



Parts Manual



Allied H12E Hydraulic Winch

Please check the Allied Systems website
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www.alliedsystems.com

CUSTOMER EDITION

A PRODUCT OF
Allied Systems
COMPANY

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Safety Precautions

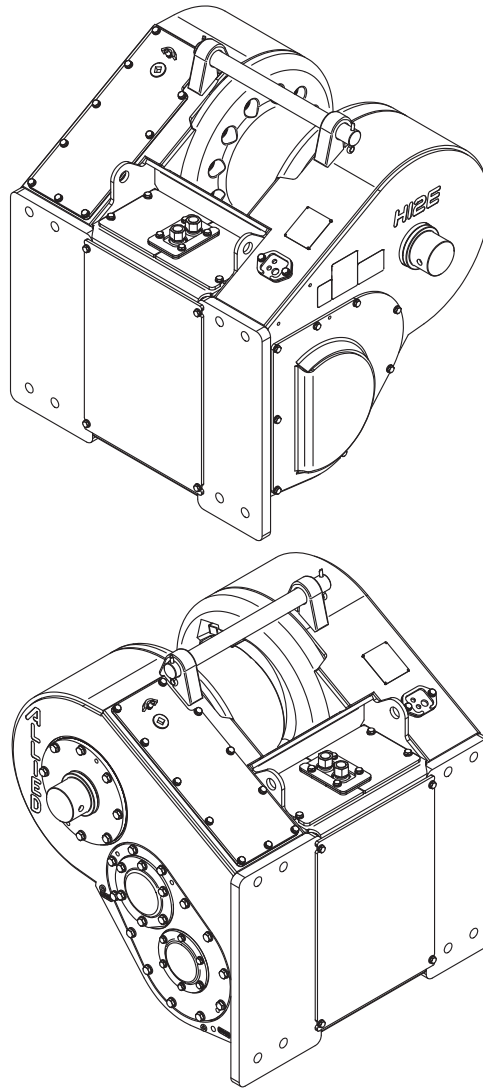
**Read, understand and observe the Safety Summary
on pages 0-3 through 0-5
to prevent injury to personnel and damage to equipment.**

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

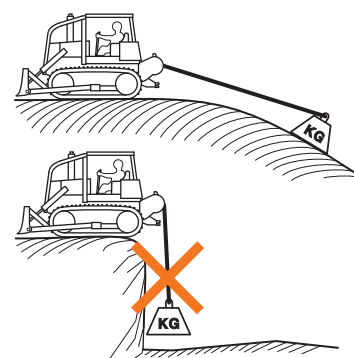
WARNING

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!



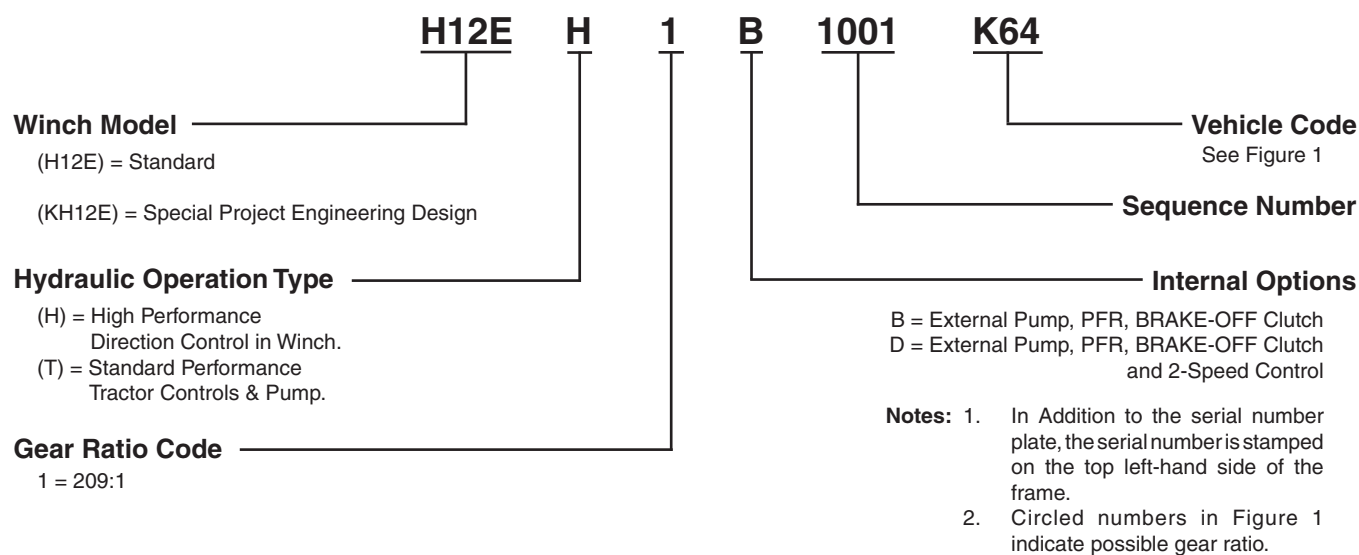
- Do not terminate wire rope to tail chain by the use of a knot.
- Do not handle wire rope if the hook end is not free. A load could break away, suddenly tensioning the wire rope, resulting in serious injury or death.
- Stay clear of wire rope entry areas (fairlead or arch rollers, winch drum etc).

- 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 S/N 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	L Liebherr
50					D85X-15 ①	
54						PR754 ①
59		D8R Series II ①				
64					D155AX-6/7/8 ①	
65					D275AX-5 ①	
74		D8T ①				
75			JD1050K ①			

Figure 1 - Tractor Identification Codes and Available Gear Ratios for H12E Winch

How to use the Illustrated Parts manual

5-2 Numerical Index

Part No.	Page	Item	Description	Part No.
108877W	2-8	23	O-Ring	1305093W
109453W	1-9	9	O-Ring	1306001W
109453W	2-2	10	O-Ring	1306002W
110322W	3-12	9	Clamp	1306003W
110322W	3-27	11	Shim, .005	1306003W
110931W	2-5	23	Shim, .007	1308400W
110932W	2-5	23	Shim, .020	1308401W
110933W	2-5	23	Clamp, Strap	1308402W
114312W	3-10	24	O-Ring	1308403W
118361W	3-7	13	O-Ring	1308406W
118361W	3-8	16	O-Ring	1308436W
118361W	3-9	21	O-Ring	1308437W
118365W	3-9	26	O-Ring	1308438W
119491W	2-6	17	Seal, Oil	1308439W
12327W	2-5	3	Capscrew	1308440W
12447W	2-11	9	Bearing	1308441W
125399W	2-2	8	Clamp	1308442W
127045W	3-3	14	Clamp	1308443W
127045W	3-5	14	Snap-Ring	1310110W
127045W	2-10	3	Snap-Ring	1310111W

0-2 Index-Master

Description	Page No.
Arch	4-3
Box-Gear	2-5 thru 2-7
Brake	2-10
	2-9
	2-9
	1-4
	4-3 & 4-4

2-2 Shaft-PTO
Last Used on S/N W8LP-2099 & AW8L-1000

Tractor Model	Shaft-PTO (Item 3) Gear Ratio	Bearing Carrier (Item 4)	Pin (Item 5)	Lo Pin (Item 6)
Caterpillar D7 DD	49.8:1	132909W	98362W	19929W
Caterpillar D7 PS	25977W	132909W	98362W	19929W
Caterpillar 572	25977W	132909W	98362W	9583W
Flat-Allis 168	25373W		216222W	19929W
Flat-Allis 20		132909W	216222W	9583W
Dresser TD-20E	25978W		98362W	19929W
Komatsu D65A-12E-18	213032W		98362W	21313W
Terex D700A	259854W	253030W	98362W	

0-1 Index-Illustrated

Diagram 1: PTO Assembly

1. Frame/Covers/Decals/Parts-Mounting
2. Gear Train/Shaft
3. Hydraulics/Controls
4. Optional
5. Numerical Index

Diagram 2: Shaft-PTO Detail

1. Shim, .005
2. Shim, .007
3. Seal, Oil
4. Shaft, PTO
5. Bearing Carrier
6. Pin
7. Ring, Lock
8. Coupler
9. Ring, Snap
10. Bearing
11. O-Ring

Table: Shaft-PTO Details

Item	Part No.	Description	A	B	Item
1	134078W	Shim, .005	A/R	A/R	11
1	134079W	Shim, .007	A/R	A/R	11
2	79383W	Seal, Oil	1	1	13
3	"a	Shaft, PTO	1	1	14
4	"a	Bearing Carrier	1	1	15
5	"a	Pin	1	1	16
6	"a	Ring, Lock	1	1	1
7	"a	Coupler	1	1	1
8	35573W	Ring, Snap	1	1	1
9	125399W	Bearing	1	1	1
10	109453W	O-Ring	1	1	1

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

1. Determine the function and application of the part required. Turn to the illustrated index page immediately behind the front cover, and select the most appropriate area.
2. Use the table of contents at the beginning of each chapter 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:

1. Determine the assembly the required part is used on. Turn to the master index (which immediately follows the illustrated index).
2. 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:

Use the numerical index to find the part number. Turn to the page 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 dealer, or contact Allied Systems Company:

Allied Systems Company
21433 SW Oregon Street
Sherwood, OR 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.

Oil Specifications

Oil Specifications

The hydraulic winch motor and control system operate off of the tractor implement hydraulic system. The winch gear case is filled with hydraulic transmission oil and is separate from the tractor hydraulic system. Factory fill for the gear case is oil meeting **Caterpillar TO-4 specification SAE 30 weight**. For proper operation of the BRAKE-OFF clutch, only oils meeting this specification should be used in the winch gear case.

Other hydraulic oils meeting this specification are:

ExxonMobil, **Mobiltrans HD-30**

Chevron, **Chevron Drive Train Fluid HD SAE 30**.

Oil Capacity

The oil capacity for the H12E gear case is 9 gallons (26.5 liters).

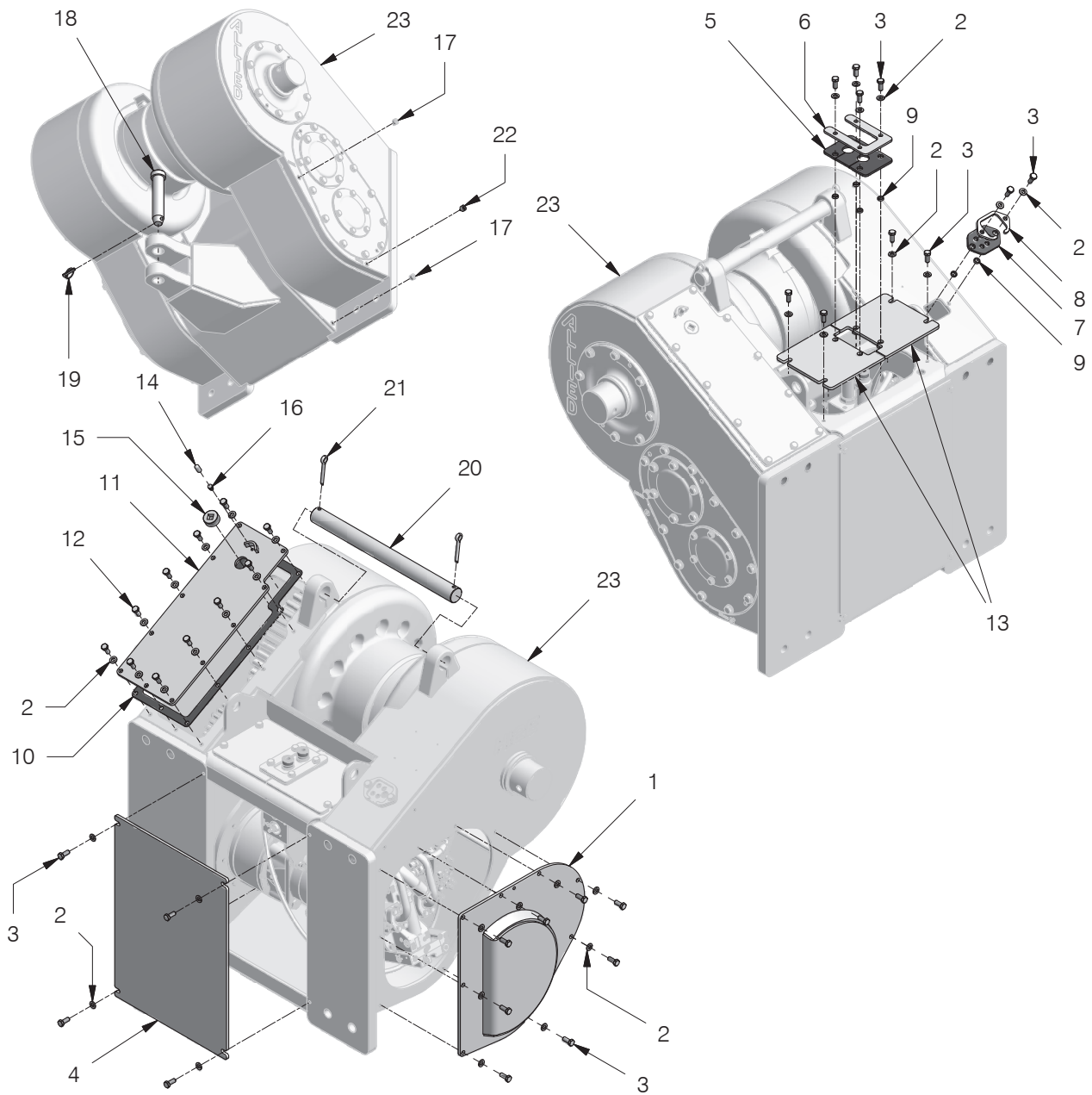
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**Frame/Covers/Mounting Parts/
Nameplate & Decals**

Frame/Covers	1-2 & 1-3
Mounting Parts	1-4 thru 1-12
Nameplate & Decals	1-13

Frame/Covers

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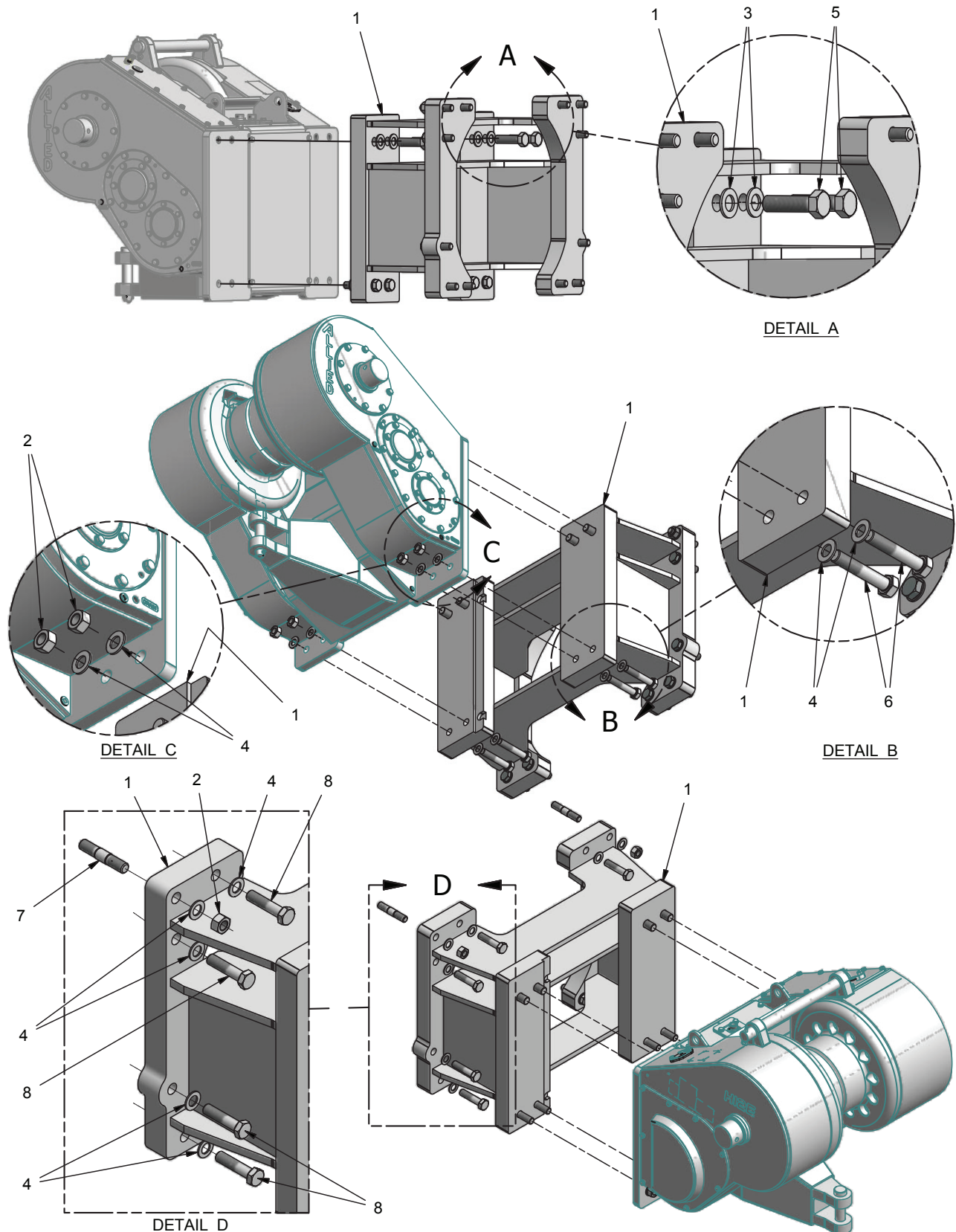
Frame/Covers

