIONS



VIEW A-A: SWITCH MTG.



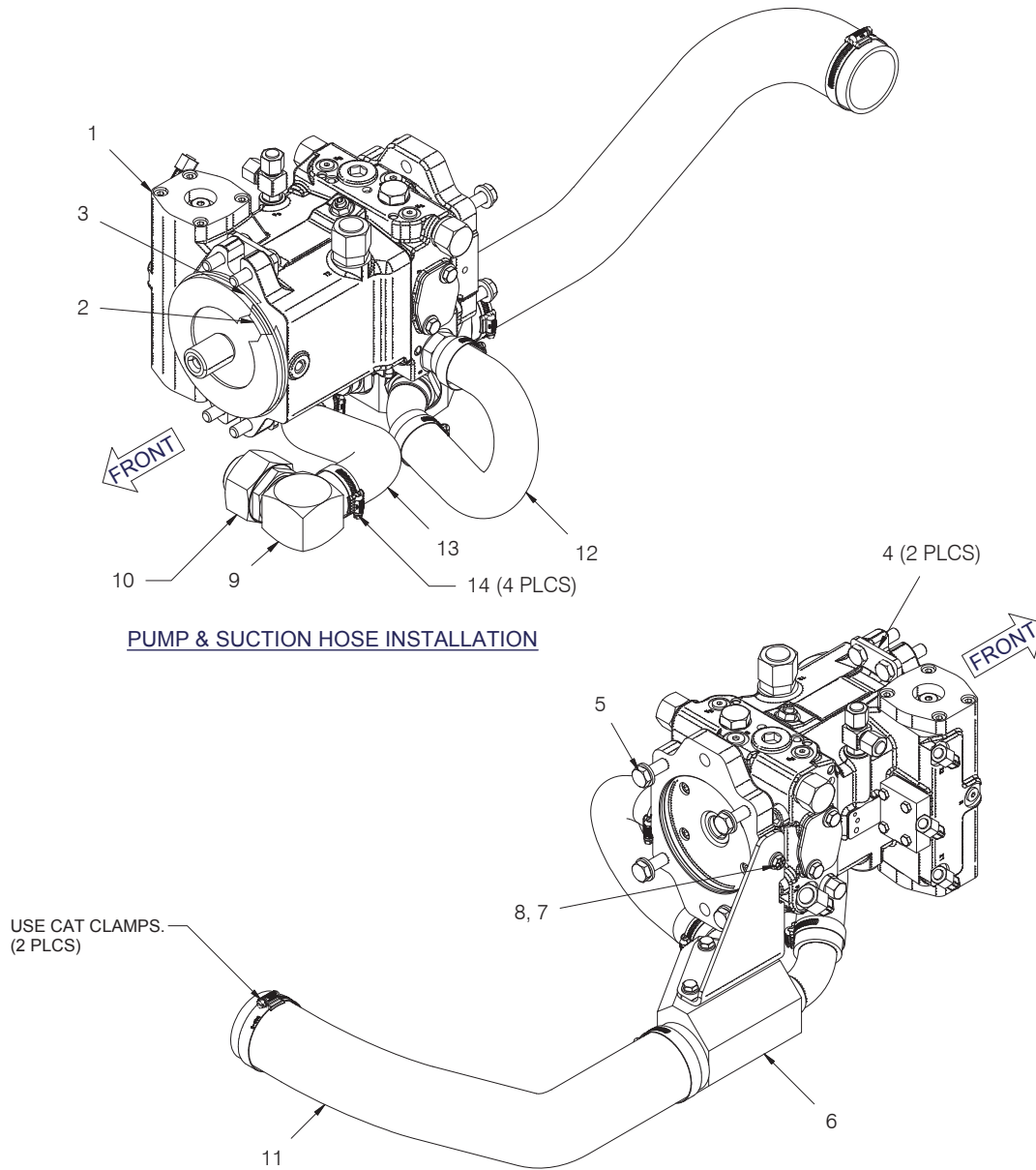
VIEW B-B: TWO-HANDLEVER CONSOLE
DECAL AND SWITCH POSITIONS

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2307054W	Decal, Switch Panel	1	9	2310504	. Assembly, Switch	1
2	2307121W	Decal, Winch In	1	10	15127W	Washer	2
3	2307122W	Decal, Winch Out	1	11	15133W	Nut	2
4	2307051W	Assembly, Switch Panel	1	12	220000W	Bolt	2
5	234740	. Frame, Mounting	1	13	2307292W	Wire Harness	AR
6	2307057W	. Plate, Switch Mounting	1	14	R13661	Relay	1
7	2310013	. Assembly, Switch	1	15	2307532W	Plate, Switch Mounting	1
8	2310502	. Assembly, Switch	1				

Pump & Suction Hose Installation

High Performance Winch (H5CH)

Caterpillar D6K (C80)

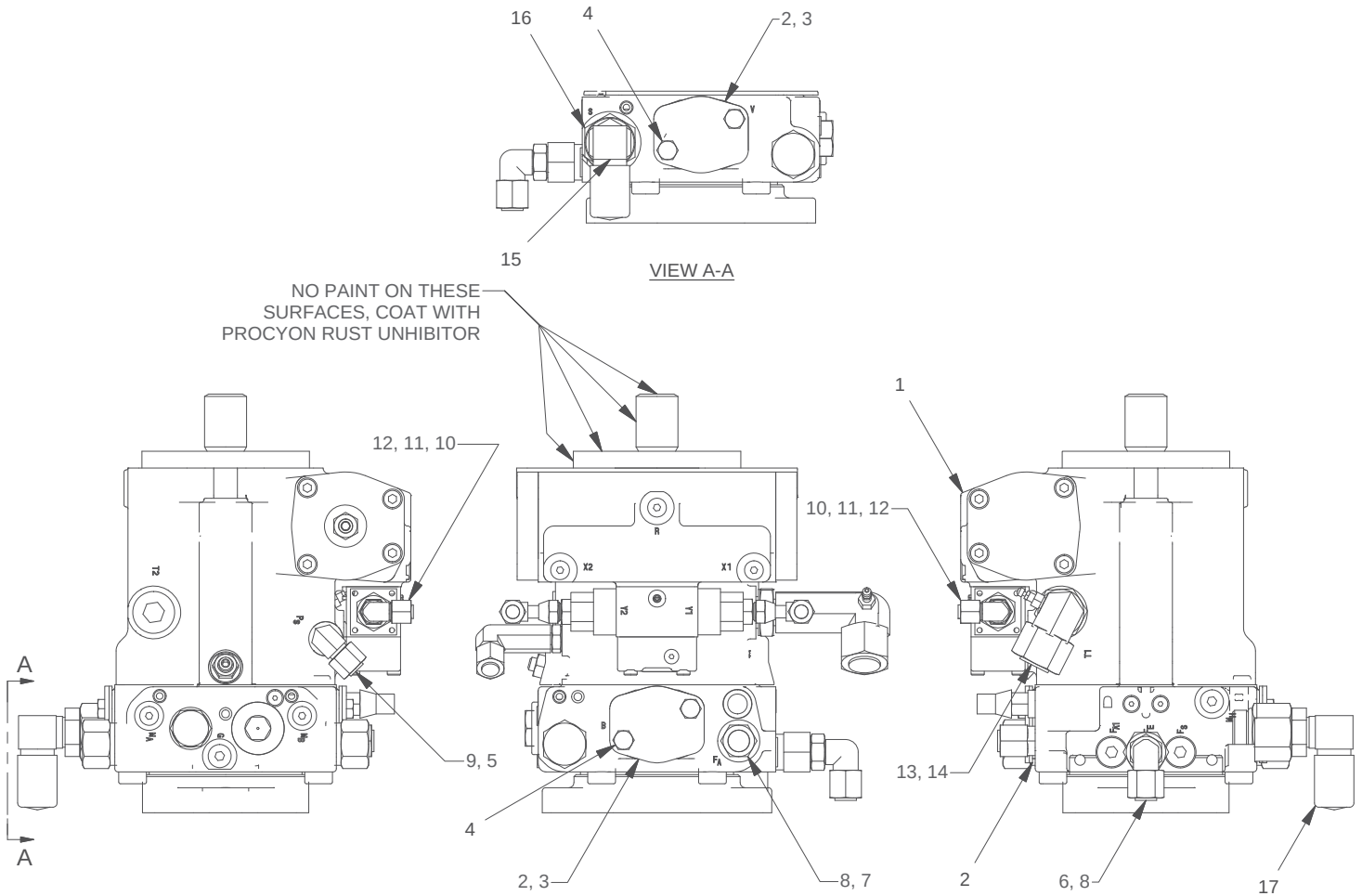


PUMP & SUCTION HOSE INSTALLATION

PUMP & SUCTION HOSE INSTALLATION

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2311085	Assembly, Pump, D6K	1	8	R13802914	Washer, Hard	1
2	39749W	O-Ring	1	9	222513	Fitting	1
3	39758W	O-Ring	1	10	2311098	Fitting	1
4	2311547	Plate, Pump Ear	2	11	2311069	Hose	1
5	293647W	Capscrew	4	12	2311091	Hose, Winch Pump	1
6	2311252	Assembly, Block "Y"	1	13	2311092	Hose, Transmission Pump	1
7	R13811011	Capscrew	1	14	206289	Clamp, Hose	4

Pump Assembly **High Performance Winch (H5CH)** Komatsu D51-22 (K37)



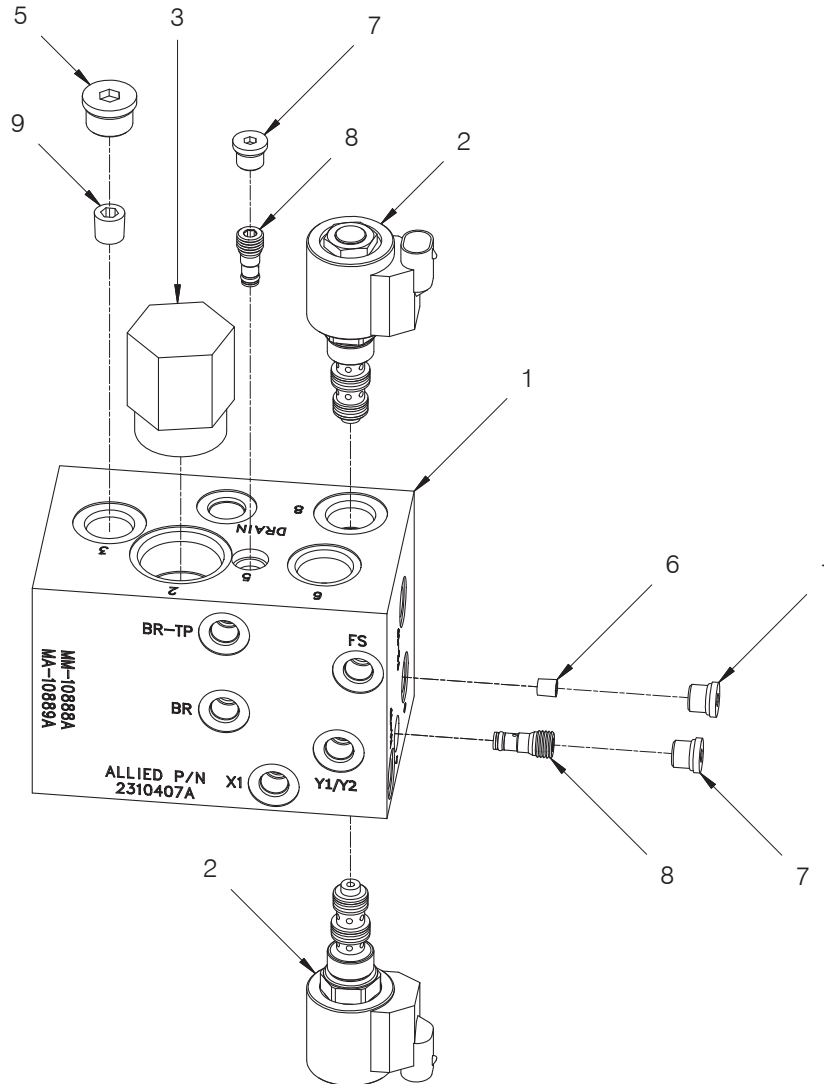
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311535	Pump Assembly	1				
1	2306424W	. Pump, Hydrostatic 56CC	1	10	R833103	. Fitting	2
2	2304257W	. Gasket	2	11	R833800	. Fitting	2
3	2304258W	. Plate	2	12	232984	. Fitting	2
4	18535W	. Capscrew	4	13	2311868	. Assembly, Bleeder Fitting	1
5	R833301	. Fitting	1	14	231821	. Fitting	1
6	231452	. Fitting	1	15	127574W	. Fitting	1
7	231441	. Fitting	1	16	218181	. Fitting	1
8	R834253	. Fitting	2	17	2311828	. Cap	1
9	231822	. Fitting	1				

Control Manifold Assembly

High Performance Winch (H5CH)

Caterpillar D6K (C80)