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2313262	Cover, Left-Hand	1	16	21420W	Plug, Breather	1
2	296422W	Washer	34	17	15315W	Fitting	2
3	293645W	Capscrew	23	18	95959W	Pin, Drawbar	1
4	2313381	Cover, Front	1	19	2303221W	Pin, Retaining	1
5	2314164	Seal, Top	1	20	92606W	Rod, Tie	1
6	2312535	Clamp, Top	1	21	15272W	Pin	2
7	*a 2312208	Gasket, Hose Seal	1	22	15290W	Fitting	1
	*b 2313831	Gasket, Hose Seal	1	23	2313225	Frame, H12E	1
	*c 2312118	Gasket, Hose Seal	1				
8	2312117	Clamp, Gasket	1				
9	2312119	Spacer	6	*a	Used on Caterpillar D8T (C74), Komatsu D85X-15 (K50), Komatsu D275AX-5 (K65), Liebherr PR754 (L54)		
10	2313396	Gasket, Top, Right-Hand	1				
11	2313385	Cover, Top, Right-Hand	1	*b	Used on Caterpillar D8R Series II (C59), Komatsu D155AX-6/7/8 (K64)		
12	2312486	Capscrew	11				
13	2313441	Cover, Top	2	*c	Used on John Deere 1050K (E75)		
14	2300962W	Cap, Breather	1				
15	15319W	Fitting	1				

Mounting Parts

Caterpillar D8R Series II (C59),
Caterpillar D8T (C74)
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Mounting Parts

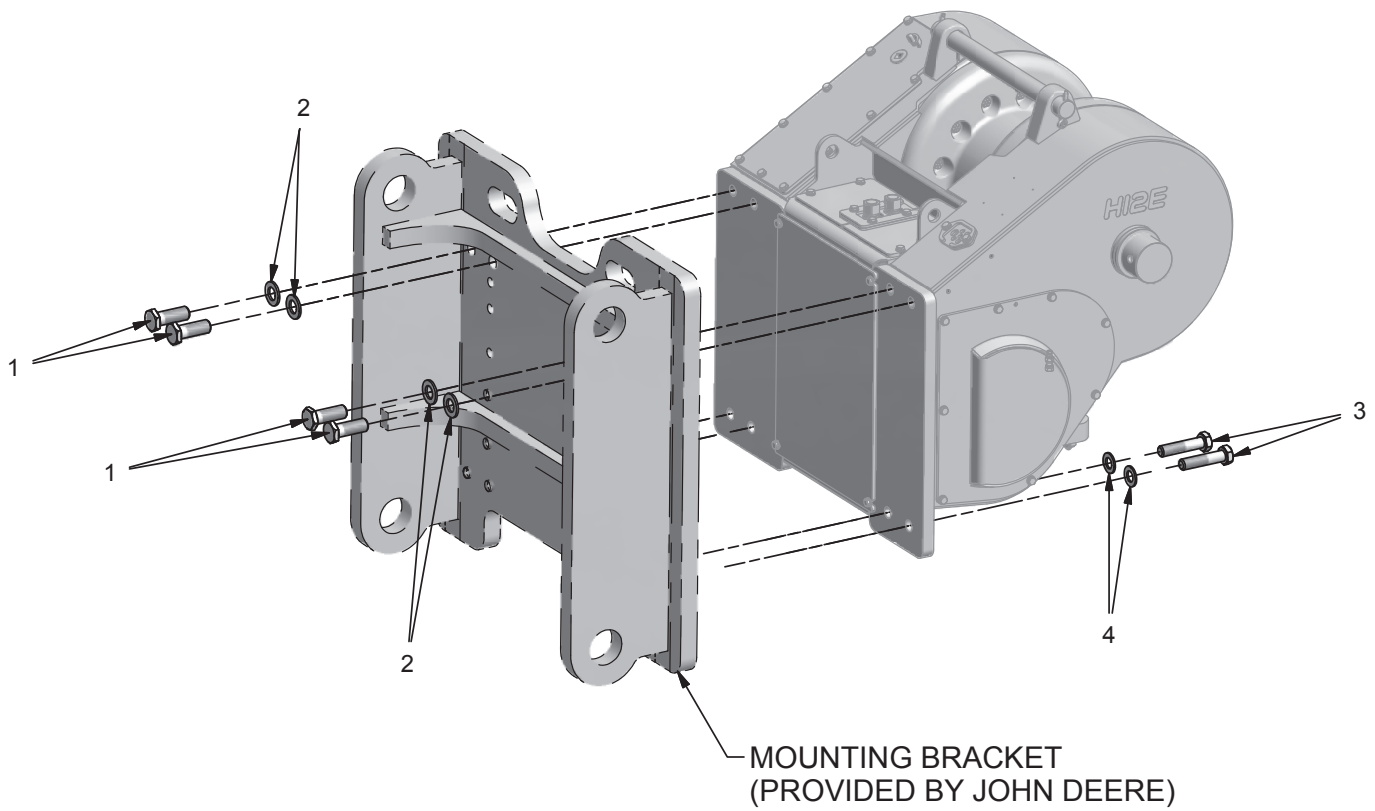
Caterpillar D8R Series II (C59),
Caterpillar D8T (C74)
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2314598	Bracket, Mounting	1	7	*a 2310880	Stud	2
2	*b 292661W	Nut	6	8	*b Y19C-M30130	Capscrew	10
3	296442W	Washer	4				
4	296438W	Washer	20		*a Use Loctite Kit, 230064W		
5	*b Y19C-M36130	Capscrew	4		*b Use Thread Lock, 318702W		
6	*b Y19C-M30160	Capscrew	4				

Mounting Parts

John Deere 1050K (E75)

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Mounting Parts

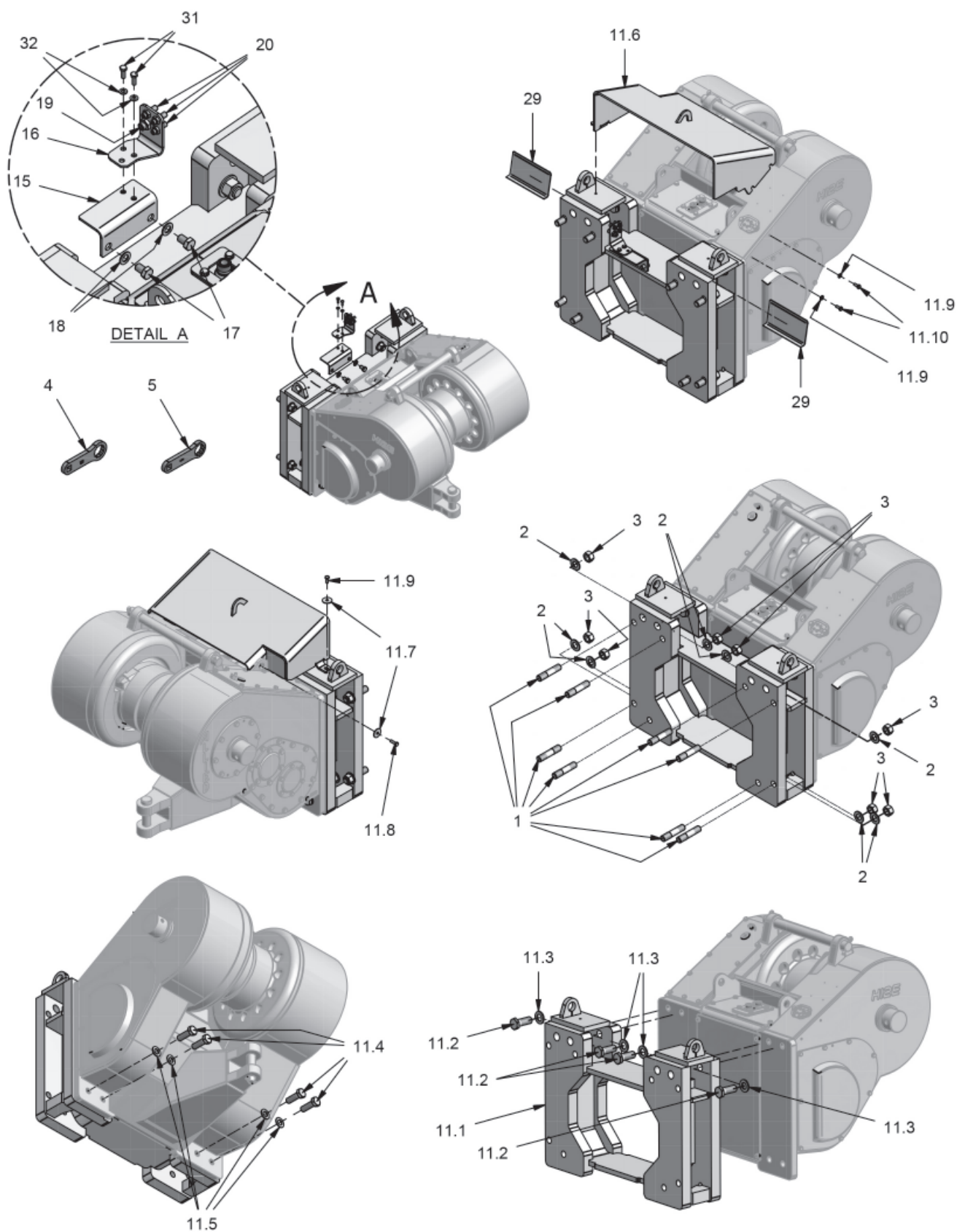
John Deere 1050K (E75)
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	*a Y19C-M36110	Capscrew	4	4	296438W	Washer	4
2	296442W	Washer	4				
3	*a Y19C-M3090	Capscrew	4	*a	Use Thread Lock, 318702W		

Mounting Parts

Komatsu D85X-15 (K50)

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Mounting Parts

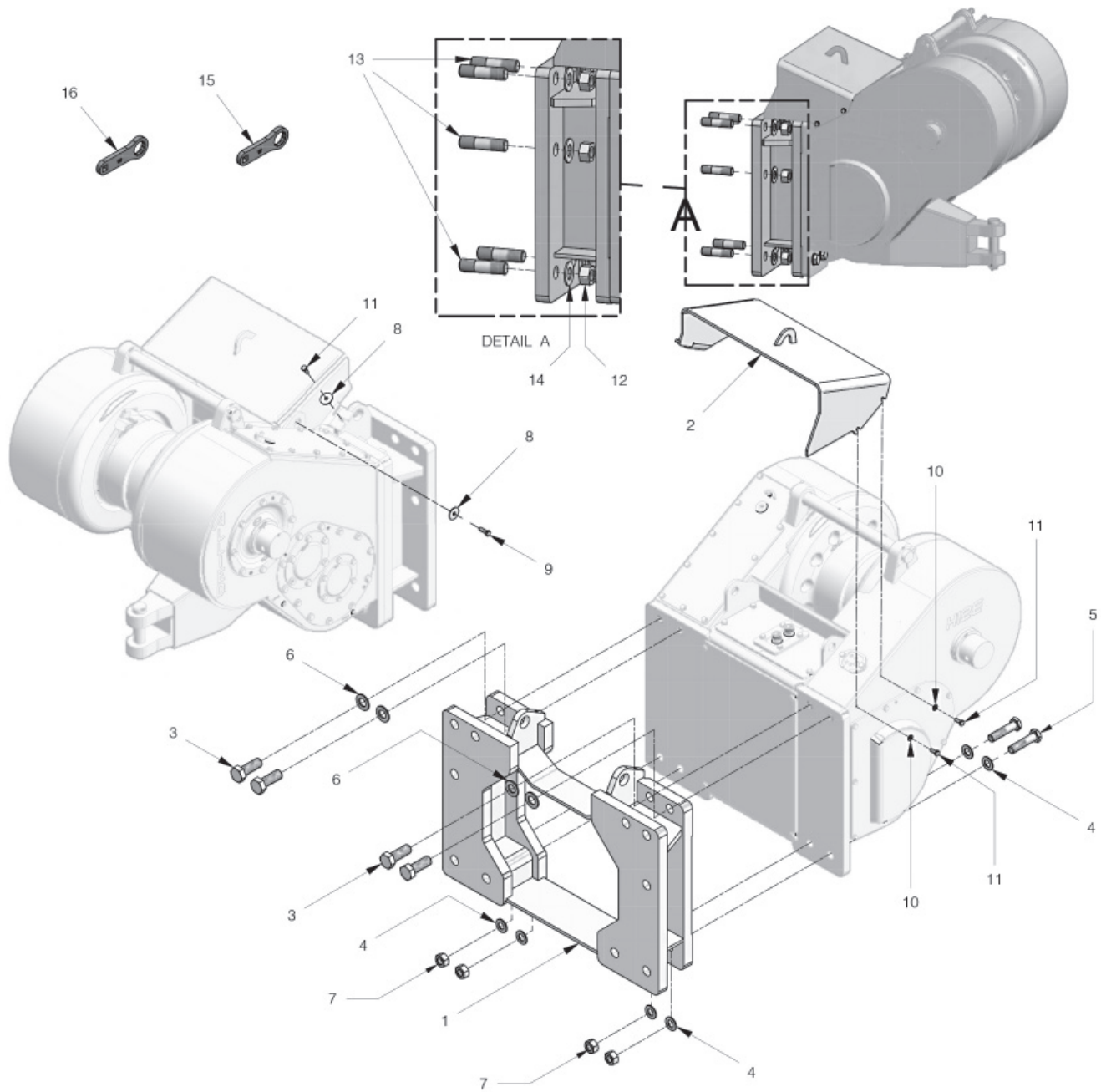
Komatsu D85X-15 (K50)

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty	
1	*b	2315087	Stud	8	11.10	296442W	Washer	2
2		225851	Washer	8	15	2315007	Plate, Weldment	1
3	*a	221724W	Nut	8	16	2313459	Plate, Bulkhead	1
4		2313826	Wrench, Torque Extension (55mm)	1	17	Y09C-M2030	Capscrew	2
5		2313682	Wrench, Torque Extension (50mm)	1	18	296430W	Washer	2
11.1		2315036	Bracket, Mounting	1	19	R834103	Fitting	1
11.2	*b	Y19C-M36100	Capscrew	4	20	R834100	Fitting	3
11.3		296442W	Washer	4	29	2314061	Plate, Cover	2
11.4		Y19C-M3090	Capscrew	4	31	293629W	Capscrew	2
11.5		296438W	Washer	4	32	296420W	Washer	2
11.6		2315062	Guard, Top	1				
11.7		2305715W	Washer	2	*a	Use Thread Lock, 318702W		
11.8		293647W	Capscrew	1	*b	Use Loctite Kit, 230064W		
11.9		293645W	Capscrew	3				

Mounting Parts

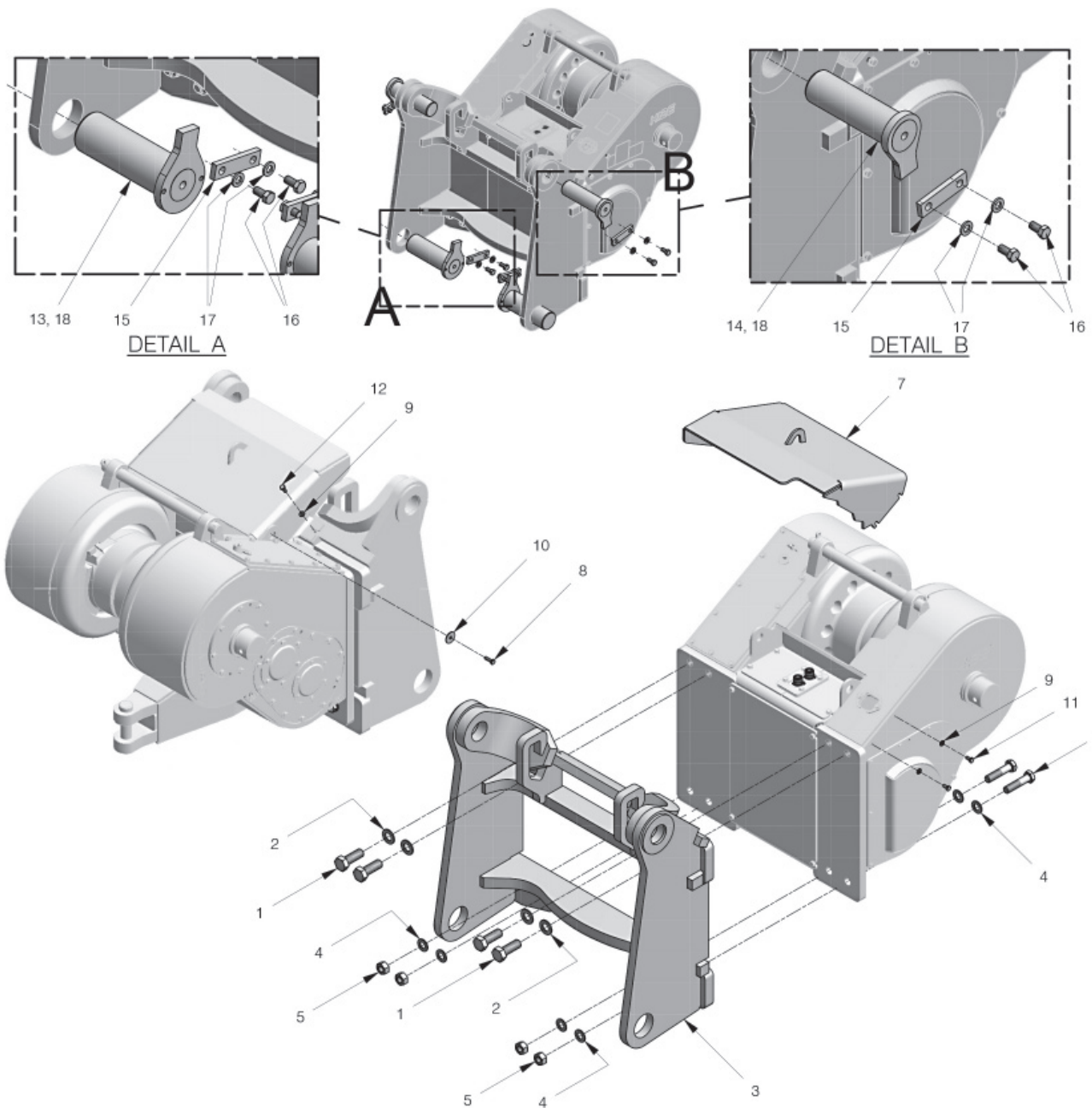
Komatsu D155AX-6/7/8 (K64)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2313530	Bracket, Mounting	1	10	296422W	Washer	2
2	2313804	Guard, Top	1	11	293645W	Capscrew	3
3	Y19C-M36100	Capscrew	4	12	221728W	Nut	10
4	296438W	Washer	8	13	*a 2313867	Stud	10
5	Y19C-M30130	Capscrew	4	14	221786W	Washer	10
6	296442W	Washer	4	15	2313824	Wrench, Torque Extension (2.25")	1
7	292661W	Nut	4	16	2313826	Wrench, Torque Extension (55mm)	1
8	2305715W	Washer, Fender - 1/2"	2				
9	293647W	Capscrew	1		*a Use Loctite Kit, 230064W		

Mounting Parts

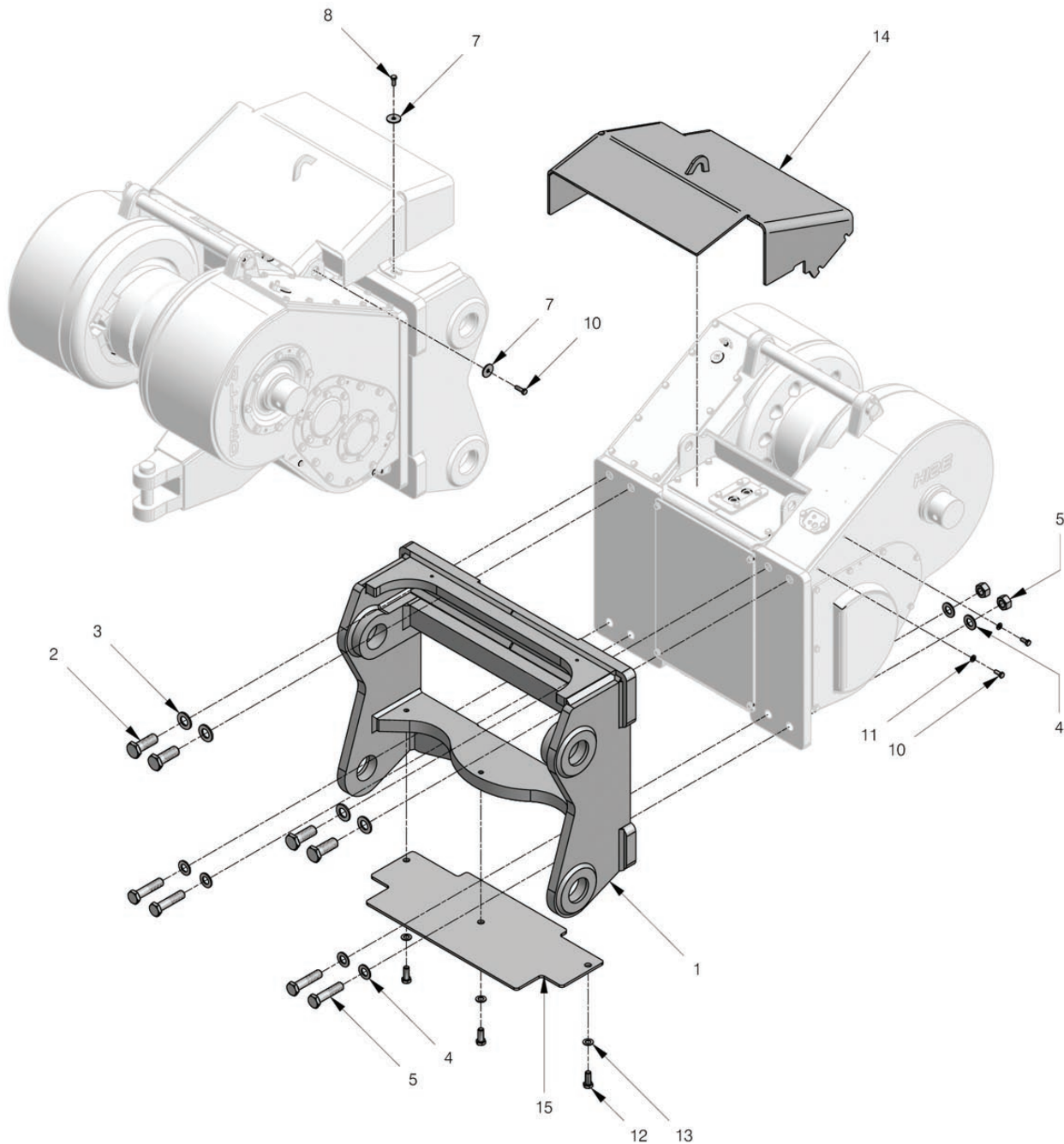
Komatsu D275AX-5 (K65)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	Y19C-M36100	Capscrew	4	10	2305715W	Washer, Fender - 1/2"	1
2	296422W	Washer	4	11	293644W	Capscrew	2
3	2313423	Bracket, Mounting	1	12	293645W	Capscrew	1
4	296438W	Washer	8	13	2312770	Pin, 110 mm	2
5	292661W	Nut	4	14	2312771	Pin, 90 mm	2
6	Y19C-M30130	Capscrew	4	15	2312767	Plate, Keeper	4
7	2313479	Guard, Top	1	16	2312768	Bolt	8
8	293647W	Capscrew	1	17	2312769	Washer	8
9	296422W	Washer	3	18	2312772	Fitting, Grease	4

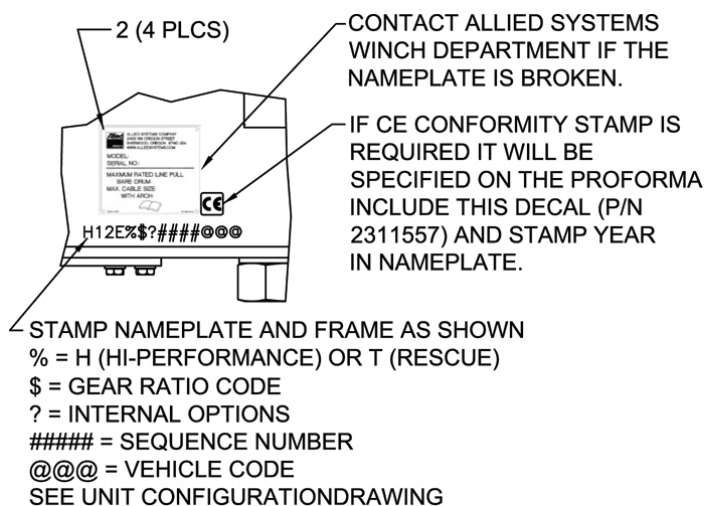
Mounting Parts

Liebherr PR754 (L54)

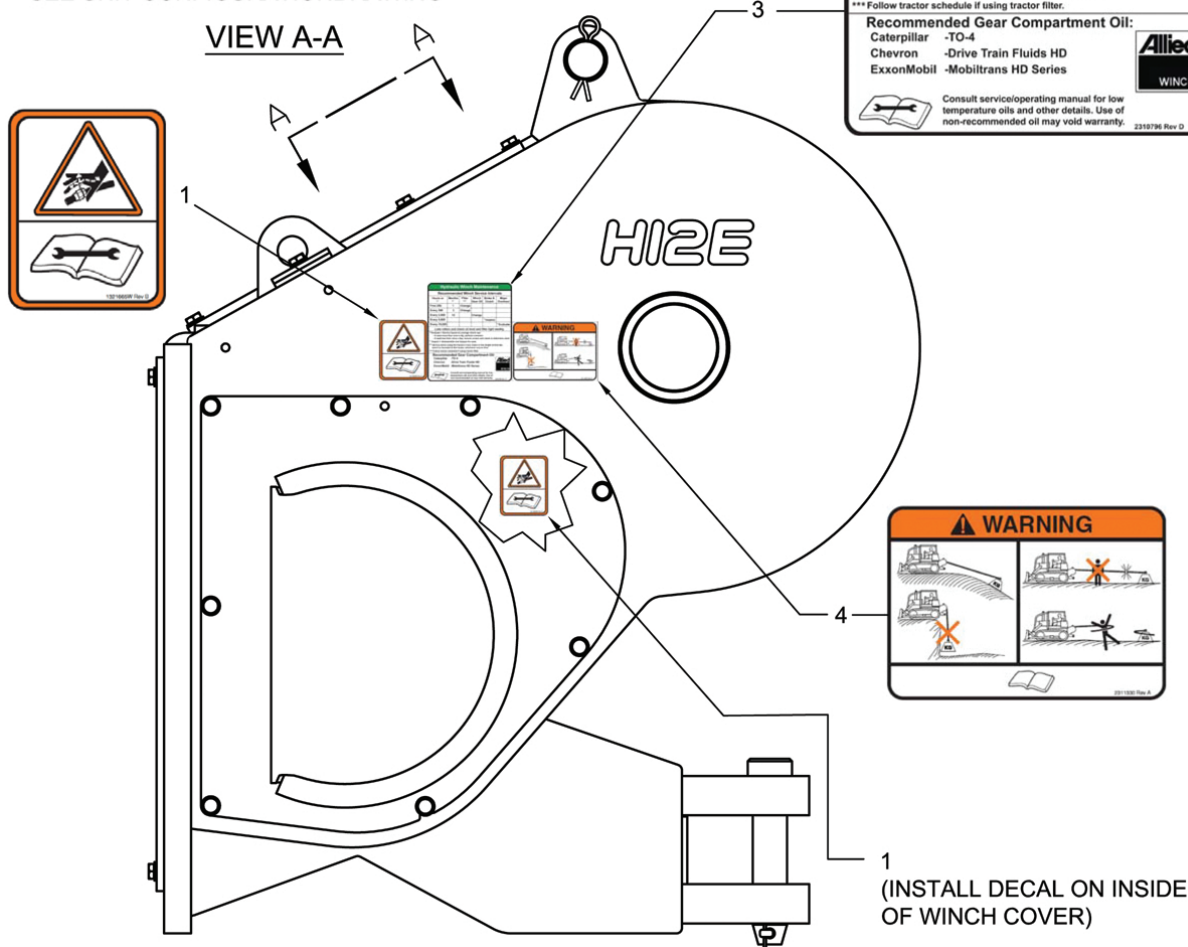


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2314126	Bracket, Mounting	1	8	293647W	Capscrew	1
2	Y19C-M36100	Capscrew	4	10	293645W	Capscrew	3
3	296422W	Washer	4	11	296422W	Washer	2
4	296438W	Washer	8	12	293706W	Capscrew	3
5	Y19C-M30130	Capscrew	4	13	296430W	Washer	3
6	292661W	Nut	4	14	2314223	Guard, Top	1
7	2305715W	Washer, Fender - 1/2"	2	15	2314216	Guard, Lower	1

Nameplate & Decals



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	-TO-4									
Chevron	-Drive Train Fluids HD									
ExxonMobil	-Mobiltrans HD Series									
Consult service/operating manual for low temperature oils and other details. Use of non-recommended oil may void warranty.										
										
2310796 Rev D										



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	1321665W	Decal, Warning	2	3	2310796	Decal, Maintenance	1
2	16602W	Screw	4	4	2311330	Decal, Load & Wire Rope Safety	1

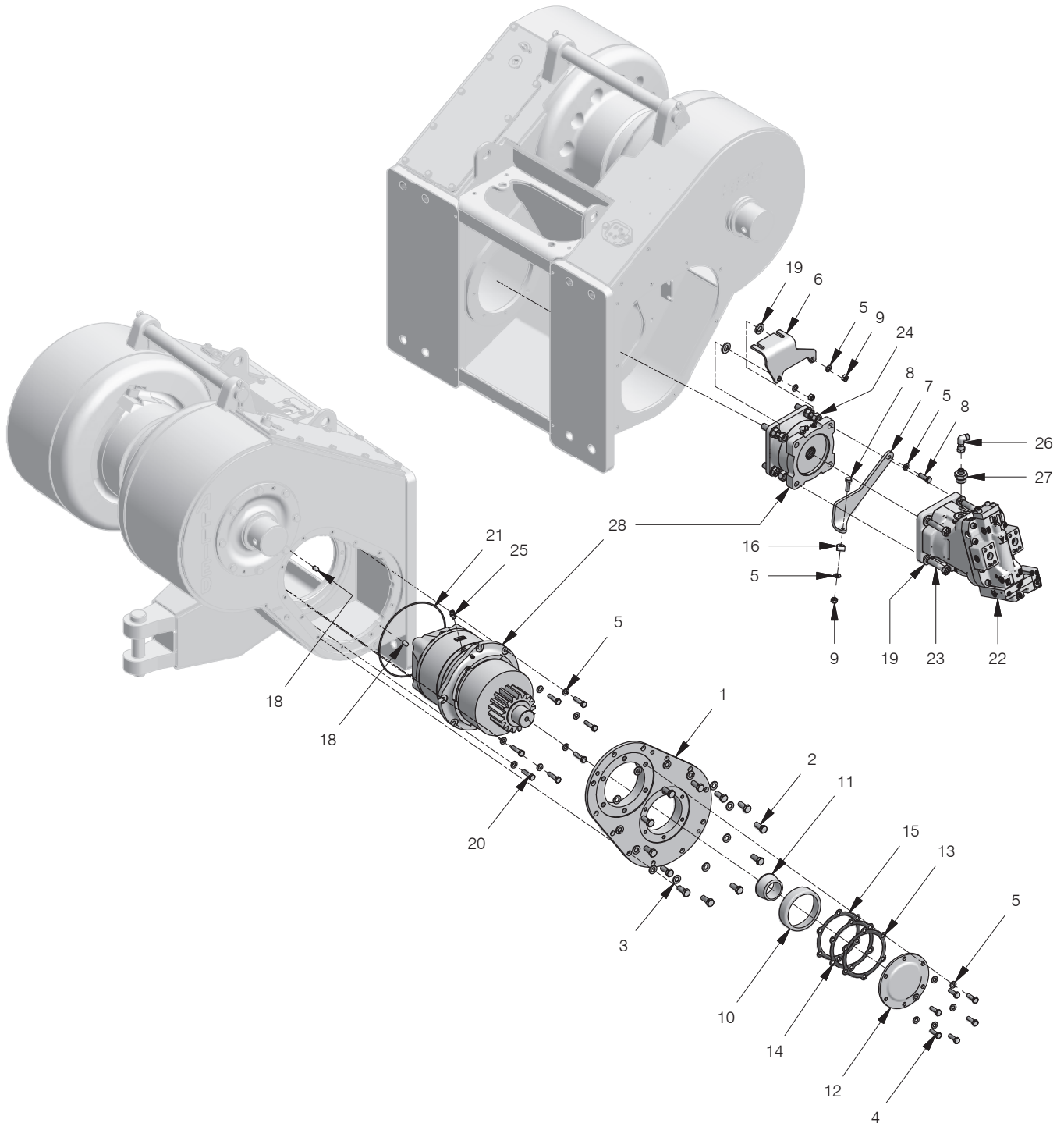
Intentionally Blank

Gear/Shaft Train

Brake, Dry Disc	2-6 & 2-7
Clutch Assembly	2-9
Planetary Reducer Kit	2-8
Shaft - Drum	2-10 & 2-11
Shaft - Intermediate Gear	2-12
Shaft Assembly - Motor	2-4 & 2-5
Shaft Group - Motor.	2-2 & 2-3