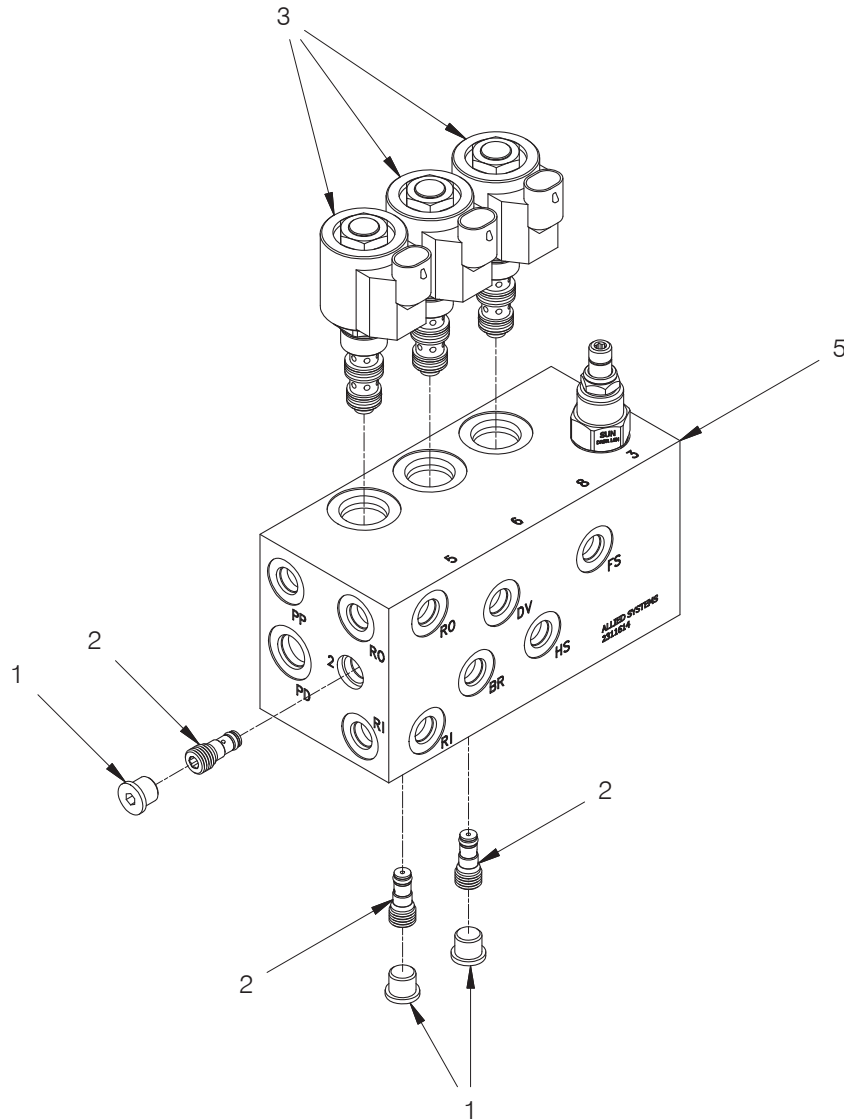
Komatsu D51-22 (K37)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2310407	Manifold, Control	1				
1	Ref.	. Manifold, Control Block	1	5	229345	. Fitting	1
2	2310430	. Valve, Solenoid Cartridge	2	6	2310369	. Plug, Orifice	1
	R15668	. . Kit, Seal	1	7	235387	. Fitting	3
	252134	. . Valve	1	8	2307227W	. Valve, Cartridge Shuttle	2
	2313921	. . Coil	1		2307231W	. . Kit, Seal	1
3	2307461W	. Valve, Directional	1	9	2310368	. Plug, Orifice	1
	2313495	. . Kit, Seal	1				

Control Manifold Assembly

High Performance Winch (H5CH)

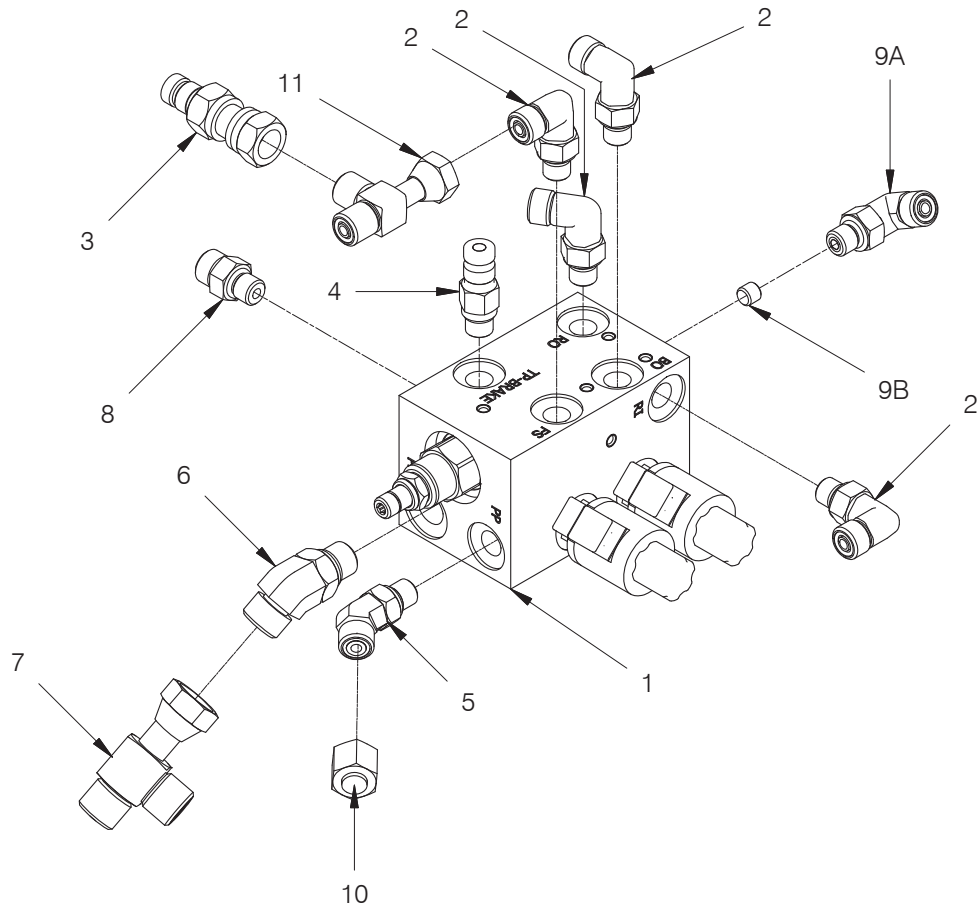


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311614	Manifold, Control	1				
1	222442W	. Fitting	3		252134	. . Valve	1
2	2307227W	. Valve, Cartridge Shuttle	2		2313921	. . Coil, Valve	1
	2307231W	. . Kit, Seal	1	5	Ref.	. Manifold, Control Block	1
3	2310430	. Valve, Solenoid Cartridge	3	6	2311592	. Valve, Directional	1
	R15668	. . Kit, Seal	1				

Control Manifold Assembly

Rescue Winch (H5CT)

Caterpillar D6K (C80)

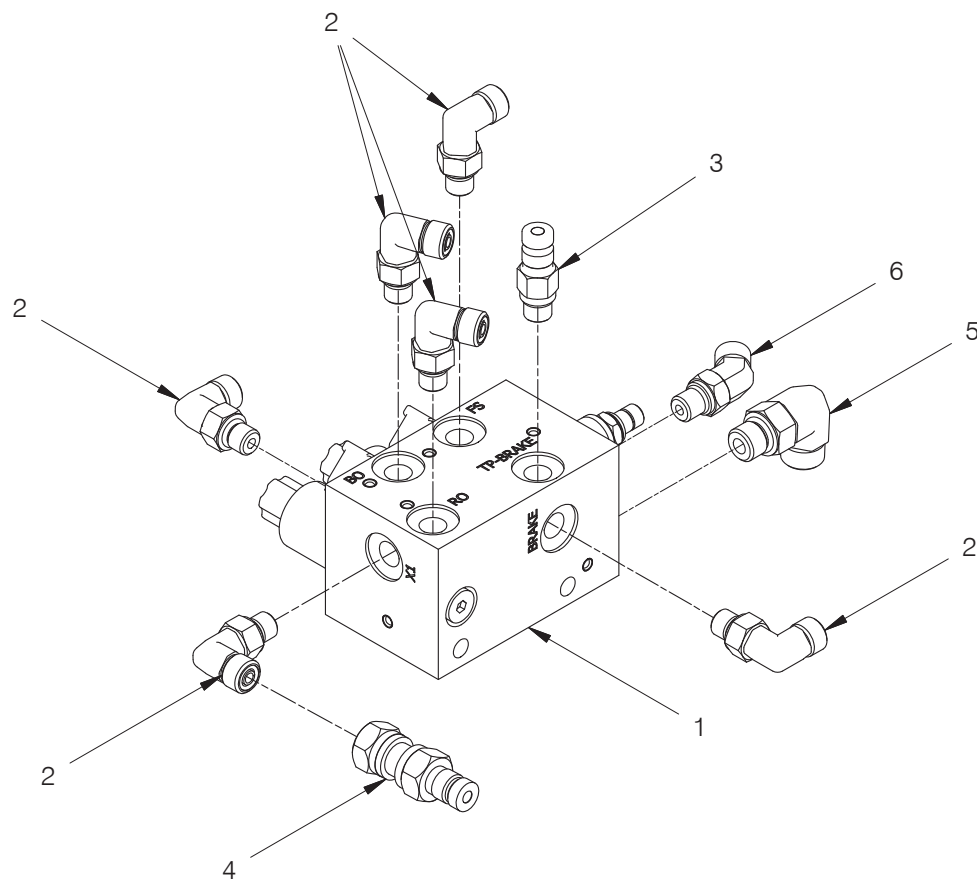


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313635	Assembly, Control Manifold	1				
1	2311770	. Assembly, Control Manifold	1	8	231439	. Fitting	1
2	R833251	. Fitting	4	9	2311500	. Assembly, Orifice Fitting	1
3	2307625W	. Coupler, Quick Male	1	9A	2311499	. . Fitting, Modified	1
4	R14040	. Coupler, Q.D. Male	1	9B	2310181	. . Plug, Orifice	1
5	R833200	. Fitting	1	10	232984	. Fitting	1
6	R833204	. Fitting	1	11	236855	. Fitting	1
7	231955	. Fitting	1				

Control Manifold Assembly

Hi-Performance Winch (H5CH)

Caterpillar PL61 (C391)

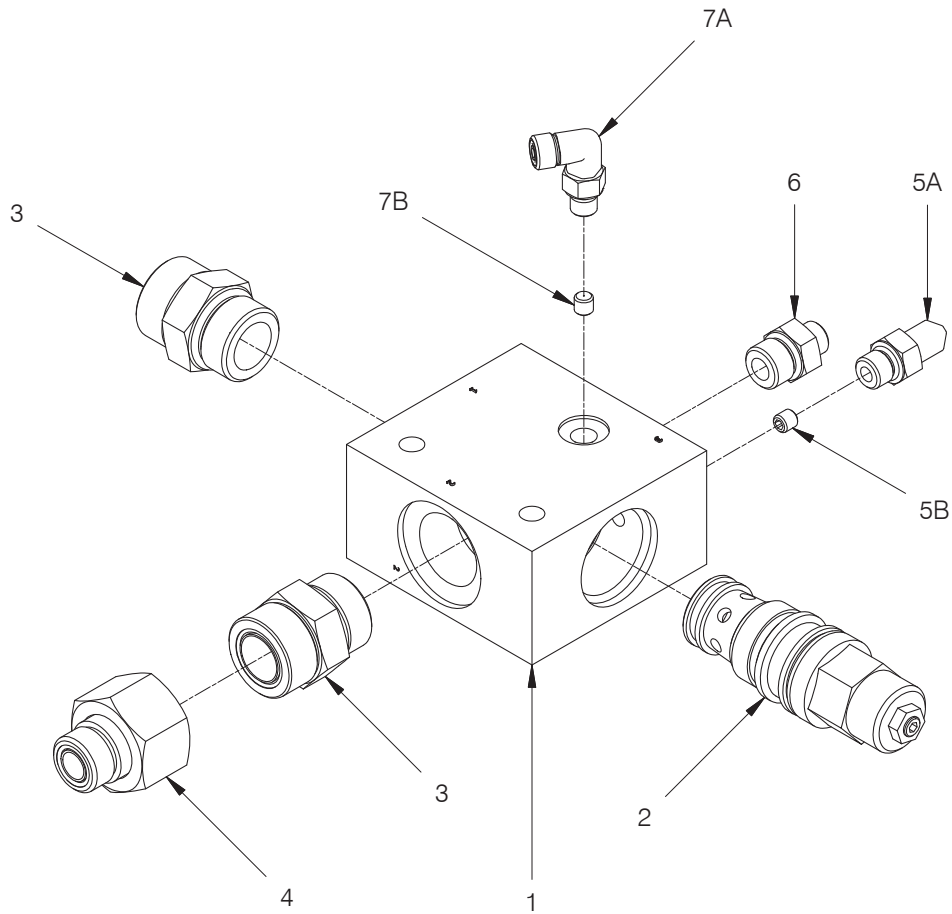


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313473	Assembly, Control Manifold	1				
1	2311770	. Assembly, Control Manifold	1	4	2307625W	. Coupler, Quick Male	1
2	R833251	. Fitting	6	5	R833257	. Fitting	1
3	R14040	. Coupler, Q.D. Male	1	6	R833200	. Fitting	1

Counterbalance Manifold Assembly

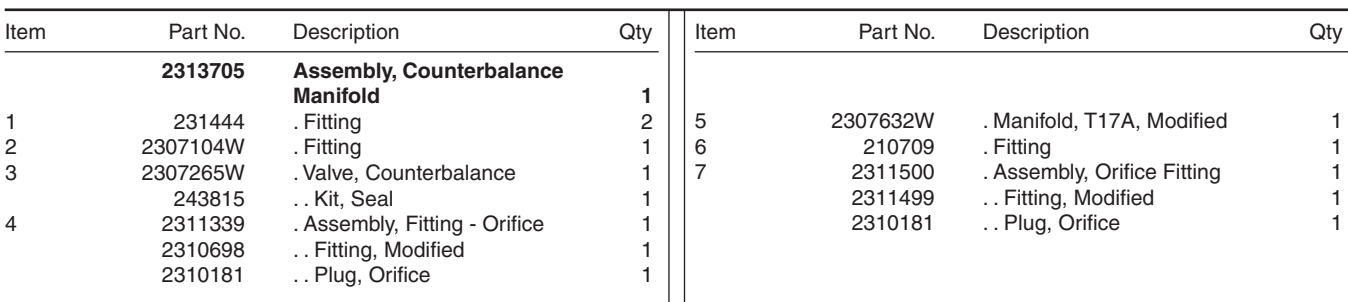
Rescue Winch (H5CT)

Caterpillar D6K (C80)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313634	Assembly, Counterbalance Manifold	1				
1	2307632W	. Manifold, T17A, Modified	1	5A	2310698	. . Fitting, Modified	1
2	2307265	. Valve, Counterbalance	1	5B	2310181	. . Plug, Orifice	1
	243815	. . Kit, Seal	1	6	R833104	. Fitting	1
3	231444	. Fitting	2	7	2311500	. Assembly, Orifice Fitting	1
4	2307104W	. Fitting	1	7A	2311499	. . Fitting, Modified	1
5	2311339	. Assembly, Fitting, Orifice	1	7B	2310181	. . Plug, Orifice	1