Motor Shaft Group

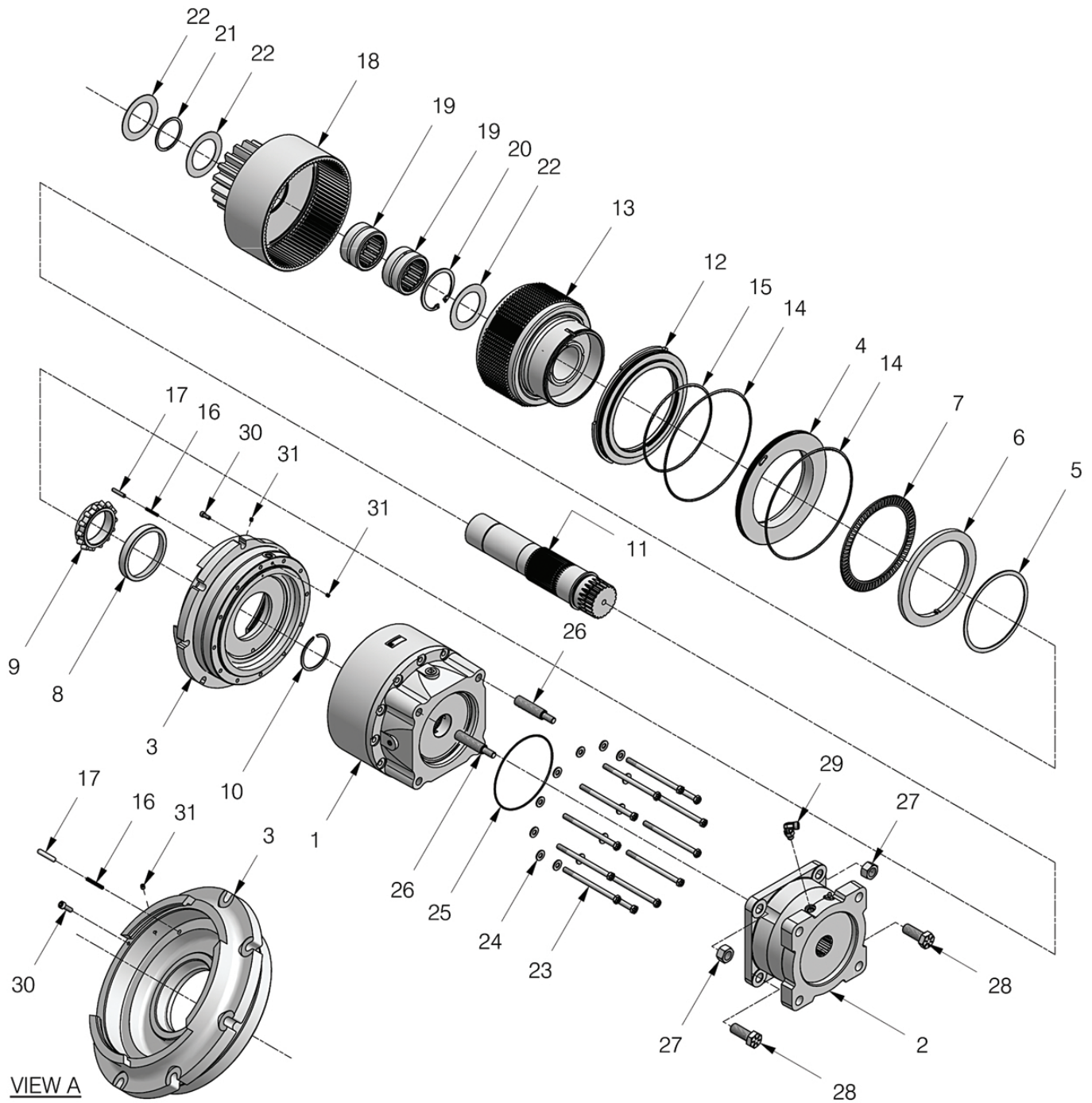
Page 1 of 2



Motor Shaft Group

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	*a 2313261	Cover, Right-Hand	1	22	*b 2313260	Motor, Hydraulic (3-24)	1
2	2313373	Capscrew, Sealing	12		*c 2314180	Motor, Hydraulic (3-24)	1
3	296426W	Washer	12		*d 2314590	Motor, Hydraulic (3-24)	1
4	2312487	Capscrew, Sealing	6		*e 2315035	Motor, Hydraulic (3-24)	1
5	296422W	Washer	17	23	177192W	Capscrew	4
6	2313370	Plate, Manifold Bracket	1	24	221716W	Nut	4
7	2313259	Plate, Motor Support	1	25	231439	Fitting	1
8	293647W	Capscrew	2	26	R833117	Fitting	1
9	292656W	Nut	3	27	R833802	Fitting	1
10	30104W	Cup, Bearing	1	28	2313265	Assembly, Motor Shaft (See 2-4)	1
11	230326W	Cone, Bearing	1				
12	95490W	Retainer	1	*a	Apply Bead of 313022W Adhesive		
13	95033W	Shim .005	A/R	*b	Used on Komatsu D155AX-6/7/8 (K64), and D275AX-5 (K65)		
14	95166W	Shim .007	A/R	*c	Used on John Deere 1050K (E75), and Liebherr PR754 (L54)		
15	95034W	Shim .020	A/R	*d	Used on Caterpillar D8R Series II (C59), and D8T Tier 4 (C74)		
16	R13807640	Clip, Insulation	1	*e	Used on Komatsu D85X-15 (K50)		
18	176208W	Pin	2				
19	221777W	Washer	6				
20	2312488	Capscrew, Sealing	7				
21	R13804959	O-Ring	1				

Motor Shaft AssemblyH12ET1B
Page 1 of 2

Motor Shaft Assembly

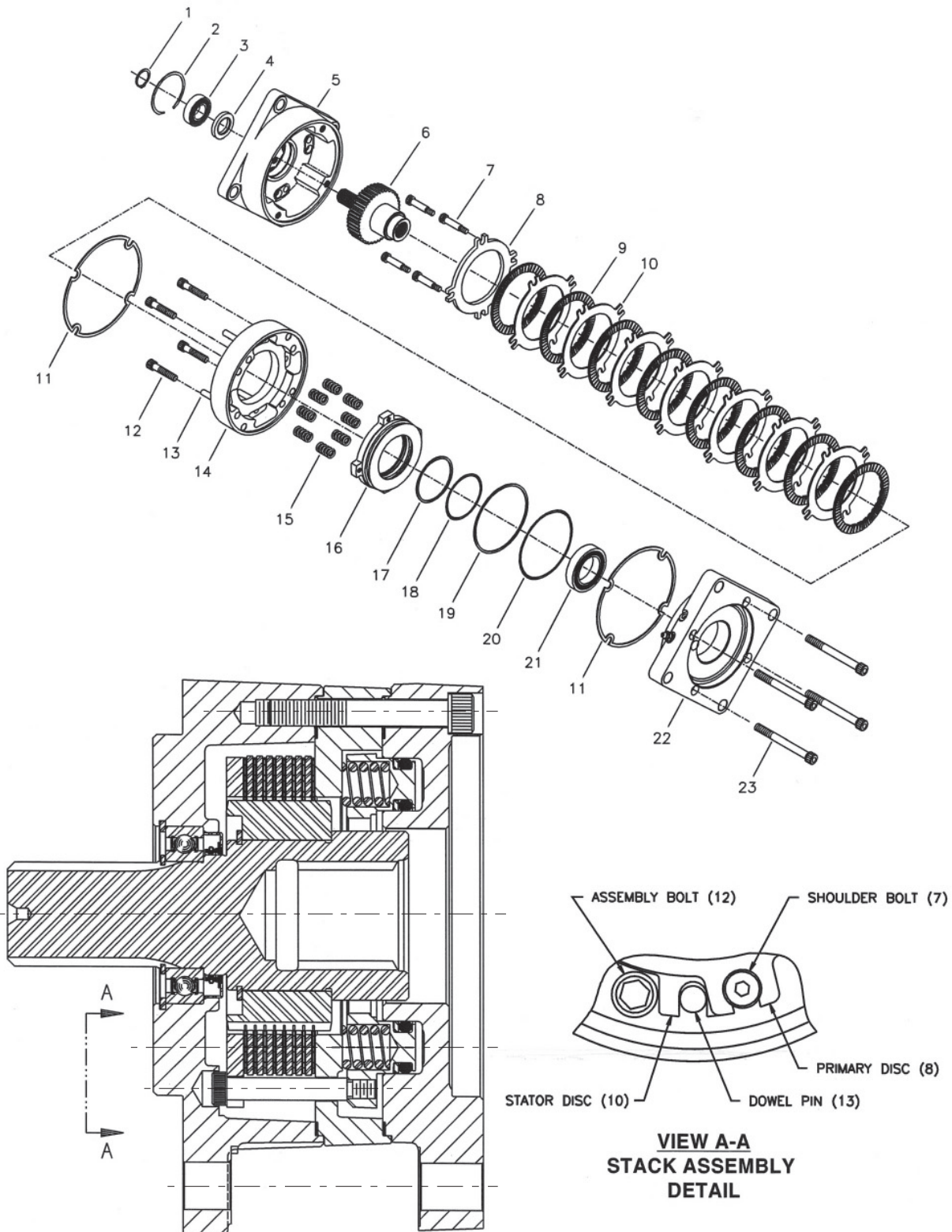
H12ET1B

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313265	Assembly, Motor Shaft	1				
1	2312554	. Reducer, Planetary Kit (See 2-6)	1	17	239147W	. Pin	1
2	2312155	. Brake, Dry Disk, D Mount (See 2-7)	1	18	2313398	. Gear, Clutch Spider - 17T	1
3	2313257	. Housing, Clutch	1	19	2313558	. Bearing, Needle	2
4	2312039	. Piston, Clutch	1	20	12895W	. Ring, Snap	1
5	2311683	. Ring, Snap	1	21	Y435307.41	. Ring, Retaining	1
6	2312442	. Ring, Thrust	1	22	2313409	. Shim .048	3
7	2311655	. Bearing, Thrust Needle Roller	1	23	R13801826	. Capscrew	12
8	137153W	. Cup, Bearing	1	24	221767W	. Washer	12
9	137155W	. Cone, Bearing	1	25	237349	. O-Ring	1
10	2311684	. Ring, Snap	1	26	2312041	. Stud	2
11	2313129	. Shaft, Clutch	1	27	221716W	. Nut	2
12	2311880	. Ring, Seal	1	28	Y17C-1232	. Capscrew	2
13	2313127	. Assembly, Clutch (See 2-8)	1	29	R833251	. Fitting	1
14	86585W	. O-Ring	2	30	R13811617	. Capscrew	1
15	87287W	. O-Ring	1	31	2311643	. Plug, Extension	2
16	2303992W	. Spring	1				

Dry Disc Brake

Page 1 of 2

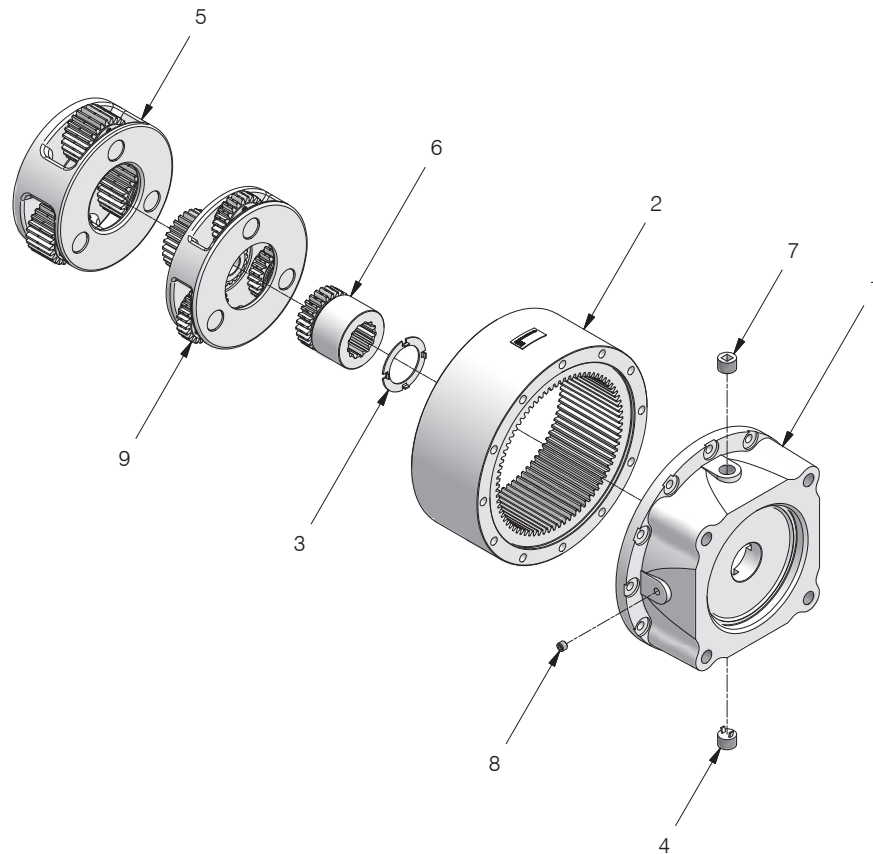


Dry Disc Brake

Page 2 of 2

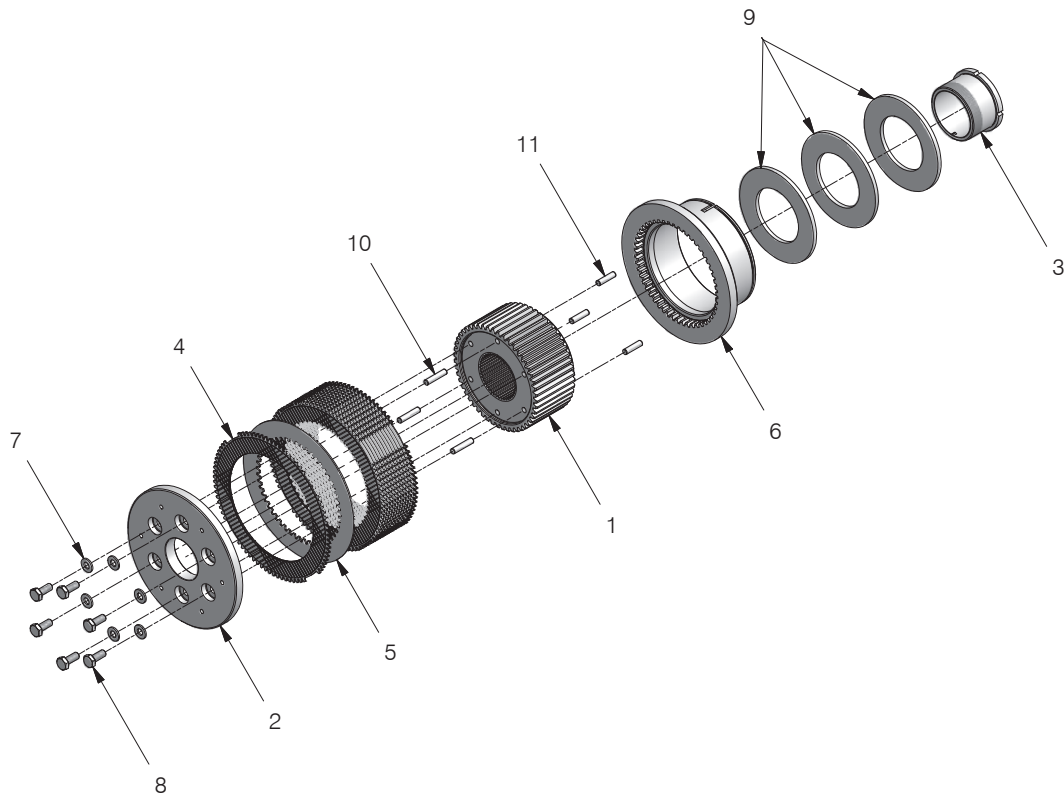
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2312155	Brake, Dry Disc - D Mount	1				
1	NSS	. Ring, Retaining	1	15	*c	NSS . Spring, Red	10
2	NSS	. Ring, Retaining	1	16		NSS . Piston	1
3	*b	NSS . Bearing	1	17	*a	NSS . Ring, Backup	1
4	*a,*b	NSS . Seal, Oil	1	18		NSS . O-Ring	1
5	NSS	. Plate, Cover	1	19	*a	NSS . Ring, Backup	1
6	NSS	. Assembly, Spline Shaft	1	20		NSS . O-Ring	1
7	NSS	. Bolt	4	21	*b	NSS . Bearing	1
8	*d	NSS . Disc, Primary	1	22		NSS . Plate, Pressure	1
9	*d	NSS . Disc, Rotor	8	23		NSS . Capscrew	4
10	*d	NSS . Disc, Stator	7				
11	*a,*b,*c,*d	NSS . Case, Gasket	2		*a	Included in O-Ring Repair Kit 2312302	
12	NSS	. Capscrew	4		*b	Included in Bearing Repair Kit 2312303	
13	NSS	. Pin, Dowel	4		*c	Included in Spring Repair Kit 250850	
14	NSS	. Plate, Spring	1		*d	Included in Lining Repair Kit 250847	

Planetary Reducer Kit



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2312554	Reducer, Planetary Kit	1				
1	2312276	. Cover	1	6	2312528	. Gear, Sun - 20T	1
2	2312284	. Gear, Ring - 76T	1	7	15315W	. Fitting	1
3	2312277	. Washer, Thrust	1	8	15483W	. Fitting	1
4	15290W	. Fitting	1	9	2312529	. Assembly, PRI Carrier	1
5	2312283	. Assembly, Sec Carrier - 25T	1				

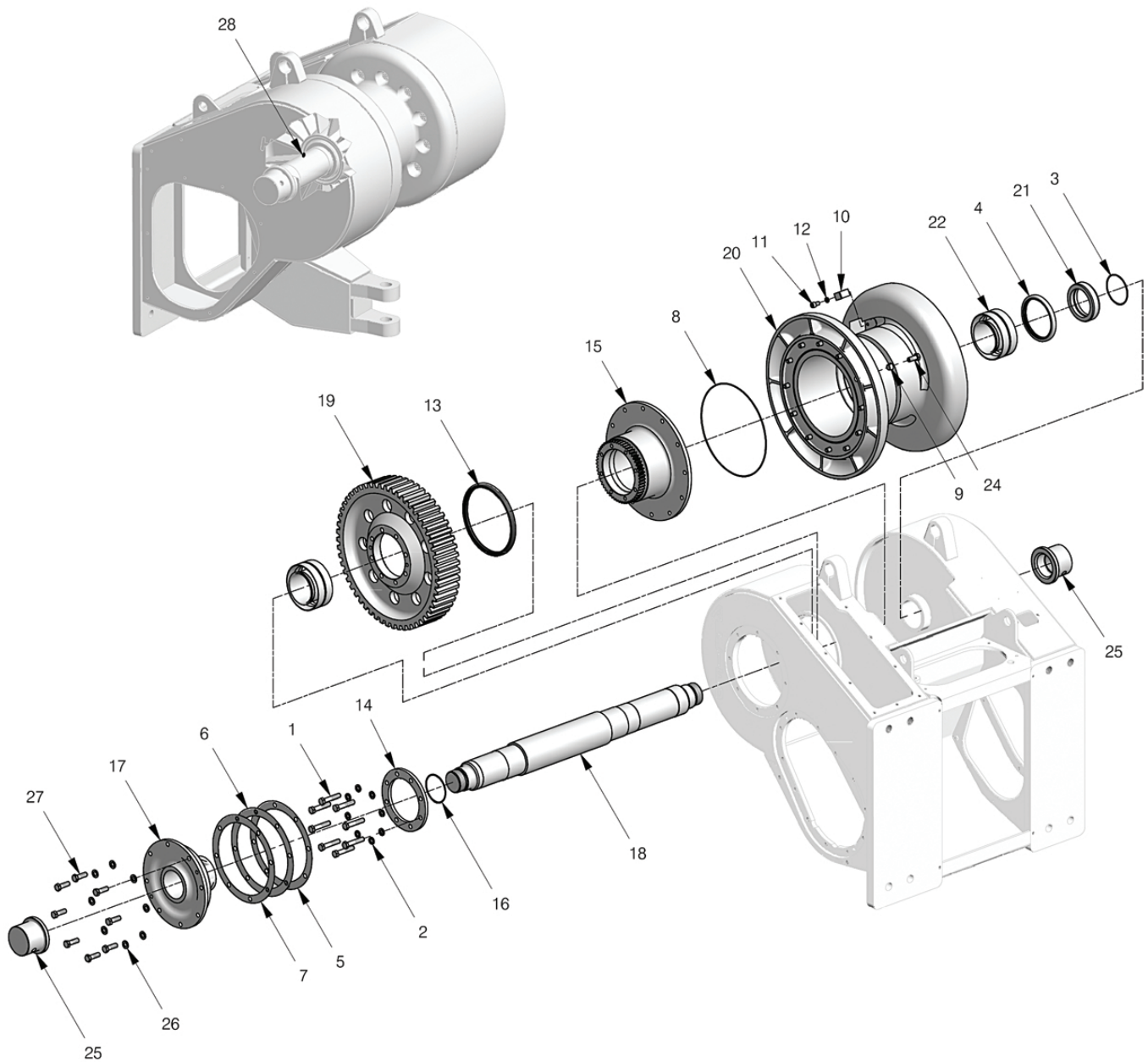
Clutch Assembly



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313127	Assembly, Clutch	1				
1	2313126	. Hub, Clutch	1	7	296420W	. Washer	6
2	2313268	. Plate, Clutch	1	8	293628W	. Capscrew	6
3	2313408	. Retainer, Spring	1	9	2311251	. Spring, Belleville	3
4	328715W	. Disc, Friction	14	10	222714W	. Pin, 0.3125 x 1.500	3
5	261542W	. Plate, Separator	13	11	222713W	. Pin, 0.3125 x 1.250	3
6	2311906	. Plate, Pressure	1				

Drum Shaft

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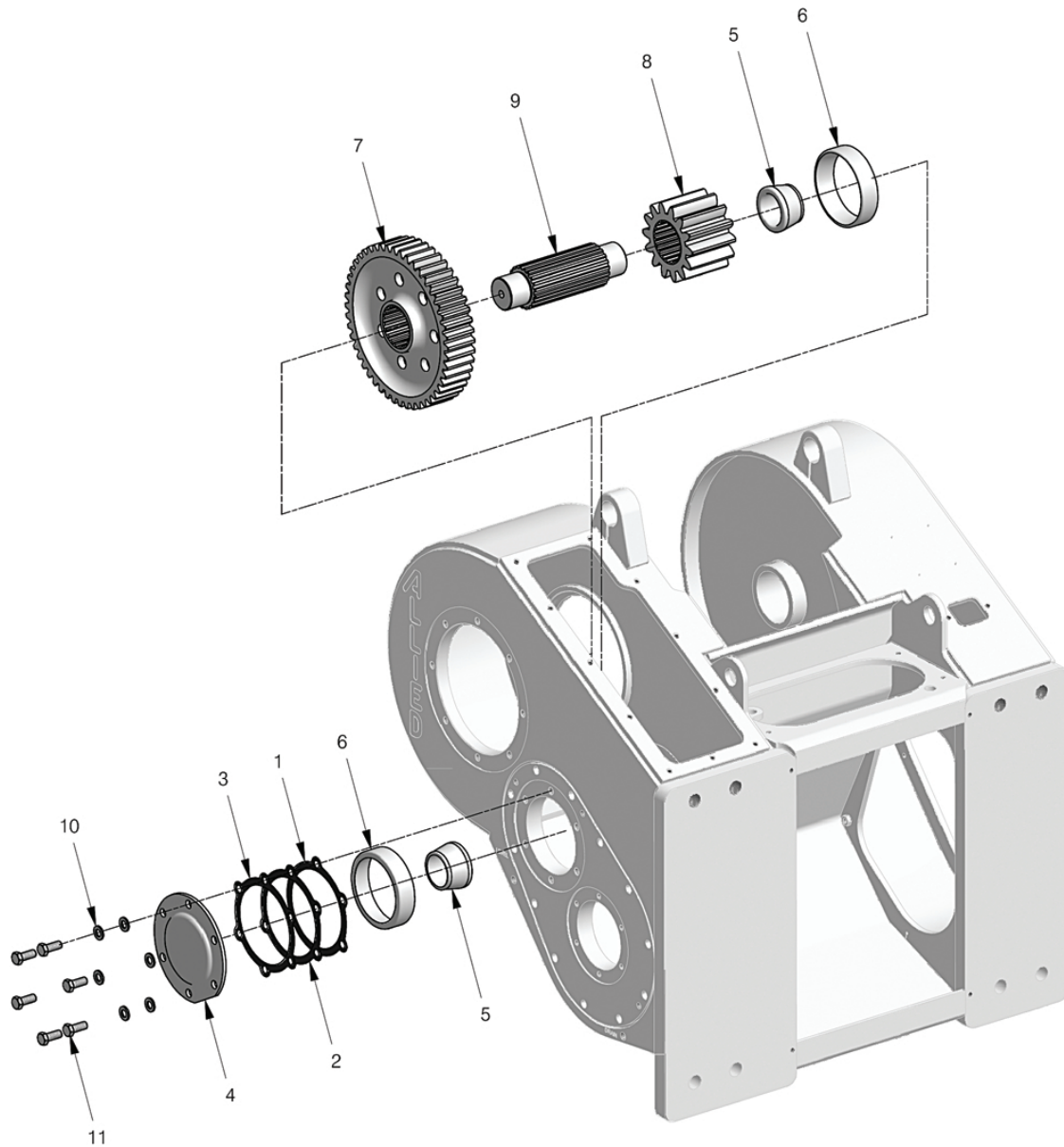


Drum Shaft

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	221637W	Capscrew	8	19	*c 95496W	Gear, Drum	1
2	15160W	Washer	8		*d 2310951	Gear, Drum	1
3	15888W	O-Ring	1	20	*a 182179W	Drum	1
4	44570W	Seal, Oil	1	21	172800W	Spacer	1
5	133274W	Shim .005	A/R	22	230329W	Bearing, Roller	2
6	133275W	Shim .007	A/R	24	2310891	Capscrew	12
7	133276W	Shim .020	A/R	25	*b 2313258	Nut, Blind	2
8	39764W	O-Ring	1	26	296426W	Washer	8
9	53559W	Thimble, Tapered	12	27	2313374	Capscrew, Sealing	8
10	274908W	Keeper	1	28	Y433070.45	Fitting, Lube	1
11	16321W	Capscrew	1				
12	177949W	Washer	1		*a	Add Two Quarts Hydraulic Oil Prior to Installation of Drum Retainer.	
13	141149W	Seal, Oil	1		*b	Use 280472W Adhesive Sealant	
14	95497W	Retainer, Ring	1		*c	Last Used on S/N H12E-1002 (Discontinued. Use the Parts with Designation *d)	
15	182178W	Adapter	1		*d	First Used on S/N H12E-1003	
16	15886W	O-Ring	1				
17	*c 172802W	Retainer, Drum Shaft	1				
	*d 2310950	Retainer, Drum Shaft	1				
18	*c 242840W	Shaft, Drum	1				
	*d 2310949	Shaft, Drum	1				

Intermediate Gear Shaft



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	93284W	Shim .005	A/R	7	95494W	Gear	1
2	93285W	Shim .007	A/R	8	95493W	Gear, Pinion	1
3	93286W	Shim .020	A/R	9	95492W	Shaft	1
4	93287W	Retainer	1	10	296426W	Washer	6
5	231011W	Cone, Roller Bearing	2	11	2313373	Capscrew	6
6	230327W	Cup, Roller Bearing	2				

Hydraulics/Controls

Hydraulic Group.	3-2 thru 3-15
Hydraulic Connections.	3-16 thru 3-27
Hydraulic Motor	3-28
Manifold Assembly - Control	3-29 & 3-30
Manifold Assembly - Counterbalance Relief	3-31
Operator Controls	3-32 thru 3-37
Switch Assembly	3-38 & 3-39

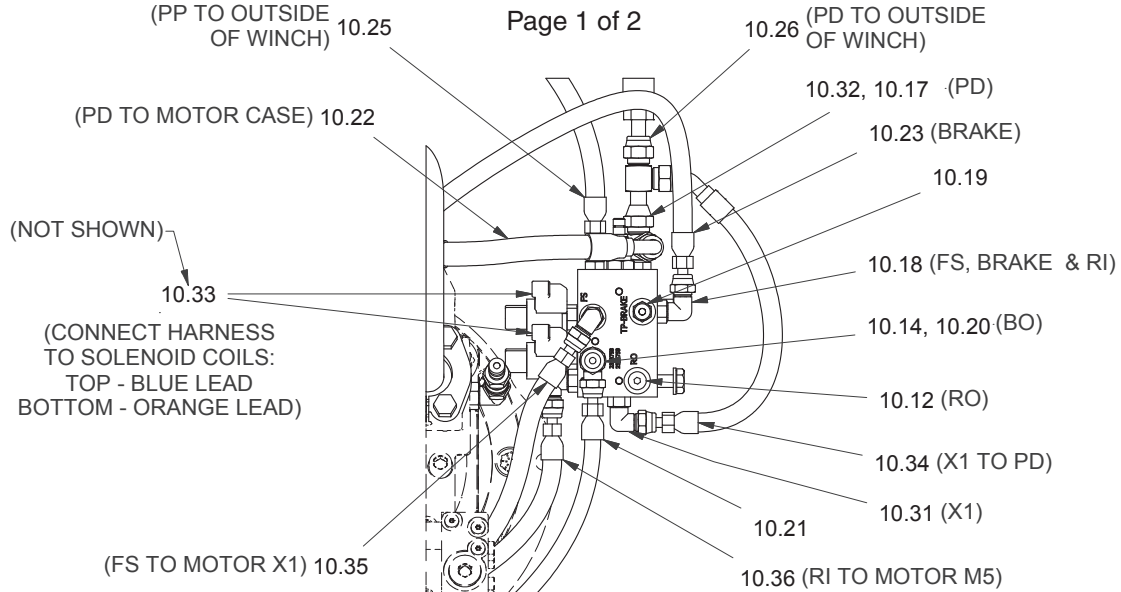
Hydraulic Group

Caterpillar D8R Series II (C59),

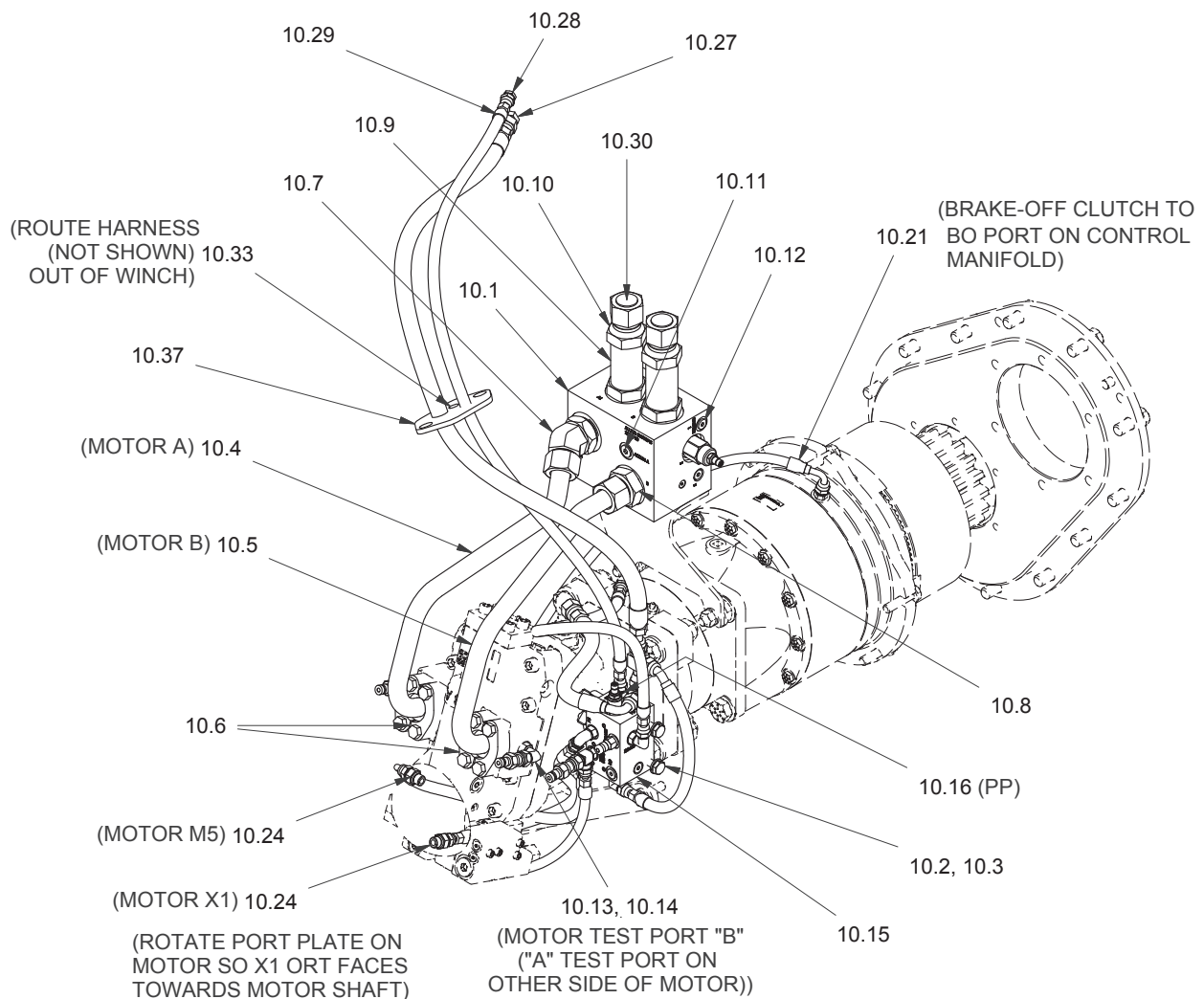
Komatsu D155AX-6/7/8 (K64)