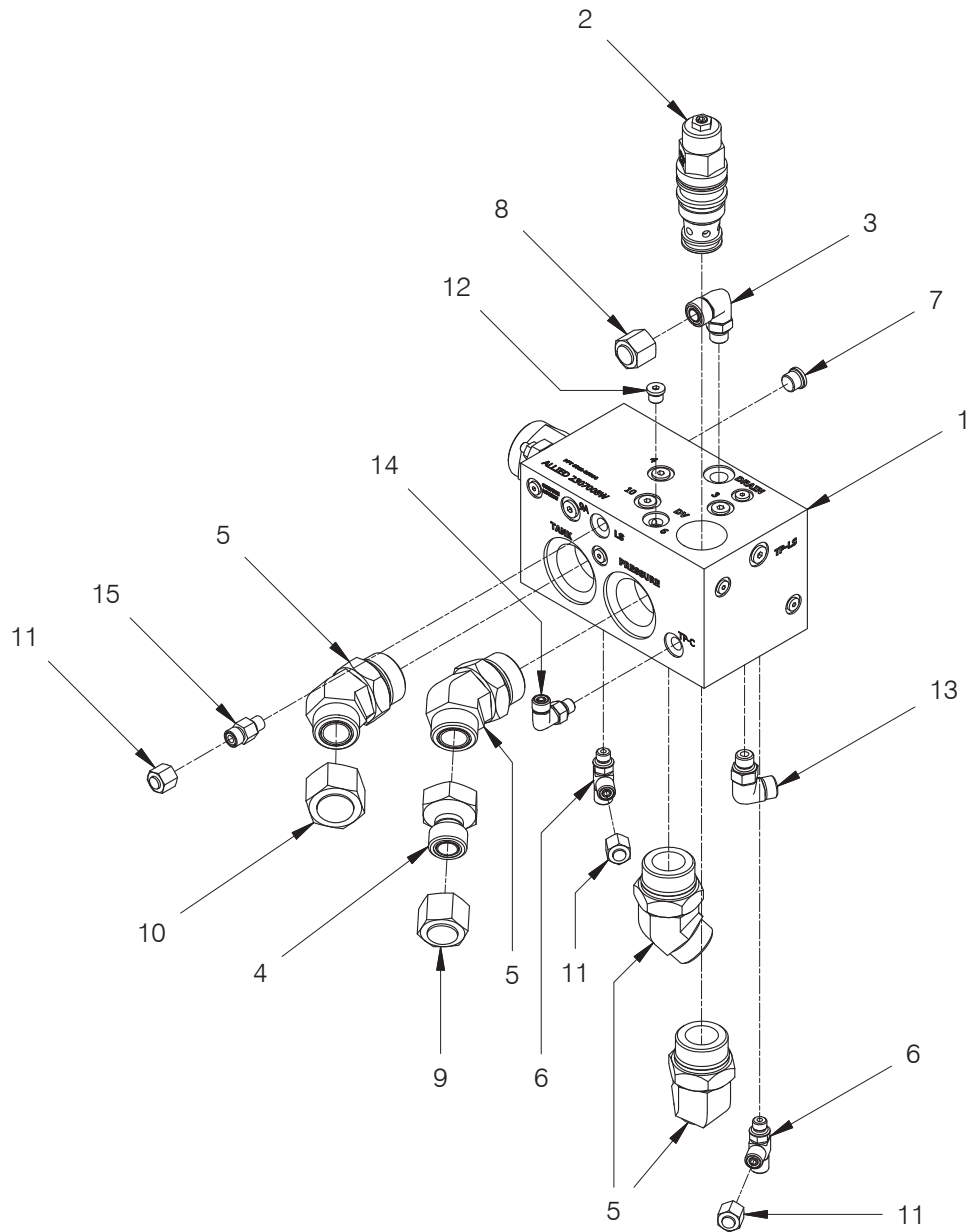
Komatsu D51-22 (K37)



Directional Manifold Assembly

Hi-Performance Winch (H5CH)

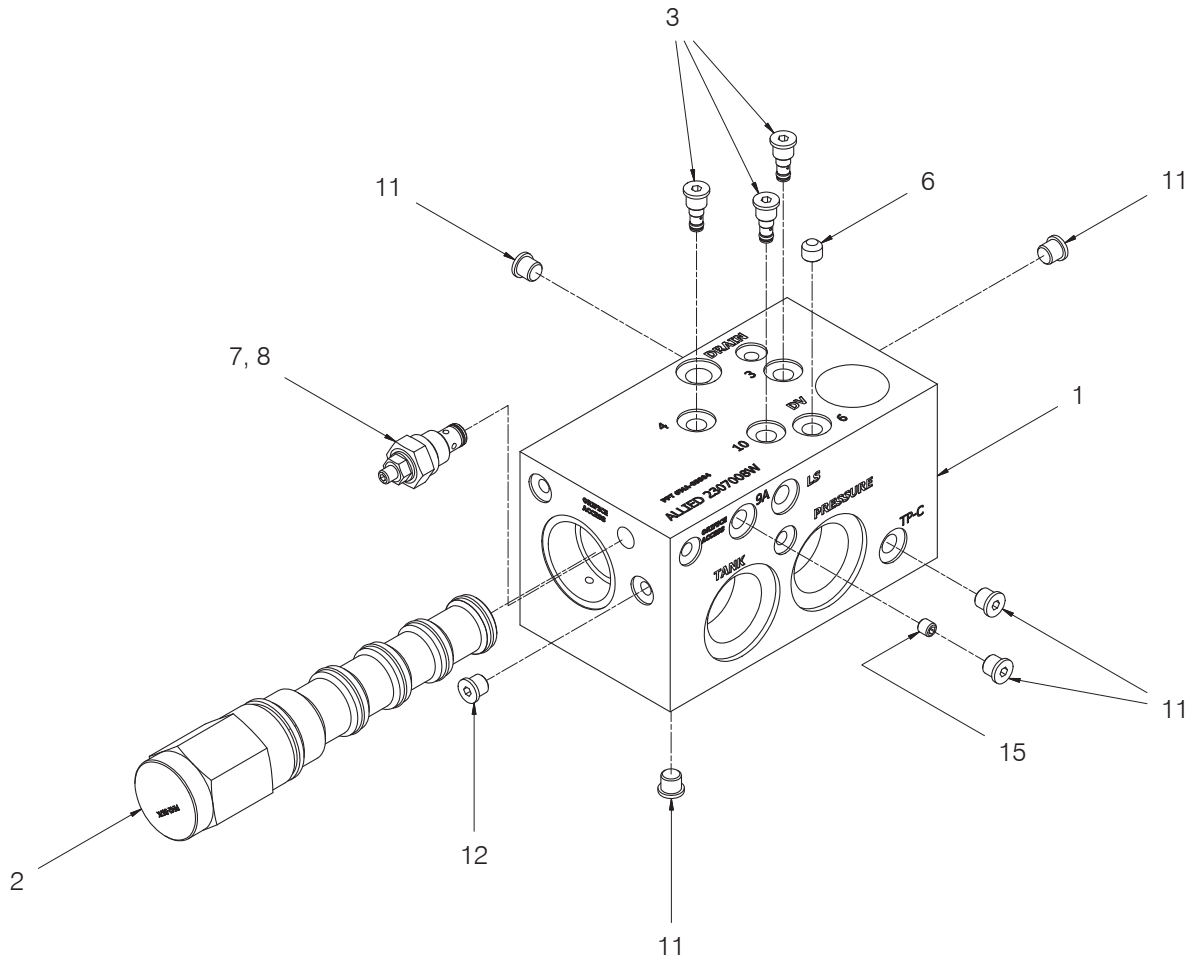
Caterpillar PL61 (C391)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313486	Assembly, Directional Manifold	1				
1	2307008W	. Manifold, Directional	1	8	R834253	. Fitting	1
2	2307265W	. Valve, Counter Balance	1	9	231821	. Fitting	1
	243815	. . Kit, Seal	1	10	231820	. Fitting	1
3	R833261	. Fitting	1	11	232984	. Fitting	3
4	234191	. Fitting	1	12	235387	. Fitting	1
5	R833218	. Fitting	4	13	R833257	. Fitting	1
6	R833400	. Fitting	2	14	2311500	. Assembly, Orifice Fitting	1
7	229383	. Fitting	1	15	2313661	. Valve, Check	1

Directional Manifold Assembly

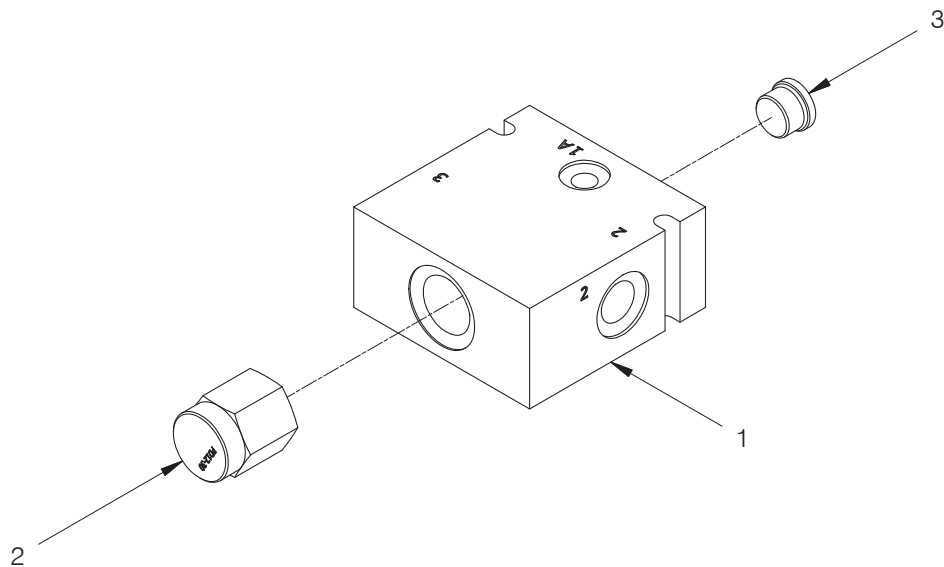
John Deere 750J (E48)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307008W	Assembly, Directional Manifold	1				
1	2307232W	. Manifold Body	1		2307246W	. . Kit, Seal	1
2	2307024W	. Valve, Proportional Cartridge Spool	1	11	222442W	. Fitting, O-Ring	5
	2307235W	. . Kit, Seal	1	12	2310978W	. Orifice	1
3	2307234W	. Valve, Cartridge Check	3	15	2307736W	. Orifice	1
	2307245W	. . Kit, Seal	9				
6	*a, *b 220998W	. Screw	1	*a	Use 251099W Adhesive Sealant		
6	*c 2312132	. Fitting, Orifice	1	*b	Last Used on S/N H6G-1042		
7	2307233W	. Plug, Orifice	1	*c	First Used on S/N H6G-1043		
8	2307236W	. Valve, Cartridge Relief	1				

Brake-Off Manifold

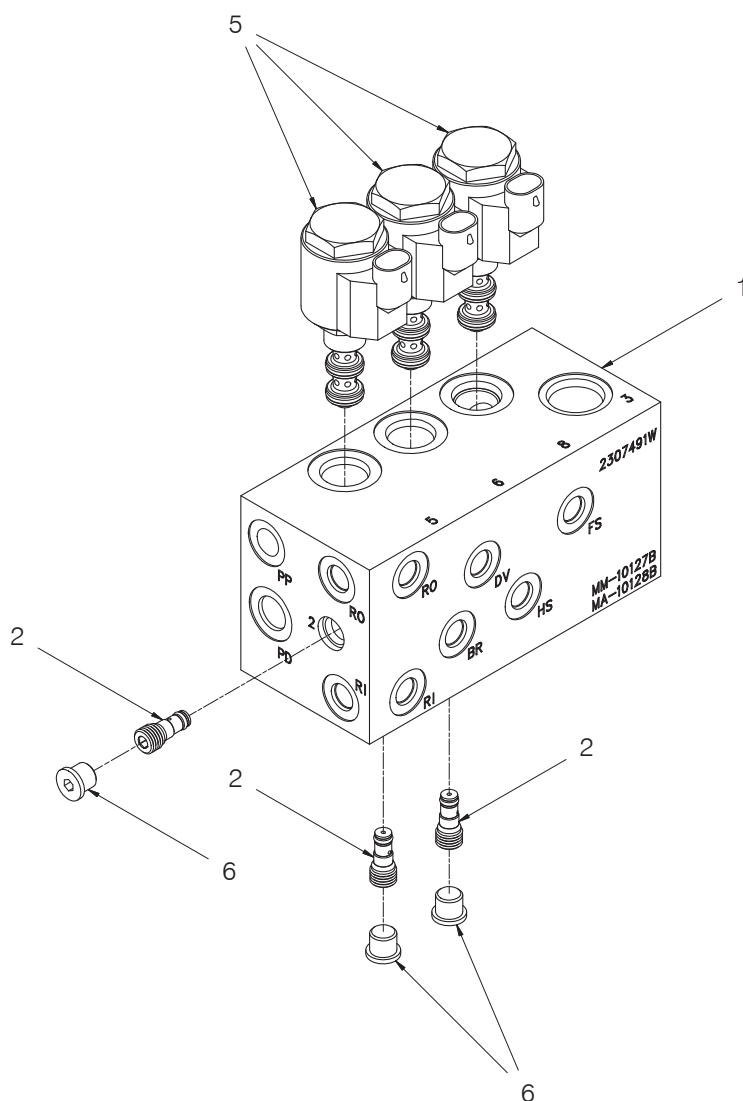
John Deere 750J (E48)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307443W	Manifold, Brake-Off	1				
1	2307444W	. Manifold, Modified	1	3	229345	. Fitting	1
2	2310576	. Valve, Directional	1				
	2307154W	. . Kit, Seal	1				

Logic Manifold, Series II

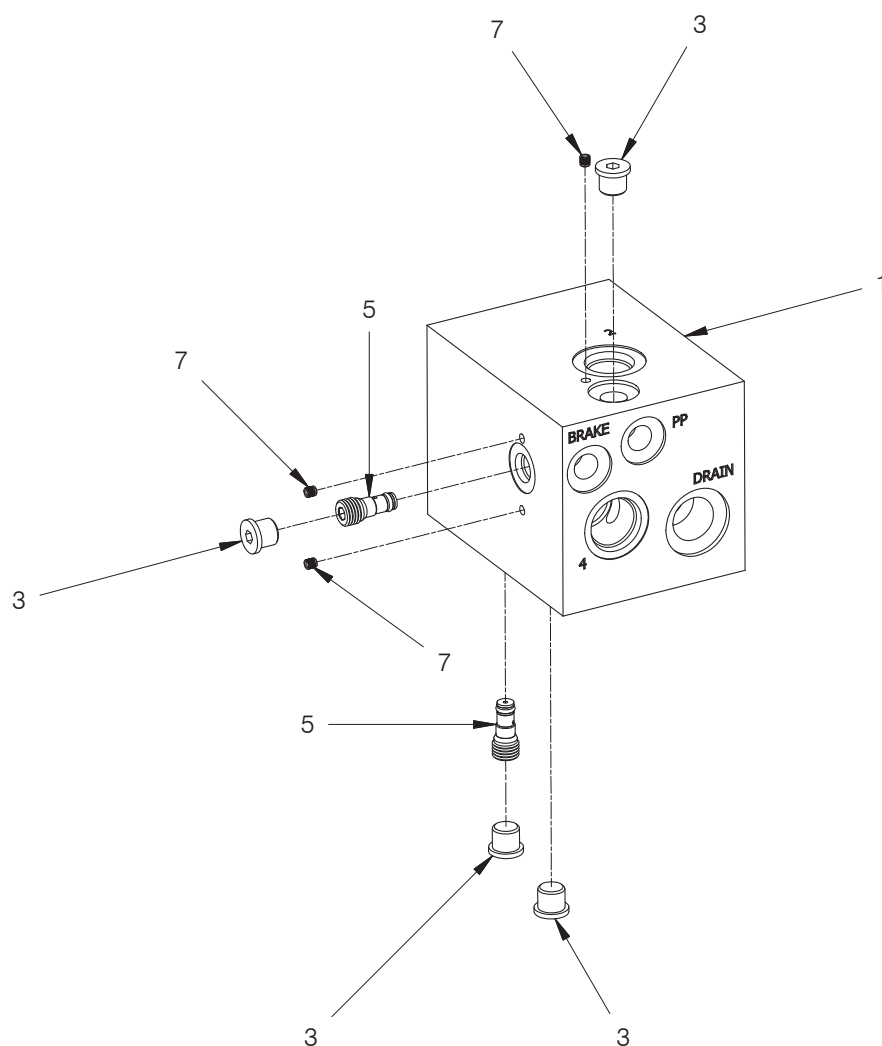
John Deere 750J (E48)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307491W	Manifold, Logic Series II	1				
1	2307511W	. Manifold Body, Logic Control	1	5	250365	. Cartridge, Valve	3
2	2307227W	. Valve, Cartridge Shuttle	3		250589	. . Coil	1
	2307231W	. . Seal Kit	1	6	222442W	. Fitting, O-Ring	3

Control Valve

Rescue Manifold Assembly

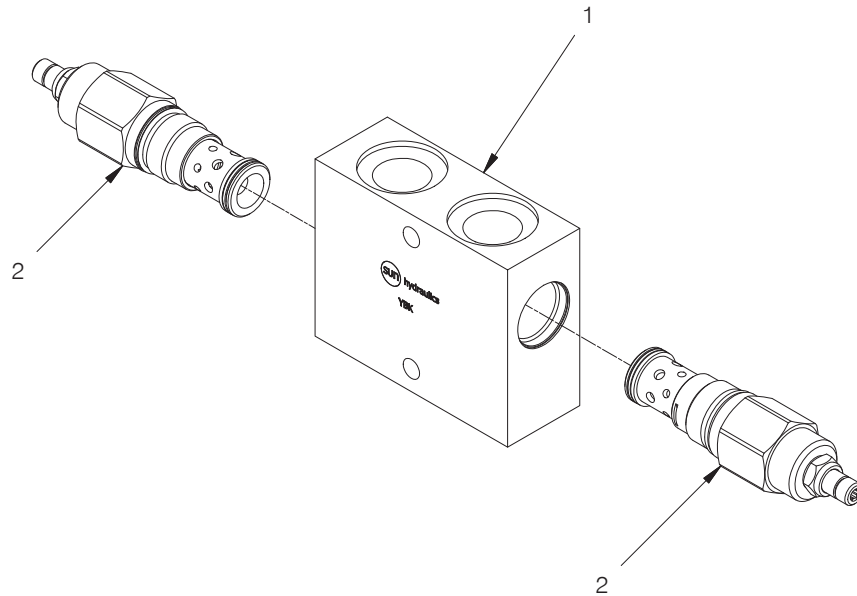


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307551W	Valve, Control - Rescue Manifold Assembly	1				
1	2307550W	. Manifold, Control	1	5	2307227W	. Valve, Cartridge Shuttle	2
3	222442W	. Fitting, O-Ring	4		2307231W	. . Seal Kit	1
				7	2307480W	. Plug, Expansion	3

Cross Port Relief Assembly

Rescue Winch (H5CT)

Komatsu D51-22 (K37)



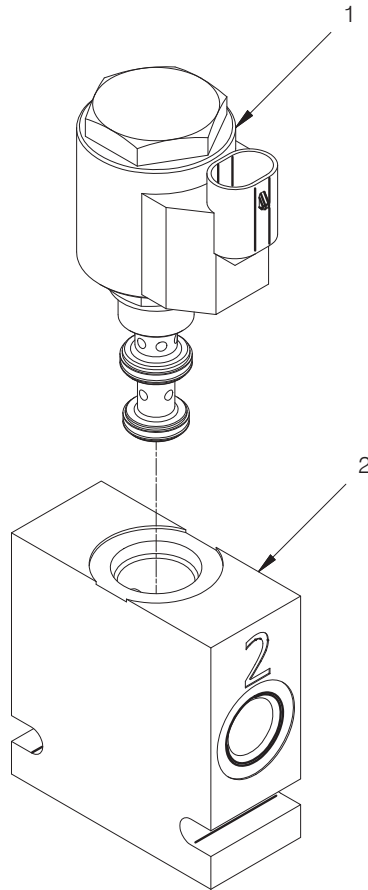
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307440W	Assembly, Cross Port Relief	1				
1	2307439W	. Body, Manifold	1		253623	. . Kit, Seal	1
2	2307438W	. Valve, Relief	2		255601	. . Kit, Seal	1

Manifold Valve Assembly**High Performance Winch (H5CH)**

John Deere 700J (E39)

Rescue Winch (H5CT)

Komatsu D51-22 (K37)

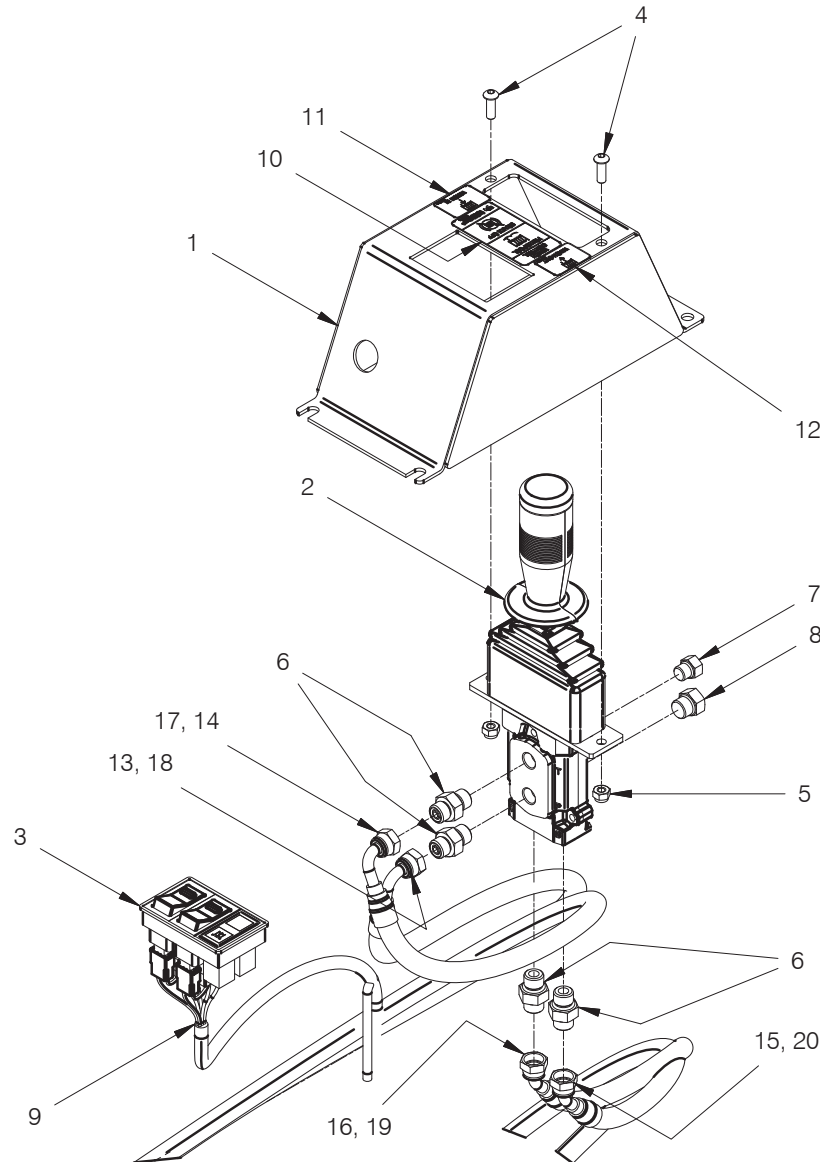


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2307833W	Assembly, Manifold Valve	1				
	2307834W	. Valve, Cartridge - 3 Way Solenoid	1		250589	. . Coil, Solenoid	1
	2307835W	. . Valve, Cartridge - 3 Way No Solenoid	1		R15668	. . Kit, Seal	1
				2	R12973129	. Body, Valve	1

Control Lever Assembly

High Performance Winch (H5CH)

Caterpillar D6K (C80)

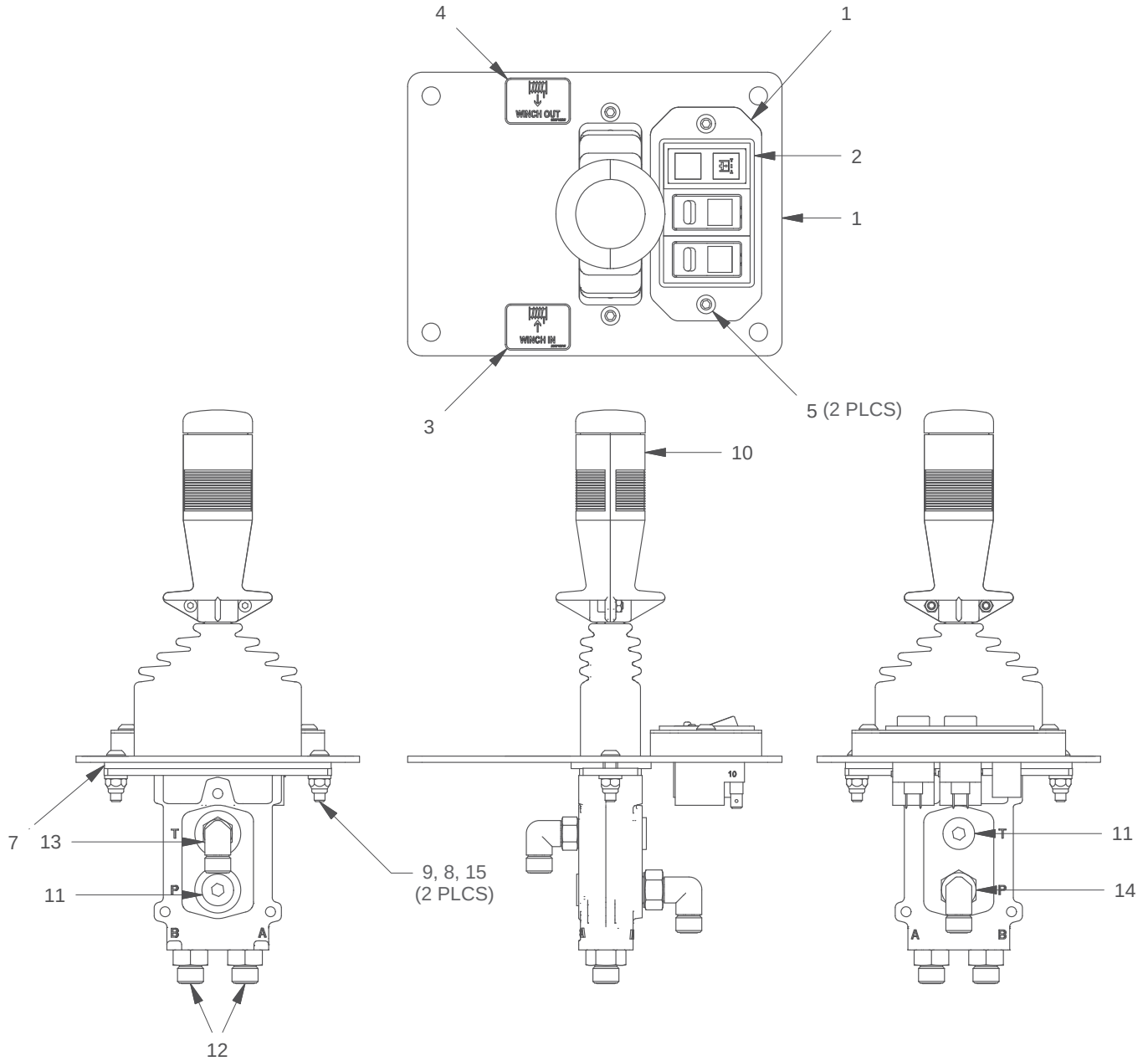


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313790	Assembly, Control Lever	1				
1	2311071	. Bracket, Control Lever	1	11	2307121W	. Decal, Winch In	1
2	2310929	. Control Lever, Pilot Controller (See 3-58)	1	12	2307122W	. Decal, Winch Out	1
3	2311350	. Assembly, Switch (See 3-59)	1	13	2306152W	. Label, PS	1
4	18720W	. Capscrew	2	14	2306151W	. Label, T	1
5	15113W	. Nut	2	15	2306154W	. Label, X2	1
6	R833103	. Fitting	4	16	2306155W	. Label, X1	1
7	209423	. Fitting	1	17	2313783	. Assembly, Hose	1
8	212762	. Fitting	1	18	2311534	. Assembly, Hose	1
9	2311344	. Console, Wire Harness	1	19	2313784	. Assembly, Hose	1
10	2310414	. Decal, Switch Panel	1	20	2313785	. Assembly, Hose	1