Last Used on S/N H12E-1028

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CONTROL VALVE DETAIL



Hydraulic Group

Caterpillar D8R Series II (C59),

Komatsu D155AX-6/7/8 (K64)

Last Used on S/N H12E-1028

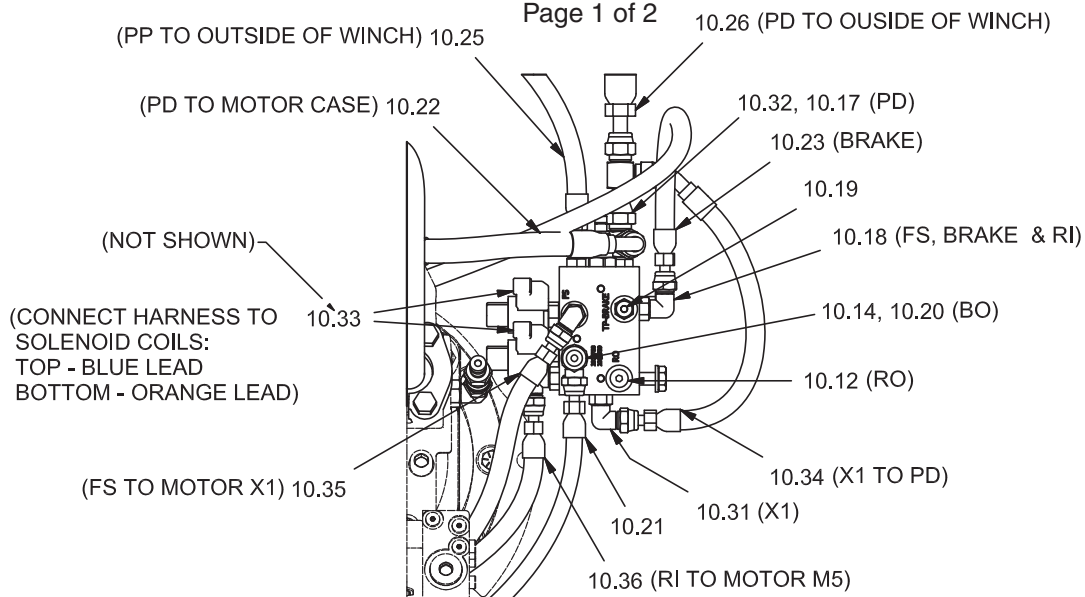
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
10.1	2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	10.22	*a 2313483	Assembly, Hose	1
10.2	Y09C-M1030	Capscrew	4	10.23	*a 242374	Assembly, Hose	1
10.3	296420W	Washer	4	10.24	R833103	Fitting	2
10.4	*b 2313368	Assembly, Tube - Motor A	1	10.25	*a 242264	Assembly, Hose	1
10.5	*c 2313369	Assembly, Tube - Motor B	1	10.26	*a 2313807	Assembly, Hose	1
10.6	229448	Kit, Split Flange	2	10.27	232960	Fitting	1
10.7	R833218	Fitting	1	10.28	R834200	Fitting	1
10.8	R833133	Fitting	1	10.29	242598	Tie, Cable (Green)	1
10.9	2313452	Fitting	2	10.30	231820	Fitting	2
10.10	244959	Fitting	2	10.31	2311500	Assembly, Fitting	1
10.11	229383	Fitting	2	10.32	231955	Fitting	1
10.12	235387	Fitting	2	10.33	2313830	Harness, Winch Wire	1
10.13	R833253	Fitting	2	10.34	*a 2313844	Assembly, Hose	1
10.14	2307625W	Coupler, Q.D. Male	3	10.35	*a 239847	Assembly, Hose	1
10.15	2313758	Assembly, Control Manifold (3-29)	1	10.36	*a 2313843	Assembly, Hose	1
10.16	231439	Fitting	2	10.37	2312831	Seal, LH Top	1
10.17	231465	Fitting	1				
10.18	R833251	Fitting	3		*a	Included in Hose Kit 2313955	
10.19	R14040	Coupler, Q.D. Male	1		*b	Tube P/N 2313368 Discontinued, Replaced by P/N 2314694	
10.20	R833400	Fitting	1		*c	Tube P/N 2313369 Discontinued, Replaced by P/N 2314695 & Fitting P/N 2313948	
10.21	*a R11612	Assembly, Hose	1				

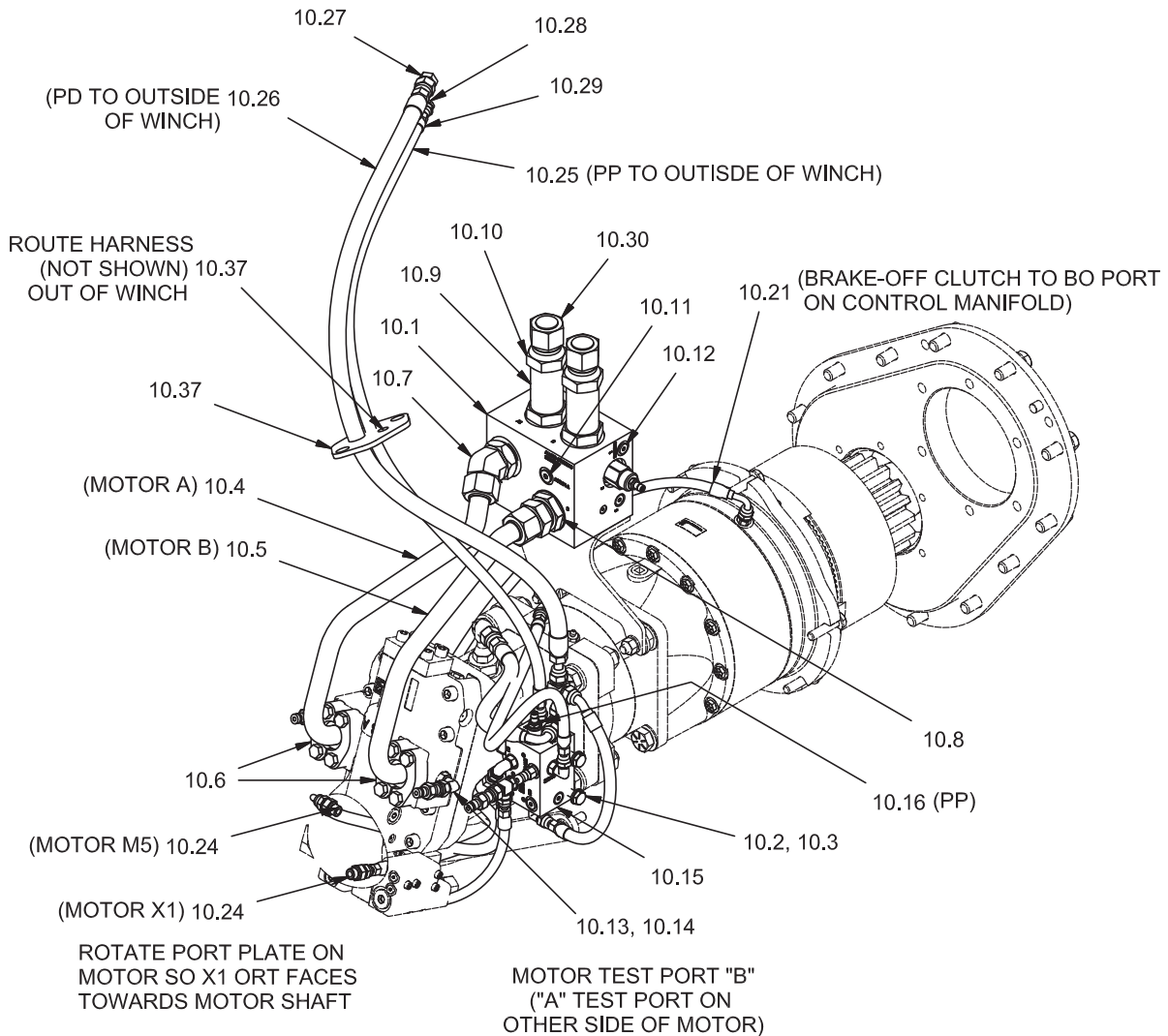
Hydraulic Group

Caterpillar D8R Series II (C59),
Komatsu D155AX-6/7/8 (K64)
First Used on S/N H12E-1029

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CONTROL VALVE DETAIL



Hydraulic Group

Caterpillar D8R Series II (C59),

Komatsu D155AX-6/7/8 (K64)

First Used on S/N H12E-1029

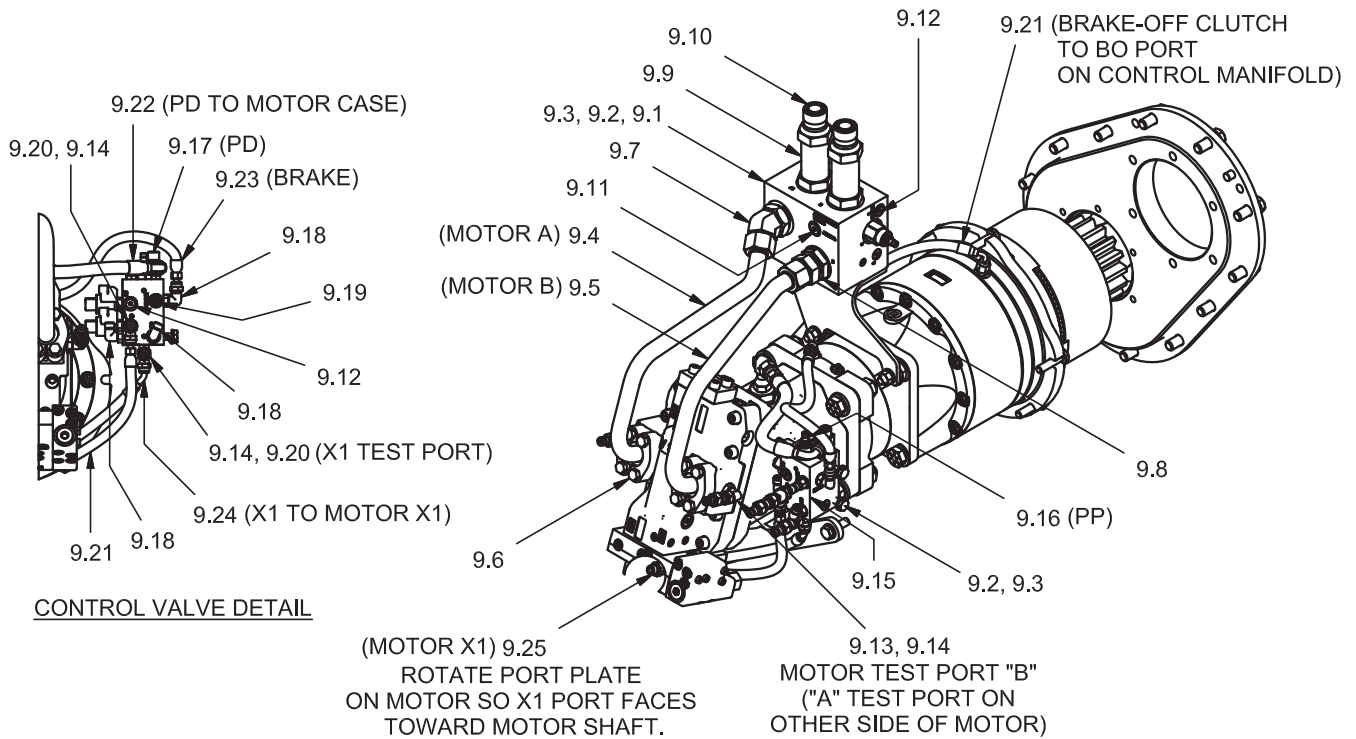
Page 1 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
10.1	2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	10.20	R833400	Fitting	1
10.2	Y09C-M1030	Capscrew	4	10.21	*a R11612	Assembly, Hose	1
10.3	296420W	Washer	4	10.22	*a 2313483	Assembly, Hose	1
10.4	2314694	Assembly, Tube - Motor A	1	10.23	*a 242374	Assembly, Hose	1
10.5	2314695	Assembly, Tube - Motor B	1	10.24	R833103	Fitting	2
10.6	229448	Kit, Split Flange	2	10.25	*a 242264	Assembly, Hose	1
10.7	R833218	Fitting	1	10.26	*a 2313807	Assembly, Hose	1
10.8	2313948	Fitting	1	10.27	232960	Fitting	1
10.9	2313452	Fitting	2	10.28	R834200	Fitting	1
10.10	244959	Fitting	2	10.29	242598	Tie, Cable (Green)	1
10.11	229383	Fitting	2	10.30	231820	Fitting	2
10.12	235387	Fitting	2	10.31	2311500	Assembly, Fitting	1
10.13	R833253	Fitting	2	10.32	231955	Fitting	1
10.14	2307625W	Coupler, Q.D. Male	3	10.33	2313830	Harness, Winch Wire	1
10.15	2313758	Assembly, Control Manifold (3-29)	1	10.34	*a 2313844	Assembly, Hose	1
10.16	231439	Fitting	2	10.35	*a 239847	Assembly, Hose	1
10.17	231465	Fitting	1	10.36	*a 2313843	Assembly, Hose	1
10.18	R833251	Fitting	3	10.37	2312831	Seal, LH Top	1
10.19	R14040	Coupler, Q.D. Male	1		*a	Included in Hose Kit 2313955	

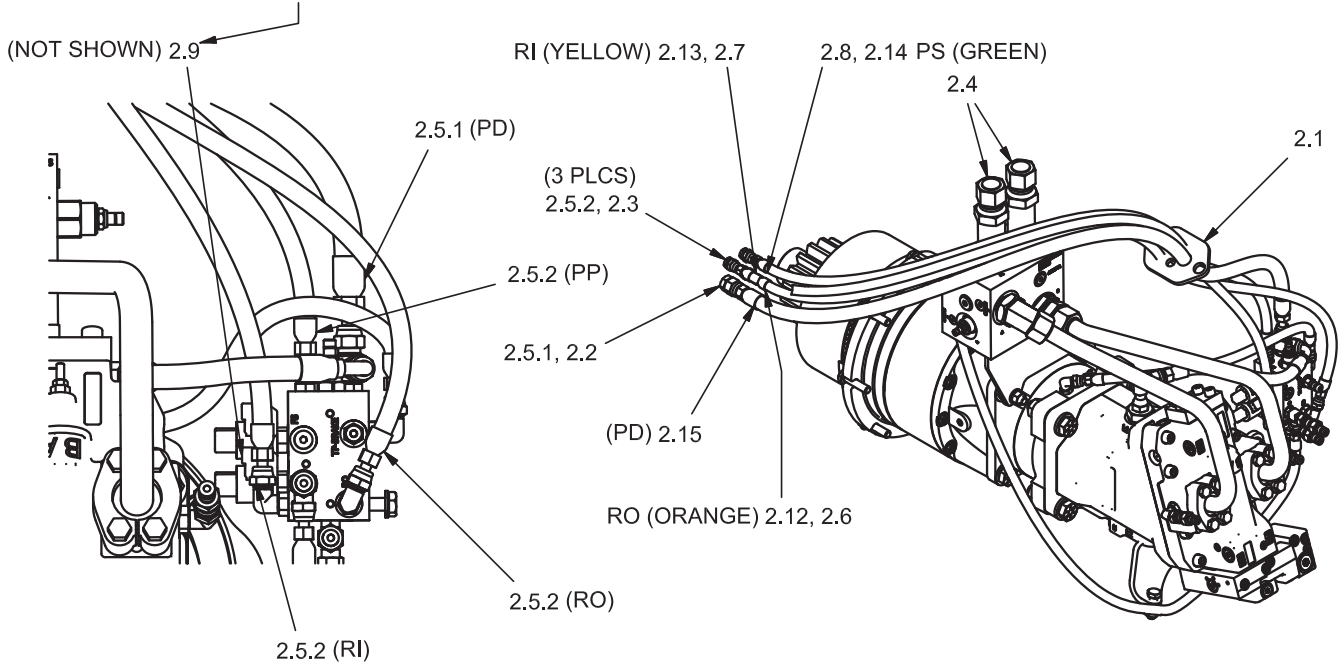
Hydraulic Group

Komatsu D85X-15 (K50)