Control Lever Assembly

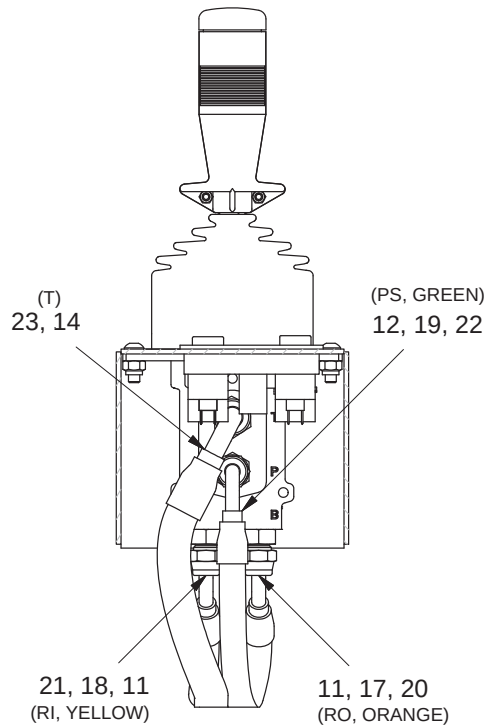
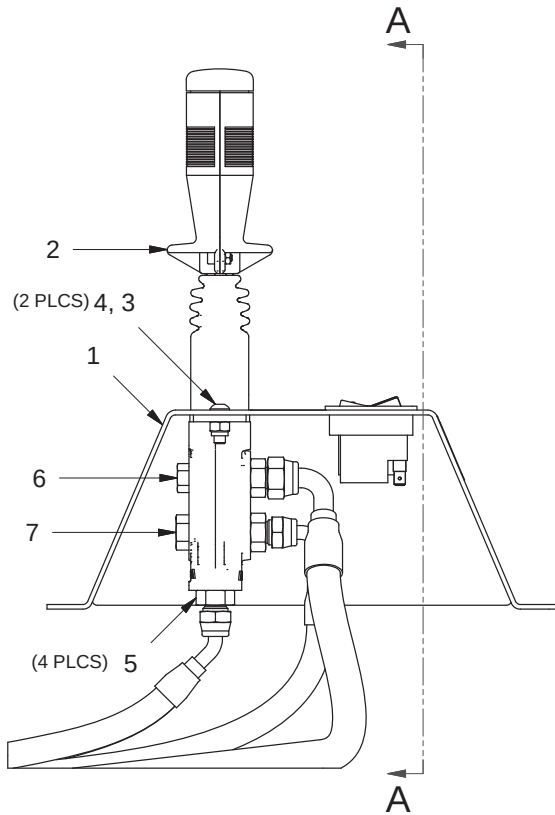
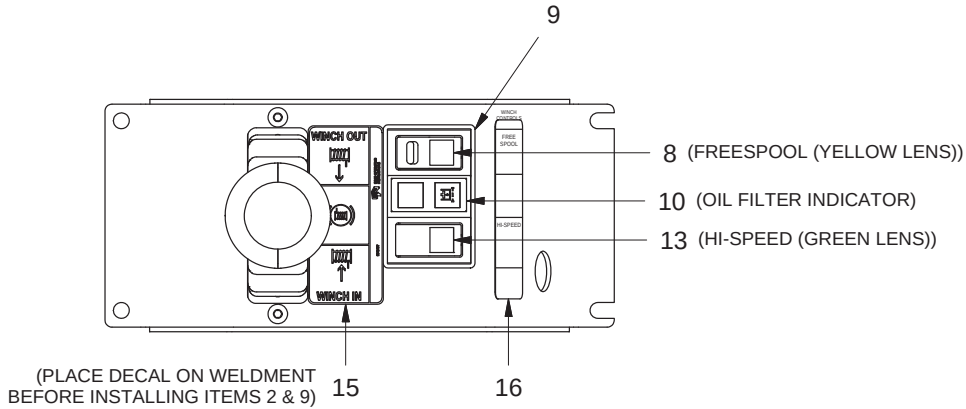
High Performance Winch (H5CH)

Komatsu D51-22 (K37)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311532	Assembly, Control Lever	1				
1	2311531	. Control Lever Bracket	1	9	R13808536	. Capscrew	2
2	2311350	. Switch Assembly (See 3-59)	1	10	2310929	. Control Lever, Pilot Controller (See 3-58)	1
3	2307121W	. Decal, Winch In	1	11	229383	. Fitting	2
4	2307122W	. Decal, Winch Out	1	12	R833103	. Fitting	2
5	296157W	. Capscrew	2	13	R833251	. Fitting	1
6	2311863	. Plate, Switch Mounting	1	14	R833253	. Fitting	1
7	2311992	. Plate, Control Lever Spacer	1	15	296417W	. Washer	2
8	302399W	. Nut	2				

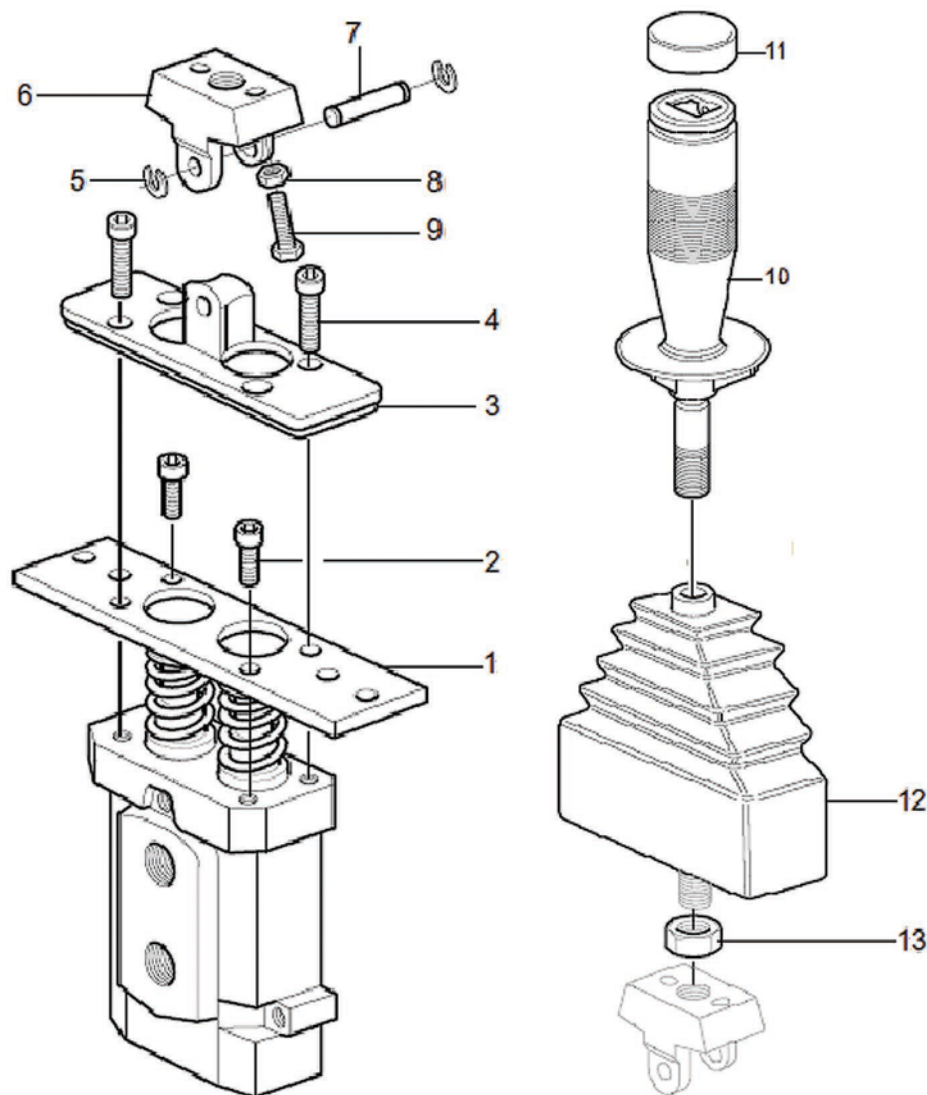
Control Lever Assembly **High Performance Winch (H5CH)** Caterpillar PL61 (C391)



SECTION A-A

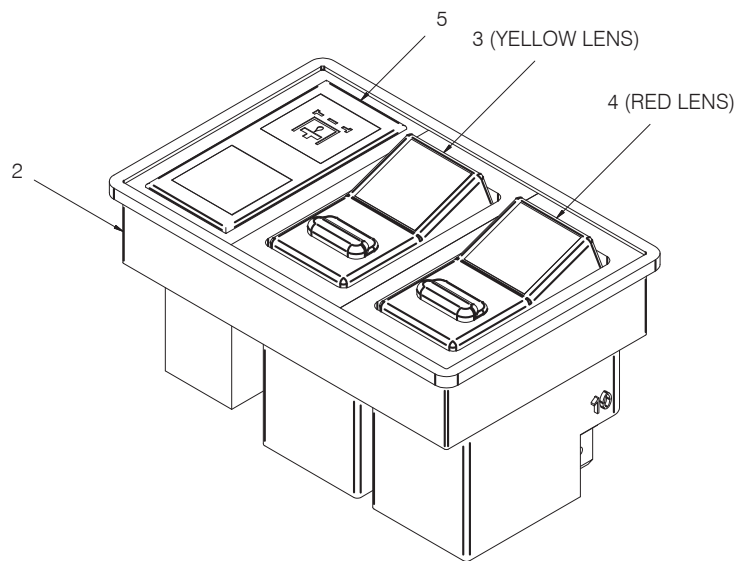
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313451	Assembly, Control Lever	1	13	2310502	. Assembly, Switch	1
1	2311071	. Bracket, Control Lever	1	14	2313590	. Assembly, Hose	1
2	2310929	. Handlever, Control Lever (See 3-58)	1	15	2312177	. Decal, Winch In, Winch Out	1
3	18720W	. Capscrew	2	16	2307296W	. Decal, Switch Panel	1
4	15113W	. Nut	2	17	242596	. Cable Tie	1
5	R833103	. Fitting	4	18	242597	. Cable Tie	1
6	209423	. Fitting	1	19	242598	. Cable Tie	1
7	212762	. Fitting	1	20	2307238W	. Label, RO	1
8	2310013	. Assembly, Switch	1	21	2307239W	. Label, RI	1
9	234740	. Frame, Mounting	1	22	2306152W	. Label, PS	1
10	2311352	. Assembly, Oil Filter Indicator	1	23	2306153W	. Label, T	1
11	2313462	. Assembly, Hose	2				
12	2313463	. Assembly, Hose	1				

Handlever Assembly



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2310929	Handlever, Pilot Controller	1				
1	NSS	. Plate, Mounting	1	8	NSS	. Nut	2
2	NSS	. Screw	2	9	NSS	. Capscrew	2
3	NSS	. Link, Lever	1	10	2312609	. Lever, Hand	1
4	NSS	. Screw	1	11	2312610	. Cap	1
5	NSS	. Washer, Lock	2	12	2312608	. Bellows	1
6	NSS	. Level, Link	1	13	2312606	. Nut	1
7	NSS	. Pin, Shaft	1				

Switch Assembly
High Performance Winch (H5CH)
Caterpillar D6K (C80)
Komatsu D51-22 (K37)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311350	Assembly, Switch	1				
2	234340	. Frame, Mounting	1	4	2310504	. Assembly, W/Lock, 24V, Red LED	1
3	2310013	. Assembly, Switch, 24V, Yellow LED	1	5	2311352	. Assembly, Oil Filter Indicator	1

Intentionally Blank

Optional Equipment

Fairlead 4-2

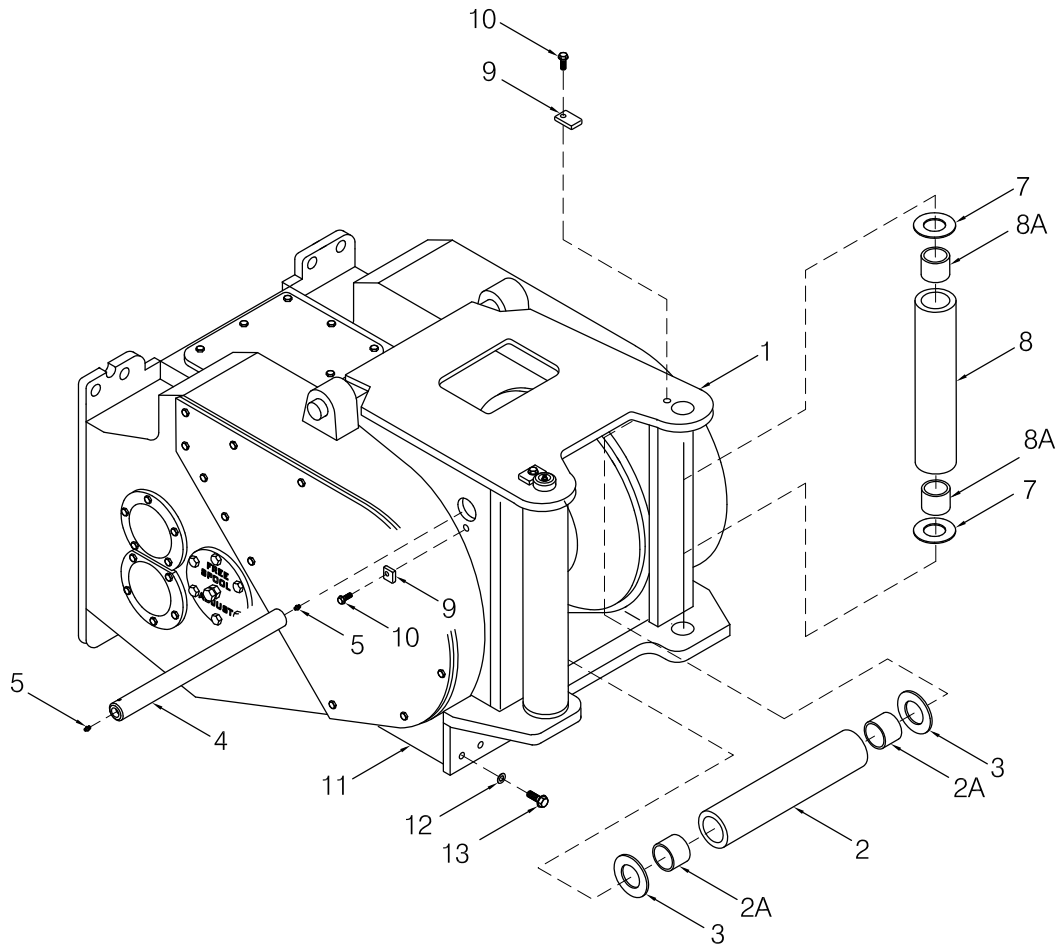
Arch Assembly..... 4-3

Arch Installation..... 4-4

Wire Rope Assemblies 4-5



Fairlead



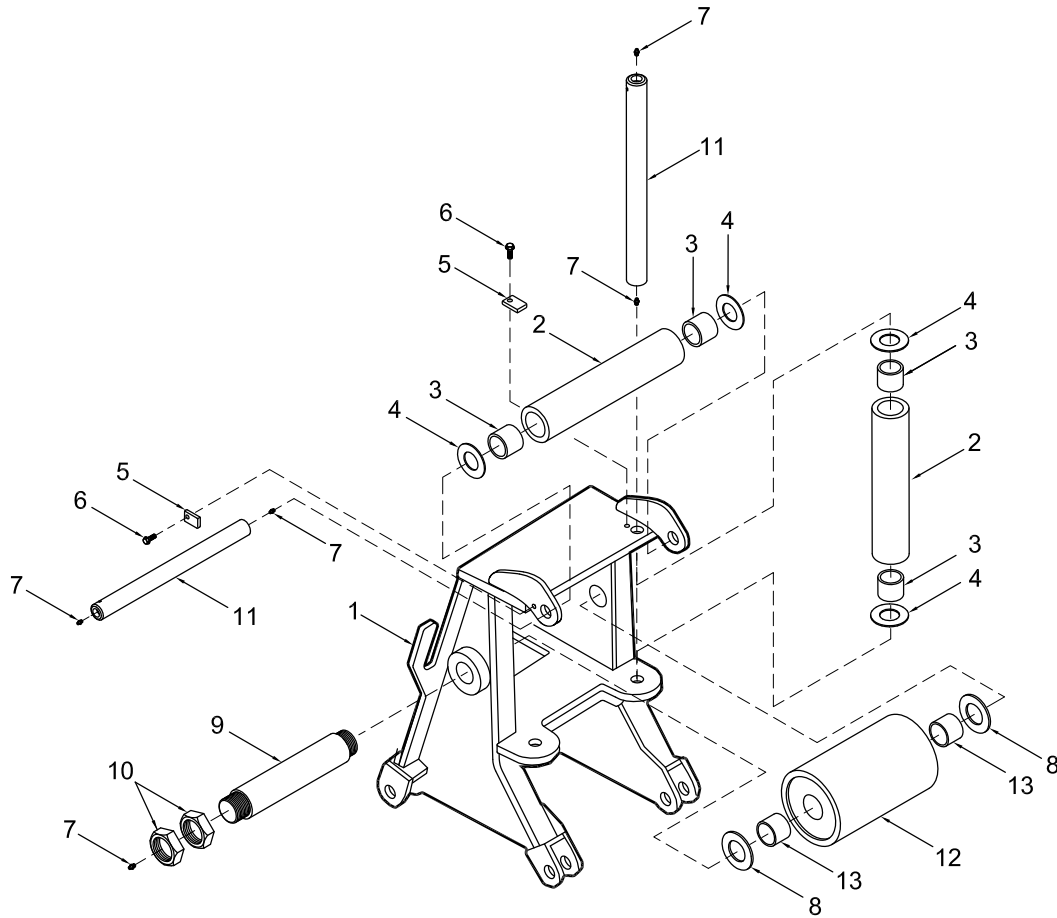
Fairlead.pdf

A = 3-Roller Fairlead
B = 4-Roller Fairlead

Item	Part No.	Description	Qty		Item	Part No.	Description	Qty	
			A	B				A	B
	2307784W	Fairlead, 3-Roller	1	--					
	2306335W	Fairlead, 4-Roller	--	1					
1	2306333W	. Frame	1	1	7	331767W	. Washer	4	4
2	2301727W	. Assembly, Roller	1	1	8	2301907W	. Assembly, Roller	2	2
2A	2570W	. Bushing	2	2	8A	35135W	. Bushing	2	2
3	33394W	. Washer	2	2	9	2301706W	. Keeper	3	4
4	2301722W	. Shaft	1	2	10	398817W	. Screw, Flange	3	4
5	16001W	. Fitting, Lube	8	8	11	2306330W	Block, Mounting	2	2
6	2306572W	. Shaft	2	2	12	221777W	Washer	4	4
					13	221657W	Capscrew	4	4

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Arch Assembly

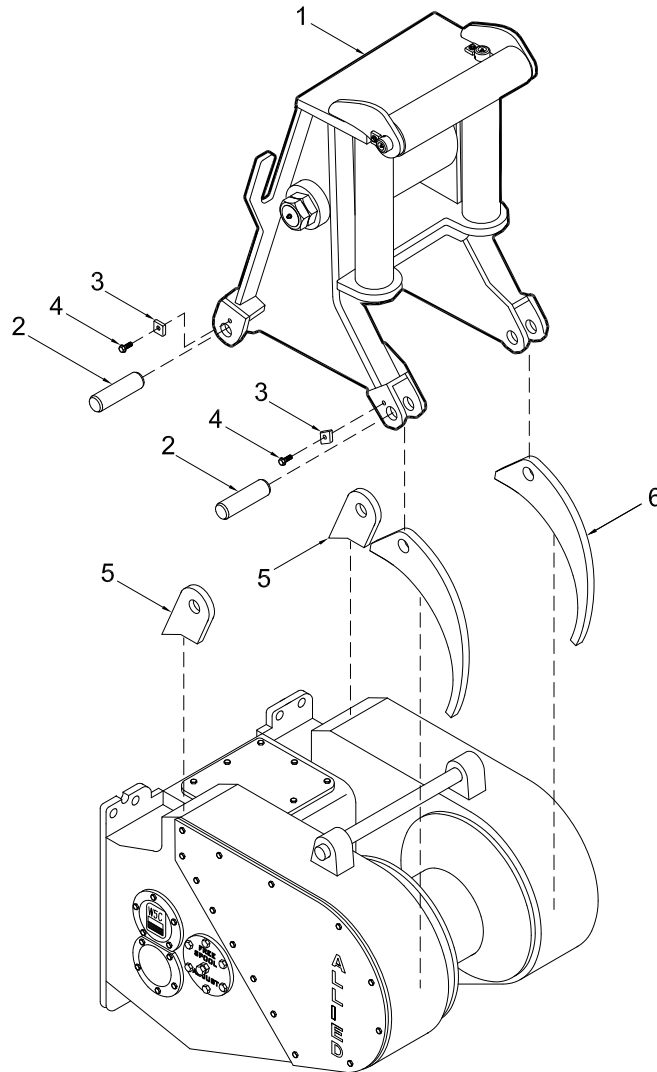


Arch Assy.pdf

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2301923W	Assembly, Arch	1				
1	2301922W	. Arch	1	8	2821W	. Washer	2
2	2301910W	. Assembly, Roller	3	9	2302120W	. Shaft	1
3	35135W	. Bushing	2	10	221336W	. Nut	4
4	331767W	. Washer	6	11	2301919W	. Shaft	3
5	2301706W	. Keeper	3	12	2301925W	. Roller	1
6	398817W	. Capscrew	3	13	2817W	. Bushing	2
7	16001W	. Fitting, Lube	8				

Arch Installation

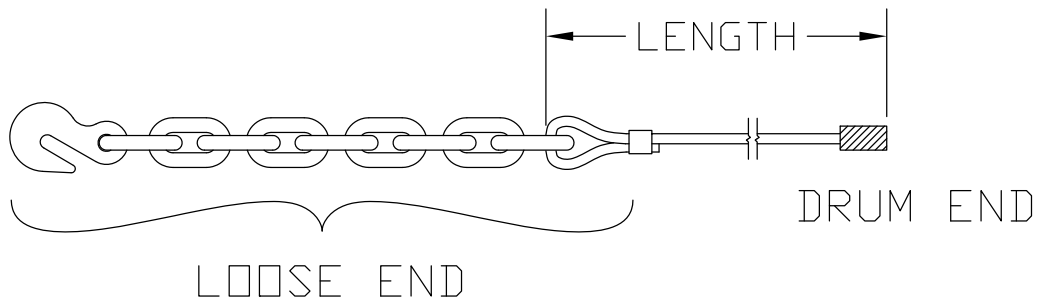
John Deere



Arch Instl.pdf

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2301923W	Assembly, Arch (See 4-3)	1	4	398817W	Screw, Flange	4
2	2301924W	Pin	4	5	2303227W	Lug	2
3	2301706W	Keeper	4	6	2302792W	Lug, Wrapped	2

Wire Rope Assemblies



Wire Rope Diameter Dia (in)	Wire Rope	Tail Chain & Hook
	Breaking Strength New (lbs)	Working Load Limit (lbs) 3.5:1 Design Factor
5/8	41,200	13,000
3/4	58,800	34,200
7/8	79,600	34,200

⚠ CAUTION

Do not use larger than 5/8" diameter wire rope
if winch is equipped with arch assembly.

2306381F_Wire Rope.pdf

Part No.	Wire Diameter	Length Ft (M)	Part No.	Wire Diameter	Length Ft (M)
WR5-279L***	5/8"	279 (85) *	YS7-215LWS***	7/8"	215 (66) **
WR5-423L***	5/8"	423 (129) **			
WR6-197L***	3/4"	197 (60) *			
WR6-298L***	3/4"	298 (91) **			
WR7-142L***	7/8"	142 (43) *			
WR7-215L***	7/8"	215 (66) **			

* Length to fill drum up to 2/3 capacity (recommended)

** Length to fill drum to full capacity

*** Wire Types: WR = 6 x 19 EIPS IWRC
YS = 6 x 37 EIPS IWRC

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Suggested Spares Guide

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Suggested Spares Guide

H5C Hydraulic Winch

Recommended Service Parts

The following pages list some of the service parts and kits that are available for your Allied H5C Winch.

Page 1 includes a Filter Kit. The filter element should be changed after the first 250 hours, then every 500 hours thereafter. Keep this kit in stock at all times for regular maintenance.

Pages 1 and 2 contains kits for 5,000 hour and 10,000 hour scheduled maintenance. Order these kits from the tables when you are in preparation for these intervals. Page 2 also contains a list of wire rope assemblies for you to order as required.

Page 3 contains lists of handlever installation components, tool kits, and specialized tools. Order parts or tools as required, and as relevant for your installation.

Page 4 contains a list of diagnostic tools, which are useful when you install, maintain and service your winches.

Note: Allied winch parts manuals are available for no charge download at <http://www.alliedsystems.com/pubs/pubs.htm>.

Filter Kit, P/N 2304112W - High Performance Winch: H5CH**K37 & H5CH**C80

Service Interval: First 250 hours, then every 500 hours

Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2304112W	Filter, Element	1	Hydraulic Group	

Note: For all other Hi-Performance (H) winches and Rescue (T) winches, please refer to dozer operator's manuals, use tractor filters.

Motor, Reducer & Brake Assembly Rebuild Kit, P/N 2311895

Service Interval: Every 5,000 hours

Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2311895	Kit, Motor, Reducer & Brake Assembly Rebuild	1		
12916W	. Ring, Snap	2	Motor Shaft	
12944W	. Ring, Snap	1	Motor Shaft	
2306073W	. Seal, Rotary	2	Hydraulic Group	
89776W	. O-Ring	3	Hydraulic Group	
86596W	. O-Ring	1	Hydraulic Group	
87287W	. O-Ring	1	Motor Shaft	
334475W	. Ring, Snap	1	Motor Shaft	
12944W	. Ring, Snap	1	Motor Shaft	
246722	. Kit, Seal	1	Hydraulic Motor	



Suggested Spares Guide

Intermediate, Idler, Drum Shaft, Motor & Brake Assembly Rebuild Kit, P/N 2311896

Service Interval: Every 10,000 hours

Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2311896	Kit, Intermediate, Idler, Drum Shaft, Motor & Brake Assembly Rebuild	1		
41207W	. Bearing, Ball	1	Motor Shaft	
41210W	. Ring, Snap	1	Motor Shaft	
2306198W	. Disc, Friction	7	Motor Shaft	
2304874W	. Plate, Separator	8	Motor Shaft	
218214	. O-Ring	1	Intermediate Gear Shaft	
212380	. O-Ring	1	Intermediate Gear Shaft	
159940W	. O-Ring	1	Intermediate Gear Shaft	
2305923W	. Cone, Roller Bearing	1	Intermediate Gear Shaft	
45733W	. Cup, Roller Bearing	1	Intermediate Gear Shaft	
219114W	. Cone, Roller Bearing	1	Intermediate Gear Shaft	
2302515W	. Cup, Roller Bearing	1	Intermediate Gear Shaft	
133523W	. Seal, Oil	1	Drum Shaft	
339681W	. Seal, Oil	1	Drum Shaft	
219093W	. Cone, Roller Bearing	1	Drum Shaft	
219094W	. Cup, Roller Bearing	1	Drum Shaft	
12956W	. Ring, Snap	2	Drum Shaft	
219095W	. Bearing, Roller	1	Drum Shaft	
203533	. O-Ring	1	Drum Shaft	
2304580W	. Bearing, Cylinder Roller	1	Idler Shaft	
41207W	. Bearing, Ball	1	Idler Shaft	
12916W	. Ring, Snap	1	Idler Shaft	

Wire Rope Assemblies

Order as Required

Allied P/N	Description	Length	Will Fill Drum To	Order Quantity
WR5-279L	Wire Rope Assembly, 5/8"	279' (85 M)	2/3 Capacity (recommended)	
WR5-423L	Wire Rope Assembly, 5/8"	423' (129 M)	Full Capacity	
WR6-197L	Wire Rope Assembly, 3/4"	197' (60 M)	2/3 Capacity (recommended)	
WR6-298L	Wire Rope Assembly, 3/4"	296' (91 M)	Full Capacity	
WR7-142L	Wire Rope Assembly, 7/8"	142' (43 M)	2/3 Capacity (recommended)	
WR7-215L	Wire Rope Assembly, 7/8"	215' (66 M)	Full Capacity	
YS7-215LWS	Wire Rope Assembly, 7/8"	215' (66 M)	Full Capacity	



Suggested Spares Guide

Handler Installation Components				Order as Required
Allied P/N	Description	Quantity on Winch	Relevant for Installation	Order Quantity
250589	Coil, Solenoid	1	John Deere 750J	
2307231W	Kit, Seal	1	John Deere 750J	
2310013	Assembly, Switch - 24V W/Yellow LED	varies	All	
2310504	Assembly, Switch - W/Lock , 24V W/Red LED	1	Caterpillar D6K & Komatsu D51-22	
2310506	Assembly, Switch - Momentary, 24V W/Red LED	1	John Deere 700J	
R13661	Relay	1	John Deere 750J	

Tool Kits			Order as Required
Order these Tool Kits as required for installation, maintenance and service of your winch(es).			
Allied P/N	Description	Order Quantity	
588466	Socket Set, 3/8DR 3/8" to 7/8" STD/Deep, 22 PC		
588467	Socket Set, 1/2DR 3/8" to 1-1/4" STD/Deep, 30 PC		
588468	Socket Set, 3/4DR 7/8" to 2-3/8" STD, 29 PC		
588469	Wrench Set, 5/16" to 2-1/2", 31 PC		
588527	Hex Key Sets, .025" to 5/8", 18 PC		
588530	Socket Sets, 3/8DR 6mm-19mm 12 Point		
588529	Socket Sets, 1/2DR 10mm-26mm 12 Point		
588528	Wrench Sets, 7mm-24mm, 18 PC		
588526	Hex Key Sets, .07mm-17mm, 15 PC		

Specialized Tools			Order as Required
Order these specialized tools for installation, maintenance and service of your winch(es).			
Allied P/N	Description	Order Quantity	
X-201962	Lifting Device		
X-203345	Clutch Shaft Locknut Socket		
X-203346	Clutch Shaft Driver		
X-203348	Lifting Eye		



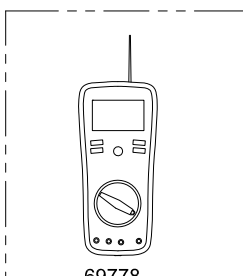
Suggested Spares Guide

Diagnostic Tools*

Order as Required

Order these Tools as required for maintenance and service of your winch(es).