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PLUG CONNECTOR WITH YELLOW/BLACK WIRES IN TOP SOLENOID AND CONNECTOR WITH ORANGE/BLACK WIRES INTO LOWER SOLENOID



Hydraulic Group

Komatsu D85X-15 (K50)

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2.1	2312208	Gasket, Hose Seal	1	9.6	229448	Kit, Split Flange	2
2.2	232960	Fitting	1	9.7	R833218	Fitting	1
2.3	R834200	Fitting	3	9.8	2313948	Fitting	1
2.4	231820	Fitting	2	9.9	2313452	Fitting	2
2.5	2315057	Kit, Hose	1	9.10	244959	Fitting	2
2.5.1	2313482	. Assembly, Hose	1	9.11	229383	Fitting	2
2.5.2	236892	. Assembly, Hose	3	9.12	235387	Fitting	2
2.6	242596	Tie, Cable (Orange)	1	9.13	R833253	Fitting	2
2.7	242597	Tie, Cable (Yellow)	1	9.14	2307625W	Coupler, Q.D. Male	4
2.8	242598	Tie, Cable (Green)	1	9.15	2311770	Assembly, Control Manifold (3-30)	1
2.9	2312339	Harness, Winch Wire	1	9.16	231439	Fitting	1
2.12	2307238W	Label, RO	1	9.17	231465	Fitting	1
2.13	2307239W	Label, RI	1	9.18	R833251	Fitting	3
2.14	2307241W	Label, Pilot	1	9.19	R14040	Coupler, Q.D. Male	1
2.15	2307242W	Label, Tank	1	9.20	R833400	Fitting	2
9.1	2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	9.21	R11612	Assembly, Hose	1
9.2	Y09C-M1030	Capscrew	4	9.22	2313483	Assembly, Hose	1
9.3	296420W	Washer	4	9.23	242374	Assembly, Hose	1
9.4	2314694	Assembly, Tube - Motor A	1	9.24	2312848	Assembly, Hose	1
9.5	2314695	Assembly, Tube - Motor B	1	9.25	R833103	Fitting	2

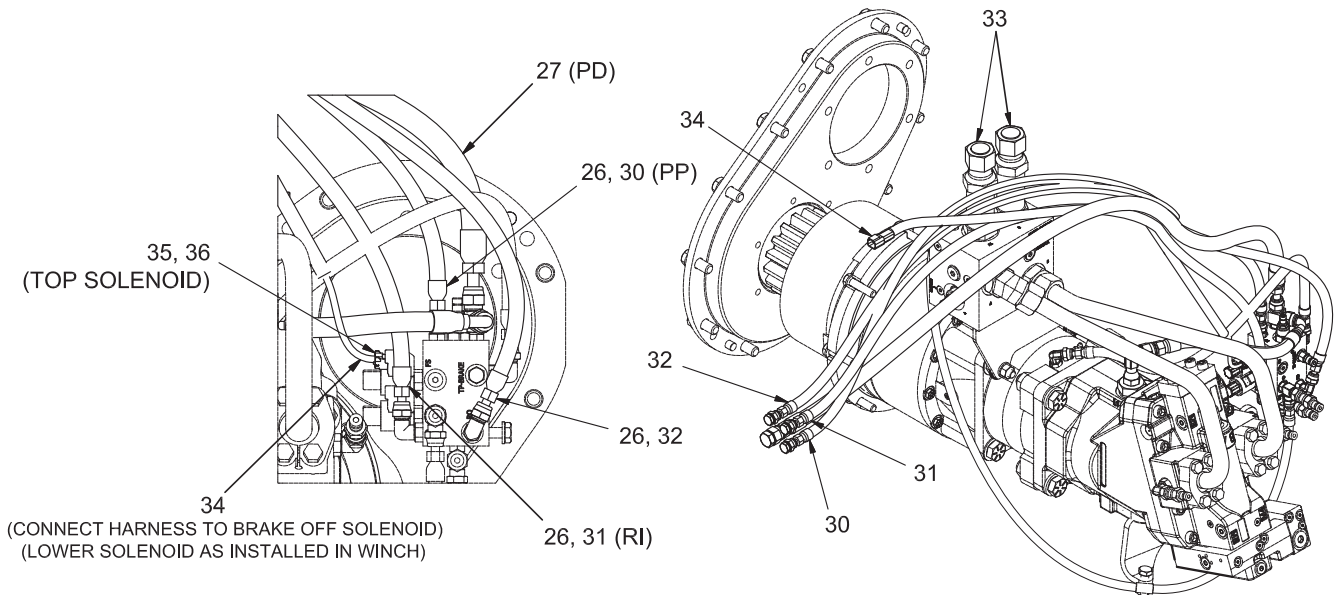
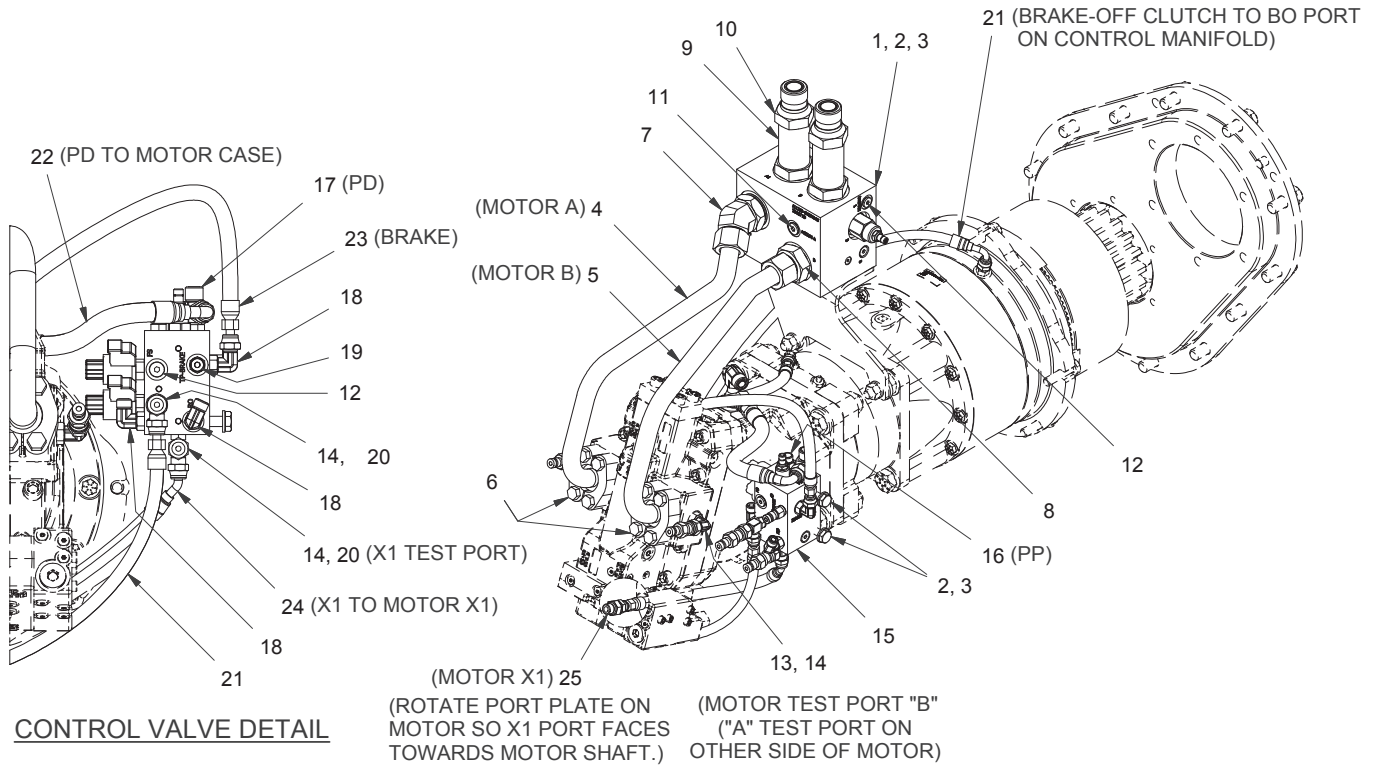
Hydraulic Group

Caterpillar D8T (C74)

Komatsu D275AX-5 (K65)

Last Used on S/N H12E-1028

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Hydraulic Group

Caterpillar D8T (C74)

Komatsu D275AX-5 (K65)

Last Used on S/N H12E-1028

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	21	*a R11612	Assembly, Hose	1
2	Y09C-M1030	Capscrew	4	22	*a 2313483	Assembly, Hose	1
3	296420W	Washer	4	23	*a 242374	Assembly, Hose	1
4	*b 2313368	Assembly, Tube - Motor A	1	24	*a 2312878	Assembly, Hose	1
5	*c 2313369	Assembly, Tube - Motor B	1	25	R833103	Fitting	1
6	229448	Kit, Split Flange	2	26	*a 236892	Assembly, Hose	3
7	R833218	Fitting	1	27	*a 2313482	Assembly, Hose	1
8	R833133	Fitting	1	30	242598	Tie, Cable (Green)	1
9	2313452	Fitting	2	31	242597	Tie, Cable (Yellow)	1
10	244959	Fitting	2	32	242596	Tie, Cable (Orange)	1
11	229383	Fitting	2	33	231820	Fitting	2
12	235387	Fitting	2	34	2313490	Harness, Winch Wire	1
13	R833253	Fitting	2	35	256448	Pin, Sealing	2
14	2307625W	Coupler, Q.D. Male	4	36	243502	Plug	1
15	2311770	Assembly, Control Manifold (3-30)	1				
16	231439	Fitting	1	*a	Included in Hose Kit 2313955		
17	231465	Fitting	1	*b	Tube P/N 2313368 Discontinued, Replaced by P/N 2314694		
18	R833251	Fitting	3	*c	Tube P/N 2313369 Discontinued, Replaced by P/N 2314695 & Fitting P/N 2313948		
19	R14040	Coupler, Q.D. Male	1				
20	R833400	Fitting	2				

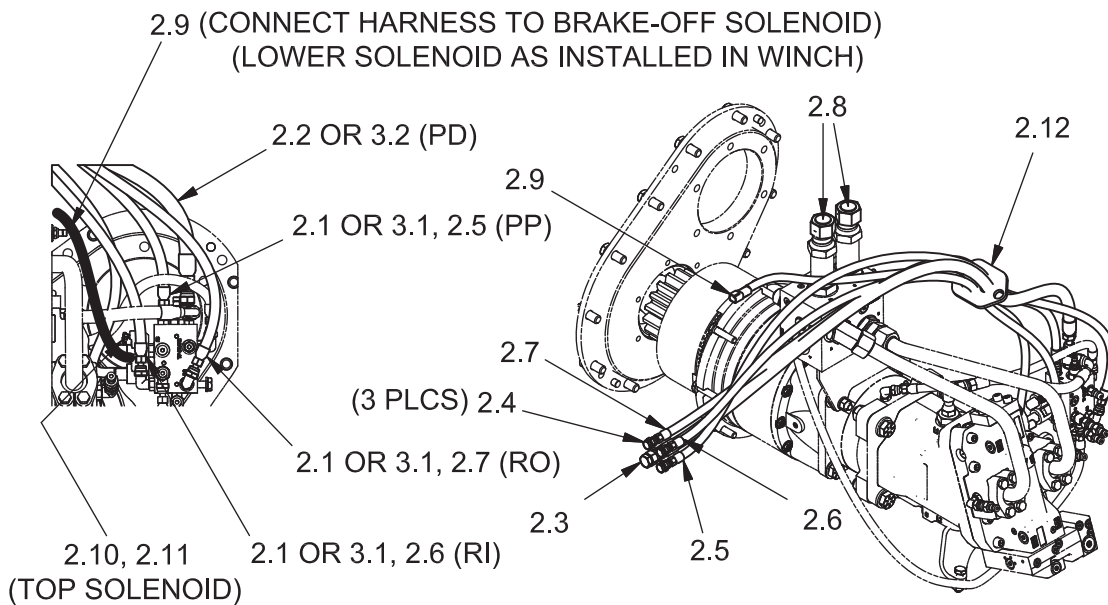
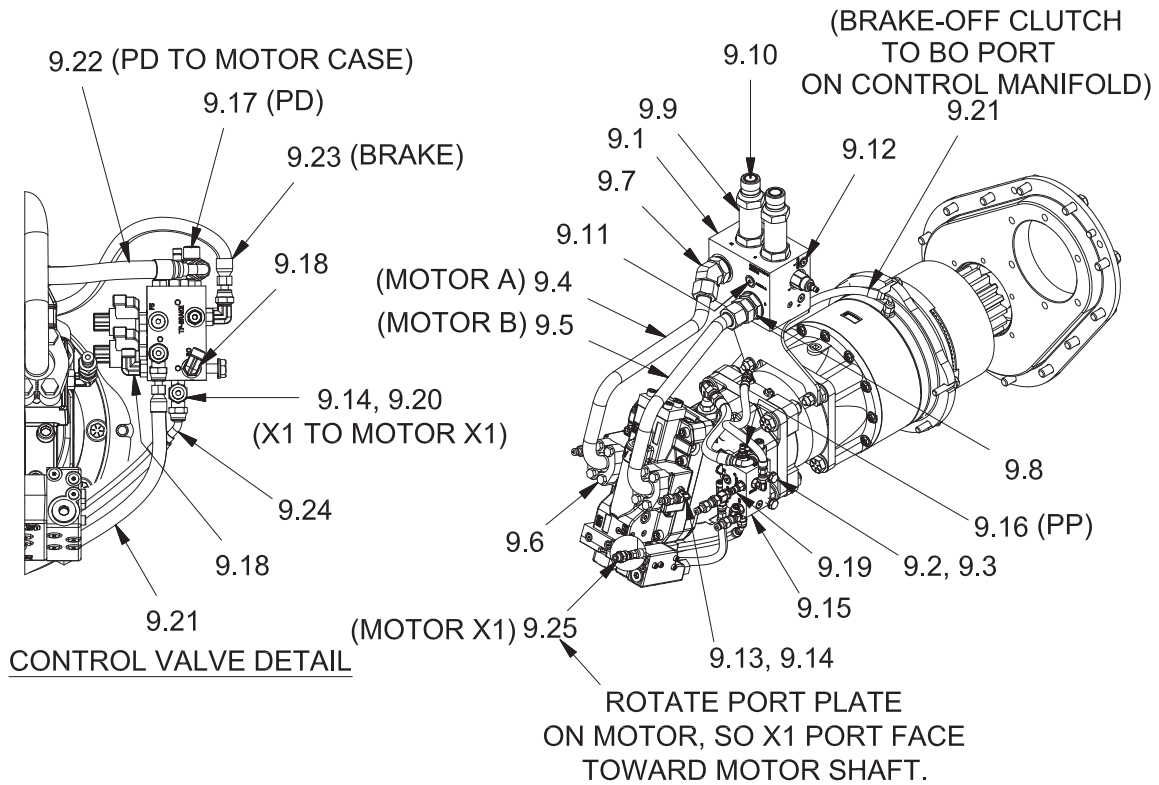
Hydraulic Group

Caterpillar D8T (C74)

Komatsu D275AX-5 (K65)

First Used on S/N H12E-1029

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Hydraulic Group

Caterpillar D8T (C74)

Komatsu D275AX-5 (K65)