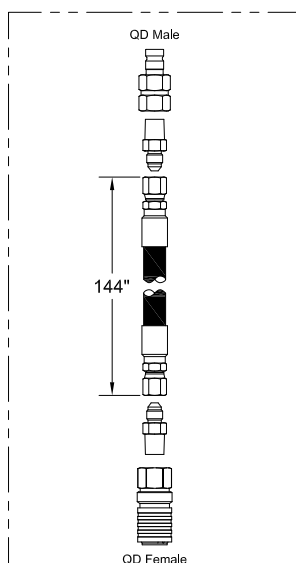
Allied P/N	Description	Order Quantity
906601	0 to 8700 PSI Digital Pressure Gauge W/Female QD Connector	
69782	72" Hose Assembly W/QD Connectors Both Ends	
70381	144" Hose Assembly W/QD Connectors Both Ends	
69778	Multi-Meter, 12 Function	



69778

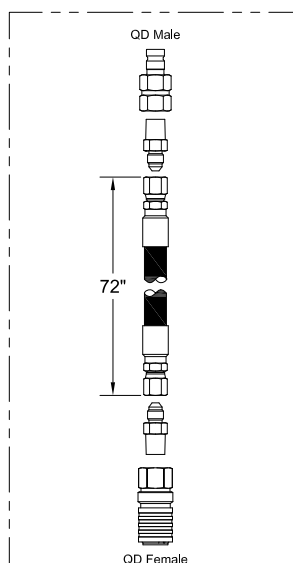
Multi-Meter, 12 Function

AC/DC Voltage & Current,
Resistance, Capacitance,
Frequency, Type K & IR
Temperature, Diode/Continuity,
Duty Cycle Non-Contact
InfraRed Thermometer
CAT III Test Leads
Type K Bead Wire Temp Probe



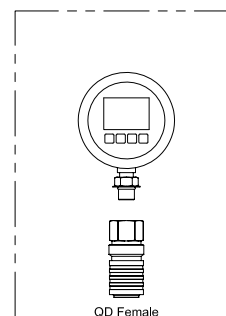
70381

Kit, Hose Assembly, W/QD Both Ends



69782

Kit, Hose Assembly, W/QD Both Ends



906601

Kit, Digital Pressure Gauge
W/ Female QD Connector
0 to 8700 PSI

* Note: The following items are specially necessary for H5C winch(es) mounted on Komatsu D51-22.

Allied P/N	Description	Order Quantity
2310634	1/4 NPT Male QD	
254002	Test Fitting	
2310365	Test Fitting	
2310250	1/4 NPT Female Coupling - w/o Valve	

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2313506 - 2302625W	5-4
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24531	3-25	6.2	231443	3-11	46.7	235387	3-23	35.16	242818	3-19	1.15
24531	3-27	3.2	231444	3-21	13.1	235387	3-42	7	243178	3-17	1.32
203533	2-8	21	231444	3-23	13.1	235387	3-48	12	243178	3-27	1.39
206289	3-40	14	231444	3-25	13.1	235535	3-28	5	243815	3-5	8
209423	3-21	13.35	231444	3-46	3	236805	3-33	60	243815	3-9	45.7
209423	3-23	13.35	231444	3-47	1	236855	3-5	16	243815	3-15	3.7
209423	3-55	7	231450	3-3	46.12	236855	3-9	45.15	243815	3-21	13.11
209423	3-57	6	231450	3-11	46.12	236855	3-15	3.15	243815	3-23	13.11
209589	3-17	1.34	231452	3-5	10	236855	3-21	13.22	243815	3-25	13.11
209589	3-21	13.40	231452	3-9	45.9	236855	3-21	34.2	243815	3-46	2
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209589	3-25	13.40	231452	3-21	13.39	236855	3-25	13.22	243815	3-48	2
209589	3-27	1.21	231452	3-23	13.39	236855	3-44	11	248986	3-32	31
209695	1-9	31	231452	3-25	13.39	236973	3-3	46.2	250365	3-21	13.51
210709	3-47	6	231452	3-41	6	236973	3-11	46.2	250365	3-51	5
212762	3-55	8	231463	3-3	46.19	237120	3-5	59	250589	3-51	5
212762	3-57	7	231463	3-11	46.19	238056	3-35	2	250589	3-54	1
213257	3-29	1.28	231466	3-25	7.12	238056	3-36	3	251199	3-33	78
213257	3-30	30	231467	3-28	1	238058	3-35	5	252134	3-23	13.51
218181	3-41	16	231809	3-28	4	238058	3-36	5	252134	3-25	13.51
222328	3-30	39	231809	3-29	1.16	238059	3-35	12	252134	3-42	2
222513	3-40	9	231820	3-5	24	238059	3-36	12	252134	3-43	3
225871	1-19	19	231820	3-9	45.21	238060	3-35	1	253623	3-53	2
227398	3-19	1.26	231820	3-15	3.21	238060	3-36	1	254002	3-11	48.29
229345	3-23	35.17	231820	3-48	10	238061	3-35	4	254002	3-23	35.7
229345	3-42	5	231821	3-3	47.4	238061	3-36	2	254261	3-11	48.26
229345	3-50	3	231821	3-32	47	238062	3-35	6	255601	3-53	2
229383	3-5	64	231821	3-41	14	238062	3-36	6	257331	3-17	1.31
229383	3-9	25.6	231821	3-48	9	238063	3-35	7	257331	3-19	1.12
229383	3-15	2.7	231822	3-3	47.3	238063	3-36	7	257331	3-27	1.20
229383	3-25	13.35	231822	3-17	1.46	238064	3-35	8	296420	3-19	1.32
229383	3-27	1.2	231822	3-32	49	238064	3-36	8	398567	3-19	1.10
229383	3-48	7	231822	3-41	9	238065	3-35	9	398817	3-19	1.11
229383	3-56	11	231955	3-5	22	238065	3-36	9	2307265	3-46	2
229447	3-37	34	231955	3-9	45.19	238067	3-35	11	2310001	3-23	35.26
230894	3-5	63	231955	3-15	3.19	238067	3-36	11	2310002	3-23	35.27
231439	2-3	20.26	231955	3-17	1.45	238068	3-35	14	2310003	3-23	35.28
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231439	3-25	13.20	232960	3-9	45.37	238073	3-36	17	2310013	3-59	3
231439	3-44	8	232960	3-11	48.14	238074	3-35	18	2310025	1-9	25
231440	3-3	46.23	232960	3-15	3.37	238074	3-36	18	2310032	1-9	37
231440	3-5	2	232960	3-23	35.31	238075	3-35	19	2310045	1-9	27
231440	3-9	45.2	232984	3-3	47.2	238075	3-36	19	2310084	1-11	4
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231440	3-27	1.31	232984	3-48	11	238080	3-36	23	2310086	1-15	1.2
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231440	3-30	17	234340	3-59	2	242597	3-57	18	2310088	1-13	4
231441	3-5	12	234505	3-38	2	242598	3-57	19	2310088	1-15	1.4
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2310103	1-13	10	2310688	3-21	34.8	2311499	3-44	9A	2311788	3-33	59
2310103	1-15	1.8	2310698	3-21	13.52	2311499	3-46	7A	2311828	3-41	17
2310104	1-20	7	2310698	3-23	13.52	2311499	3-47	7	2311863	3-56	6
2310168	3-17	1.16	2310698	3-25	13.52	2311500	3-5	1	2311865	3-33	68
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2310168	3-23	13.32	2310698	3-47	4	2311500	3-15	3.52	2311868	3-41	13
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2310168	3-27	1.32	2310832	3-11	48.10	2311500	3-44	9	2311886	3-33	75
2310181	3-21	13.52	2310915	1-9	30	2311500	3-46	7	2311901	1-20	3
2310181	3-21	34.5	2310917	3-11	48.16	2311500	3-47	7	2311931	3-33	57
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2310181	3-46	5B	2310919	3-23	35.36	2311513	3-31	1	2311991	3-33	77
2310181	3-46	7B	2310919	3-27	4.5	2311523	3-33	61	2311992	3-56	7
2310181	3-47	4	2310920	3-11	48.21	2311527	3-31	9	2312132	3-49	6
2310181	3-47	7	2310920	3-23	35.37	2311528	3-31	10	2312177	3-57	15
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2310339	3-11	46.13	2310929	3-55	2	2311532	3-56		2312197	3-27	1.16
2310340	3-3	46.15	2310929	3-56	10	2311534	3-55	18	2312209	3-25	7.14
2310340	3-11	46.15	2310929	3-57	2	2311535	3-31	15	2312210	3-25	7.15
2310365	3-11	48.28	2310929	3-58		2311535	3-41		2312212	3-25	7.16
2310368	3-42	9	2311069	3-40	11	2311539	3-33	65	2312218	3-17	1.40
2310369	3-42	6	2311071	3-55	1	2311541	3-37	38	2312218	3-25	7.4
2310407	3-3	46.10	2311071	3-57	1	2311547	3-40	4	2312218	3-27	1.1
2310407	3-11	46.10	2311085	3-40	1	2311550	3-31	18	2312458	3-19	1.14
2310407	3-42		2311091	3-40	12	2311553	3-31	27	2312606	3-58	13
2310414	3-33	73	2311092	3-40	13	2311560	3-37	40	2312608	3-58	12
2310414	3-55	10	2311097	3-37	43	2311561	3-37	41	2312609	3-58	10
2310430	3-23	13.51	2311098	3-40	10	2311562	3-37	37	2312610	3-58	11
2310430	3-25	13.51	2311252	3-40	6	2311563	3-32	41	2313053	3-28	8
2310430	3-42	2	2311261	3-34		2311564	3-37	33	2313054	3-28	6
2310430	3-43	3	2311261	3-37	17	2311565	3-32	52	2313054	3-29	1.24
2310502	3-39	8	2311268	1-11	15.1	2311566	3-32	42	2313055	3-28	7
2310502	3-57	13	2311268	1-13	12.4	2311567	3-32	53	2313055	3-29	1.23
2310504	3-39	9	2311268	1-15	1.5.4	2311568	3-32	39	2313153	3-15	3.28
2310504	3-59	4	2311270	1-11	15.3	2311569	3-32	38	2313443	3-17	1.5
2310506	3-38	4	2311270	1-13	12.5	2311570	3-32	36	2313443	3-19	1.20
2310535	3-3	46.31	2311270	1-15	1.5.5	2311571	3-32	37	2313443	3-27	1.11
2310535	3-11	46.31	2311271	1-11	15.4	2311572	3-27	4.12	2313446	3-19	1.9
2310536	3-3	46.17	2311271	1-13	12.1	2311572	3-33	56	2313451	3-30	23
2310536	3-11	46.17	2311271	1-15	1.5.1	2311573	3-32	40	2313451	3-57	
2310543	3-3	46.14	2311273	1-11	15.2	2311574	3-32	35	2313453	3-30	33
2310543	3-11	46.14	2311273	1-13	12.2	2311575	3-33	54	2313454	3-30	21
2310554	3-3	46.21	2311273	1-15	1.5.2	2311576	3-33	55	2313455	3-30	22
2310554	3-11	46.21	2311277	3-34	4	2311577	3-33	66	2313456	3-19	1.13
2310563	3-11	48.11	2311302	1-11	15	2311578	3-32	44	2313457	3-19	1.16
2310564	3-11	48.7	2311329	1-21	3	2311579	3-32	43	2313458	3-19	1.18
2310565	3-11	48.8	2311330	1-21	5	2311581	3-34	7	2313460	3-19	1.5
2310566	3-11	48.9	2311339	3-21	13.52	2311582	3-37	36	2313461	3-19	1.6
2310576	3-50	2	2311339	3-23	13.52	2311587	3-32	45	2313462	3-57	11
2310581	3-21	34.4	2311339	3-25	13.52	2311592	3-43	6	2313463	3-57	12
2310582	3-21	34.7	2311339	3-46	5	2311594	3-3	47.6	2313473	3-19	1.19
2310591	3-29	1.22	2311339	3-47	4	2311594	3-11	48.25	2313473	3-45	
2310595	3-34	6	2311343	3-3	47.1	2311605	3-32	51	2313486	3-19	1.24
2310602	3-38	5	2311344	3-55	9	2311608	3-9	45.51	2313486	3-48	
2310603	3-3	46.25	2311350	3-55	3	2311611	3-21	34.10	2313495	3-42	3
2310603	3-11	46.25	2311350	3-56	2	2311614	3-15	3.38	2313505	3-30	24
2310616	3-38	1	2311350	3-59		2311614	3-43		2313506	3-30	25

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2313567	3-30	27	134803W	3-11	48.2	16805W	3-17	1.38	221763W	3-27	1.15
2313568	3-19	1.30	134803W	3-34	5	16805W	3-21	13.36	221767W	3-17	1.36
2313590	3-57	14	141348W	2-3	20.7	16805W	3-23	13.36	221767W	3-27	1.7
2313634	3-17	1.1	141348W	2-5	20.7	16805W	3-23	35.18	221771W	1-17	11
2313634	3-46		141348W	2-7	20.7	16805W	3-25	13.36	221771W	3-31	25
2313635	3-17	1.2	15056W	1-9	33	16805W	3-27	1.6	221775W	2-8	8
2313635	3-27	1.1	15056W	3-21	13.5	16828W	1-9	32	221777W	4-2	12
2313635	3-44		15056W	3-23	13.5	16830W	2-8	6	221780W	1-11	9
2313636	3-17	1.27	15056W	3-23	35.21	17384W	1-19	8	221780W	1-13	13
2313637	3-17	1.28	15056W	3-25	13.5	176208W	1-3	8	221780W	1-15	1.14
2313638	3-17	1.29	15056W	3-25	7.13	176208W	1-5	8	221780W	1-17	6
2313638	3-27	1.41	15113W	3-38	8	176208W	1-7	8	221780W	1-19	12
2313639	3-17	1.30	15113W	3-55	5	176208W	1-9	8	221780W	1-20	2
2313639	3-27	1.18	15113W	3-57	4	18468W	3-25	7.6	222442W	3-21	13.42
2313640	3-17	1.26	15127W	3-5	56	18475W	3-5	55	222442W	3-23	13.42
2313640	3-27	1.17	15127W	3-9	45.47	18475W	3-9	45.46	222442W	3-25	13.42
2313641	3-17	1.33	15127W	3-15	3.47	18475W	3-15	3.46	222442W	3-43	1
2313641	3-27	1.3	15127W	3-17	1.14	18535W	3-41	4	222442W	3-49	11
2313643	3-29	1.26	15127W	3-21	13.46	18542W	3-17	1.35	222442W	3-51	6
2313660	3-30	20	15127W	3-23	13.46	18542W	3-21	13.3	222442W	3-52	3
2313661	3-48	15	15127W	3-25	13.46	18542W	3-23	13.3	222443W	1-3	12
2313662	3-19	1.17	15127W	3-25	7.7	18542W	3-25	13.3	222443W	1-7	12
2313663	3-19	1.29	15127W	3-27	1.36	18542W	3-27	1.26	222443W	1-9	12
2313667	3-30	35	15127W	3-38	9	18586W	1-17	12	222535W	3-31	20
2313668	3-30	36	15127W	3-39	10	18588W	2-5	23.5	224120W	3-17	1.22
2313670	3-30	37	15128W	1-19	9	18588W	2-7	23.5	224120W	3-19	1.22
2313674	3-29	1.21	15133W	3-39	11	18672W	1-19	11	224120W	3-27	1.14
2313695	3-17	1.43	15134W	3-3	46.11	18720W	3-55	4	225050W	2-10	15
2313698	1-9	38	15134W	3-11	46.11	18720W	3-57	3	2300721W	3-5	45
2313705	3-27	1.5	15134W	3-21	13.4	188210W	1-3	11	2300842W	2-9	2
2313705	3-47		15134W	3-23	13.4	188210W	1-5	11	2301706W	4-2	9
2313710	3-27	4.11	15134W	3-23	35.19	188210W	1-7	11	2301706W	4-3	5
2313715	3-27	1.40	15134W	3-25	13.4	188210W	1-9	11	2301706W	4-4	3
2313765	3-17	1.44	15156W	1-9	35	219066W	2-9	4	2301722W	4-2	4
2313765	3-27	1.43	15157W	3-3	46.1	219084W	2-3	20.17	2301727W	4-2	2
2313783	3-55	17	15157W	3-5	61	219084W	2-5	20.17	2301907W	4-2	8
2313784	3-55	19	15157W	3-9	25.4	219084W	2-7	20.17	2301910W	4-3	2
2313785	3-55	20	15157W	3-11	46.1	219093W	2-8	15	2301919W	4-3	11
2313790	3-37	45	15157W	3-15	2.4	219094W	2-8	16	2301922W	4-3	1
2313790	3-55		15158W	2-5	23.4	219095W	2-8	19	2301923W	4-3	
2313910	3-27	4.8	15158W	2-7	23.4	219114W	2-10	11	2301923W	4-4	1
2313921	3-23	13.51	15158W	2-8	5	220000W	1-19	3	2301924W	4-4	2
2313921	3-25	13.51	15176W	1-9	34	220000W	3-38	7	2301925W	4-3	12
2313921	3-42	2	15256W	1-3	5	220000W	3-39	12	2302120W	4-3	9
2313921	3-43	3	15256W	1-5	5	220998W	3-49	6	2302333W	2-8	13
2314046	1-15	1.31	15256W	1-7	5	221336W	4-3	10	2302334W	2-8	20
1314503W	2-8	2	15256W	1-9	5	221543W	3-9	25.7	2302335W	2-8	14
127574W	3-41	15	15961W	3-23	35.3	221569W	3-31	26	2302336W	2-8	11
12916W	2-3	20.12	159940W	2-10	7	221657W	4-2	13	2302338W	2-8	22
12916W	2-5	20.12	16001W	4-2	5	221690W	1-11	8	2302379W	1-3	23
12916W	2-7	20.12	16001W	4-3	7	221690W	1-13	14	2302379W	1-5	23
12916W	2-9	6	16151W	1-3	10	221690W	1-15	1.13	2302379W	1-7	30
12944W	2-3	20.18	16151W	1-5	10	221690W	1-20	1	2302379W	1-9	24
12944W	2-5	20.18	16151W	1-7	10	221692W	1-19	13	2302379W	2-8	17
12944W	2-7	20.18	16151W	1-9	10	221707W	3-17	1.37	2302513W	1-3	19
129563W	1-19	20	16243W	1-3	21	221707W	3-27	1.8	2302513W	1-5	19
12956W	2-8	18	16243W	1-5	21	221711W	1-19	16	2302513W	1-9	19
1300780W	2-8	3	16243W	1-7	27	221717W	1-3	13	2302515W	2-10	12
1314566W	1-19	17	16243W	1-9	21	221717W	1-5	13	2302624W	2-10	6
1314656W	1-3	3	16597W	3-3	46.22	221717W	1-7	13	2302625W	1-3	15
1314656W	1-5	3	16597W	3-11	46.22	221717W	1-9	13	2302625W	1-5	15
1314656W	1-7	3	16602W	1-21	4	221717W	2-10	13	2302625W	1-7	15
1314656W	1-9	3	16602W	1-21	7	221720W	1-17	4	2302625W	1-9	15
1321665W	1-21	2	16805W	3-3	46.9	221763W	3-17	1.21	2302625W	2-10	17

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2302924W	1-19	5	2306075W	2-3	20.1	2306938W	3-35		2307123W	3-9	45.40
2302925W	1-19	6	2306075W	2-5	20.1	2306973W	1-20	5	2307123W	3-15	3.40
2302926W	1-19	7	2306075W	2-7	20.1	2306974W	1-20	6	2307123W	3-17	1.4
2303221W	1-3	2	2306076W	2-3	24.2	2306994W	1-7	25	2307123W	3-19	1.1
2303221W	1-5	2	2306077W	2-3	20.10	2307008W	3-5	5	2307123W	3-21	13.18
2303221W	1-7	2	2306077W	2-5	20.10	2307008W	3-9	45.5	2307123W	3-23	13.18
2303221W	1-9	2	2306077W	2-7	20.10	2307008W	3-15	3.5	2307123W	3-25	13.18
2303227W	4-4	5	2306078W	2-3	20.2	2307008W	3-48	1	2307123W	3-27	1.29
2303247W	2-8	23	2306078W	2-5	20.2	2307008W	3-49		2307154W	3-50	2
2303256W	2-8	4	2306078W	2-7	20.2	2307024W	3-49	2	2307206W	3-9	45.31
2303257W	2-8	1	2306079W	2-3	24.3	2307032W	3-5	38	2307206W	3-15	3.31
2303609W	3-37	18	2306151W	3-55	14	2307032W	3-9	45.30	2307208W	3-5	40
2303730W	1-17	3	2306152W	3-11	48.17	2307032W	3-15	3.30	2307208W	3-21	13.38
2303731W	1-17	2	2306152W	3-55	13	2307033W	3-5	35	2307208W	3-23	13.38
2303732W	1-17	1	2306152W	3-57	22	2307033W	3-9	45.27	2307208W	3-25	13.38
2303848W	1-3	7	2306153W	3-57	23	2307033W	3-15	3.27	2307213W	3-9	45.33
2303848W	1-5	7	2306154W	3-55	15	2307036W	3-3	46.16	2307213W	3-15	3.33
2303848W	1-7	7	2306155W	3-55	16	2307036W	3-5	37	2307225W	1-7	23
2303848W	1-9	7	2306157W	3-11	48.18	2307036W	3-9	45.29	2307226W	1-7	24
2303902W	1-3	22	2306157W	3-34	9	2307036W	3-11	46.16	2307227W	3-42	8
2303902W	1-5	22	2306189W	1-3	1	2307036W	3-15	3.29	2307227W	3-43	2
2303902W	1-7	29	2306189W	1-5	1	2307037W	2-10	22	2307227W	3-51	2
2303902W	1-9	23	2306189W	1-7	1	2307038W	3-5	39	2307227W	3-52	5
2303902W	2-8	7	2306189W	1-9	1	2307038W	3-9	45.42	2307231W	3-42	8
2303906W	2-10	2	2306198W	2-3	20.20	2307038W	3-15	3.42	2307231W	3-43	2
2303907W	2-10	5	2306198W	2-5	20.20	2307039W	3-5	31	2307231W	3-51	2
2303908W	2-10	16	2306198W	2-7	20.20	2307039W	3-9	45.26	2307231W	3-52	5
2304101W	1-3	9	2306214W	2-5	23.2	2307039W	3-15	3.26	2307232W	3-49	1
2304101W	1-5	9	2306214W	2-7	23.2	2307040W	3-5	47	2307233W	3-49	7
2304101W	1-7	9	2306228W	2-5	21.1	2307040W	3-9	45.34	2307234W	3-49	3
2304101W	1-9	9	2306228W	2-7	21.1	2307040W	3-15	3.34	2307235W	3-49	2
2304110W	3-32	29	2306229W	2-9	7	2307042W	3-5	49	2307236W	3-49	8
2304111W	3-11	48.1	2306330W	4-2	11	2307042W	3-9	45.41	2307238W	3-23	35.32
2304112W	3-11	48.1	2306333W	4-2	1	2307042W	3-15	3.41	2307238W	3-27	4.1
2304112W	3-34	1	2306335W	4-2		2307047W	3-5	36	2307238W	3-57	20
2304257W	3-41	2	2306413W	2-3	25.1	2307047W	3-9	45.28	2307239W	3-23	35.33
2304258W	3-41	3	2306413W	3-3	26.1	2307051W	3-39	4	2307239W	3-27	4.2
2304580W	2-9	3	2306413W	3-11	26.1	2307054W	3-39	1	2307239W	3-57	21
2304611W	1-17	10	2306424W	3-41	1	2307057W	3-39	6	2307241W	3-23	35.35
2304612W	1-17	13	2306494W	2-5	23.1	2307061W	3-5	6	2307241W	3-27	4.4
2304613W	1-17	14	2306494W	2-7	23.1	2307061W	3-9	45.6	2307242W	3-11	48.22
2304803W	1-3	14	2306509W	1-3	24	2307061W	3-15	3.6	2307242W	3-23	35.34
2304803W	1-5	14	2306509W	1-9	22	2307081W	3-31	8	2307242W	3-27	4.3
2304803W	1-7	14	2306570W	1-3	6	2307097W	1-5	24	2307245W	3-49	3
2304803W	1-9	14	2306570W	1-5	6	2307097W	1-7	28	2307246W	3-49	8
2304803W	2-10	14	2306570W	1-7	6	2307103W	1-19	2	2307257W	1-7	18
2304862W	3-11	48.1	2306570W	1-9	6	2307104W	3-17	1.8	2307261W	1-7	17
2304874W	2-3	20.21	2306572W	4-2	6	2307104W	3-21	13.6	2307265W	3-5	8
2304874W	2-5	20.21	2306599W	2-3	20.4	2307104W	3-23	13.6	2307265W	3-9	45.7
2304874W	2-7	20.21	2306599W	2-5	20.4	2307104W	3-25	13.6	2307265W	3-15	3.7
2305132W	3-11	48.1	2306599W	2-7	20.4	2307104W	3-27	1.28	2307265W	3-21	13.11
2305132W	3-34	1	2306604W	2-3	20.5	2307104W	3-46	4	2307265W	3-23	13.11
2305415W	1-3	16	2306604W	2-5	20.5	2307104W	3-47	2	2307265W	3-25	13.11
2305415W	1-5	16	2306604W	2-7	20.5	2307111W	1-7	19	2307265W	3-47	3
2305415W	1-7	16	2306646W	2-3	20.27	2307112W	1-7	20	2307265W	3-48	2
2305415W	1-9	16	2306646W	2-5	20.27	2307113W	1-7	22	2307270W	1-19	14
2305415W	2-10	18	2306646W	2-7	20.27	2307121W	3-38	10	2307272W	1-19	1
2305712W	3-34	1	230687W	1-17	5	2307121W	3-39	2	2307274W	1-19	23
2305713W	3-34	1	2306938W	2-5	26.1	2307121W	3-55	11	2307282W	2-9	1
2305732W	3-33	63	2306938W	2-7	26.1	2307121W	3-56	3	2307283W	3-5	26
2305915W	2-10	10	2306938W	3-5	58	2307122W	3-38	11	2307283W	3-9	45.23
2305923W	2-10	8	2306938W	3-9	25.1	2307122W	3-39	3	2307283W	3-15	3.23
2306073W	2-3	20.14	2306938W	3-15	1.1	2307122W	3-55	12	2307289W	2-7	25.1

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2307291W	3-9	45.20	2307491W	3-9	45.38	233693W	3-17	1.12	398567W	1-5	18
2307291W	3-15	3.20	2307491W	3-51		233693W	3-21	13.50	398567W	1-7	21
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2307291W	3-19	1.25	2307532W	3-39	15	233693W	3-25	13.50	398567W	3-5	7
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2307400W	3-15	2.3	2307629W	3-21	34.11	293647W	3-31	23	398829W	2-7	23.3
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2307439W	3-53	1	2307694W	3-21	25.1	296420W	1-11	15.6	61056W	2-10	3
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2307440W	3-27	1.35	2307767W	3-23	13.17	296420W	3-30	19	86596W	2-5	20.8
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