First Used on S/N H12E-1029

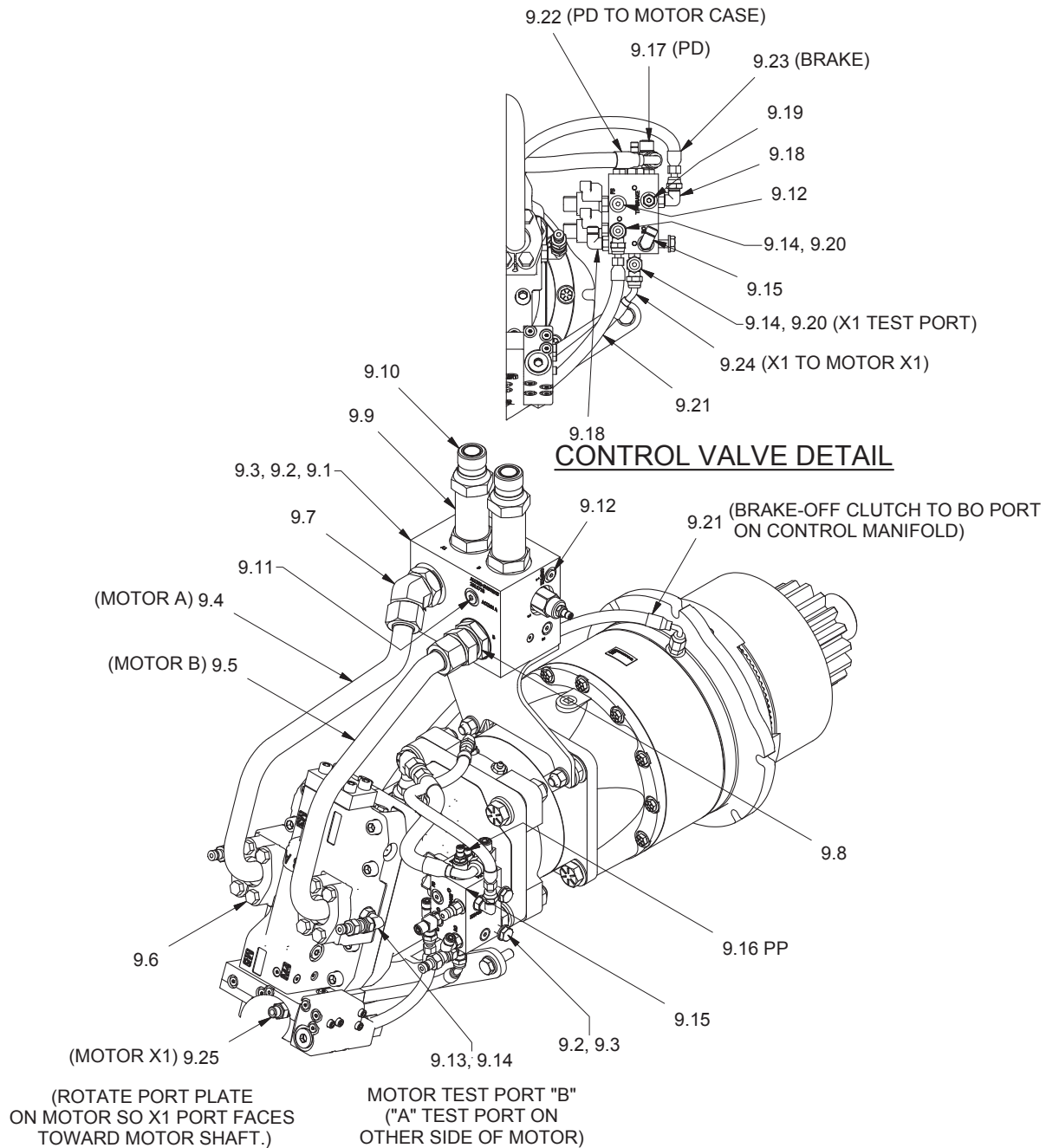
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty	
2.1	*a, *b	236892	Assembly, Hose	3	9.3	296420W	Washer	4
2.2	*a, *b	2313482	Assembly, Hose	1	9.4	2314694	Assembly, Tube - Motor A	1
2.3	*b	232960	Fitting	1	9.5	2314695	Assembly, Tube - Motor B	1
2.4	*b	R834200	Fitting	3	9.6	229448	Kit, Split Flange	2
2.5	*b	242598	Tie, Cable (Green)	1	9.7	R833218	Fitting	1
2.6	*b	242597	Tie, Cable (Yellow)	1	9.8	2313948	Fitting	1
2.7	*b	242596	Tie, Cable (Orange)	1	9.9	2313452	Fitting	2
2.8	*b	231820	Fitting	2	9.10	244959	Fitting	2
2.9	*b	2313490	Harness, Winch Wire	1	9.11	229383	Fitting	2
2.10	*b	256448	Pin, Sealing	2	9.12	235387	Fitting	2
2.11	*b	243502	Plug	1	9.13	R833253	Fitting	2
2.12	*b	2312208	Gasket, Hose Seal	1	9.14	2307625W	Coupler, Q.D. Male	4
3.1	*c	242264	Assembly, Hose	3	9.15	2311770	Assembly, Control Manifold (3-30)	1
3.2	*c	2313807	Assembly, Hose	1	9.16	231439	Fitting	1
3.3	*c	232960	Fitting	1	9.17	231465	Fitting	1
3.4	*c	R834200	Fitting	3	9.18	R833251	Fitting	3
3.5	*c	242598	Tie, Cable (Green)	1	9.19	R14040	Coupler, Q.D. Male	1
3.6	*c	242597	Tie, Cable (Yellow)	1	9.20	R833400	Fitting	2
3.7	*c	242596	Tie, Cable (Orange)	1	9.21	*a R11612	Assembly, Hose	1
3.8	*c	231820	Fitting	2	9.22	*a 2313483	Assembly, Hose	1
3.9	*c	2313490	Harness, Winch Wire	1	9.23	*a 242374	Assembly, Hose	1
3.10	*c	256448	Pin, Sealing	2	9.24	*a 2312878	Assembly, Hose	1
3.11	*c	243502	Plug	1	9.25	R833103	Fitting	1
3.12	*c	2312208	Gasket, Hose Seal	1				
9.1		2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	*a	Included in Hose Kit 2313955		
9.2	Y09C-M1030	Capscrew	4	*b	Used on H12E**K65			
				*c	Used on H12E**C74			

Hydraulic Group

John Deere 1050K (E75)

Internal Hydraulics

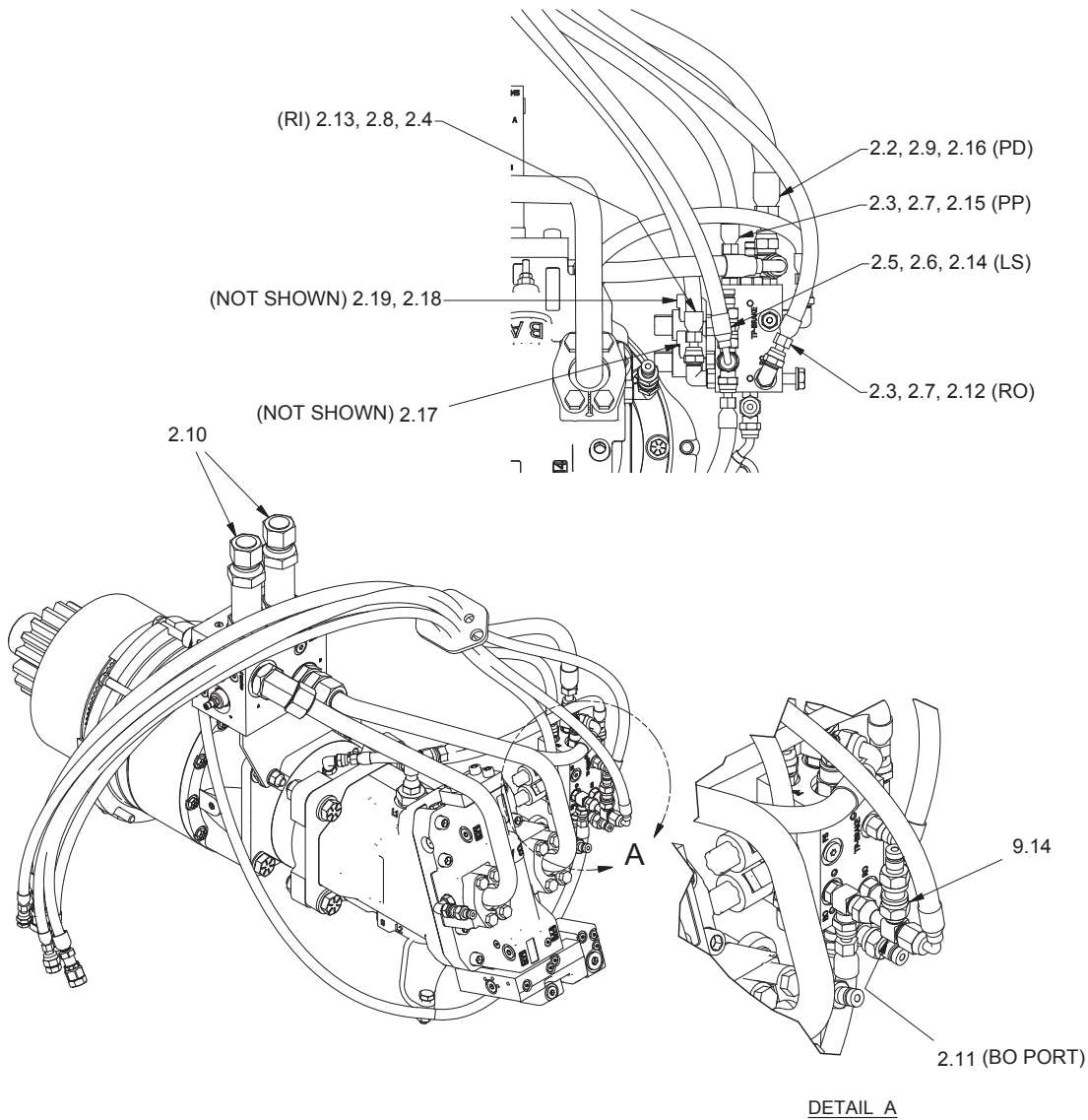


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
9.1	2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	9.13	R833253	Fitting	2
9.2	Y09C-M1030	Capcrew	4	9.14	2307625W	Coupler, Q.D. Male	4
9.3	296420W	Washer	4	9.15	2311770	Assembly, Control Manifold (3-30)	1
9.4	2314694	Assembly, Tube - Motor A	1	9.16	231439	Fitting	1
9.5	2314695	Assembly, Tube - Motor B	1	9.17	231465	Fitting	1
9.6	229448	Kit, Split Flange	2	9.18	R833251	Fitting	3
9.7	R833218	Fitting	1	9.19	R14040	Coupler, Q.D. Male	1
9.8	2313948	Fitting	1	9.20	R833400	Fitting	2
9.9	2313452	Fitting	2	9.21	R11612	Assembly, Hose	1
9.10	244959	Fitting	2	9.22	2313483	Assembly, Hose	1
9.11	229383	Fitting	2	9.23	242374	Assembly, Hose	1
9.12	235387	Fitting	2	9.24	2312878	Assembly, Hose	1
				9.25	R833103	Fitting	1

3-13

Hydraulic Group

John Deere 1050K (E75)
Attaching Hydraulics

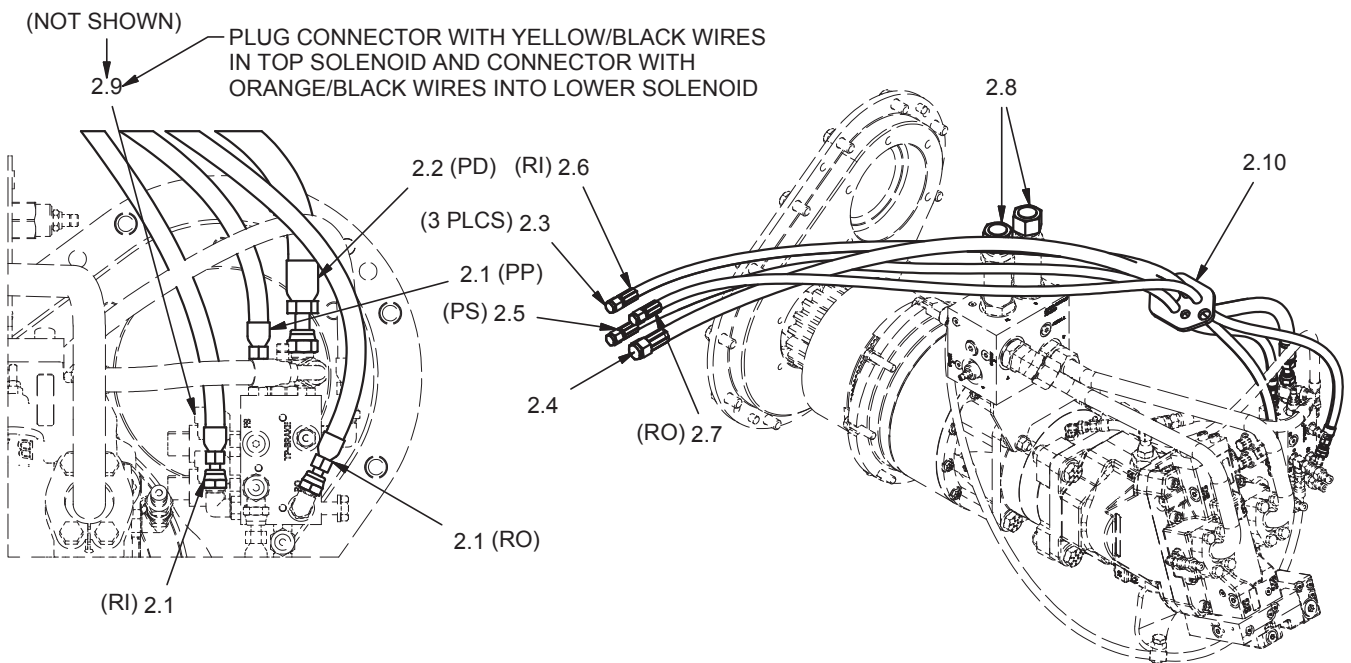
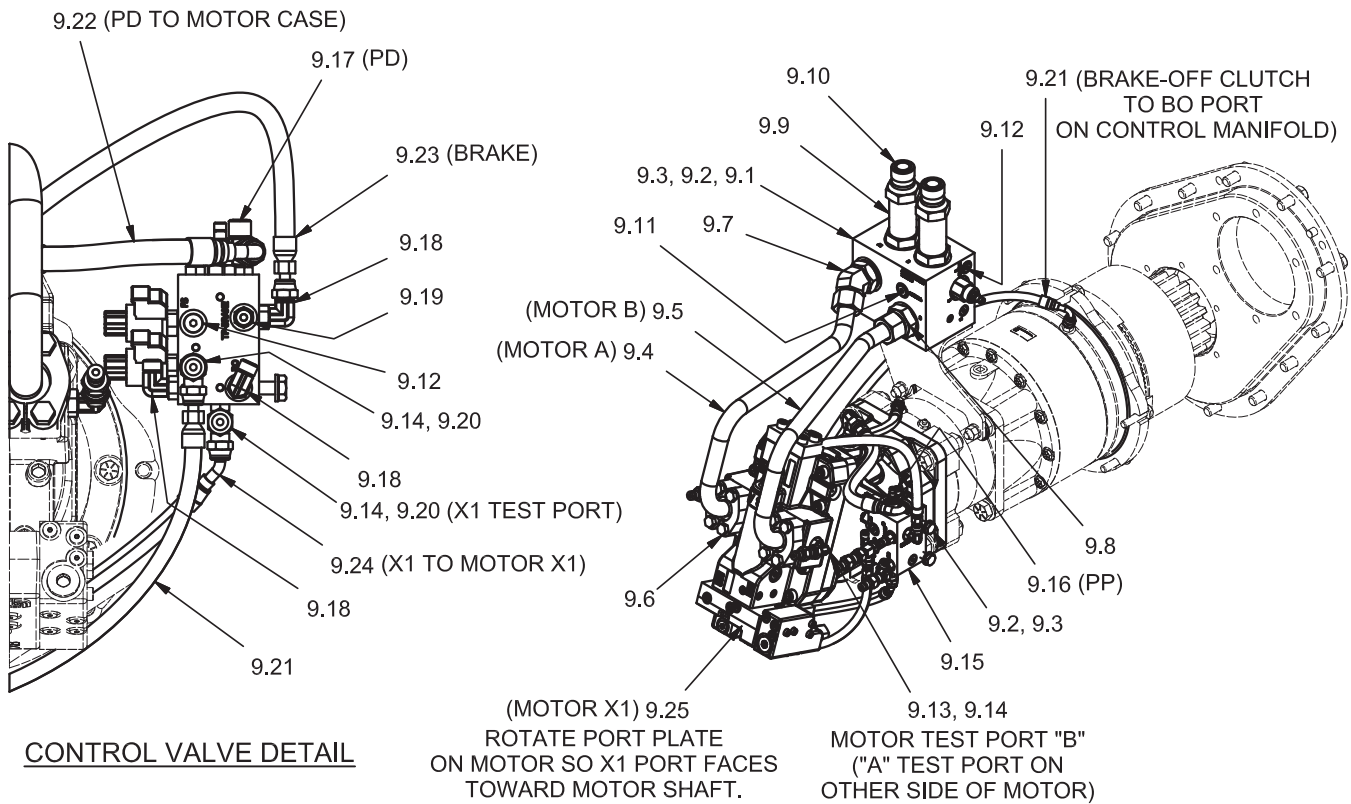


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2.2	2315215	Assembly, Hose	1	2.11	236855	Fitting	1
2.3	2315216	Assembly, Hose	2	2.12	2307238W	Label, RO	1
2.4	2315217	Assembly, Hose	1	2.13	2307239W	Label, RI	1
2.5	249072	Assembly, Hose	1	2.14	2307240W	Label, LS	1
2.6	R834200	Fitting	1	2.15	2307241W	Label, Pilot	1
2.7	R834201	Fitting	2	2.16	2307242W	Label, Tank	1
2.8	232960	Fitting	1	2.17	2315224	Harness, Winch Wire	1
2.9	R834203	Fitting	1	2.18	243502	Plug	1
2.10	231820	Fitting	2	2.19	243506	Plug	1

Hydraulic Group

Liebherr PR754 (L54)

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Hydraulic Group

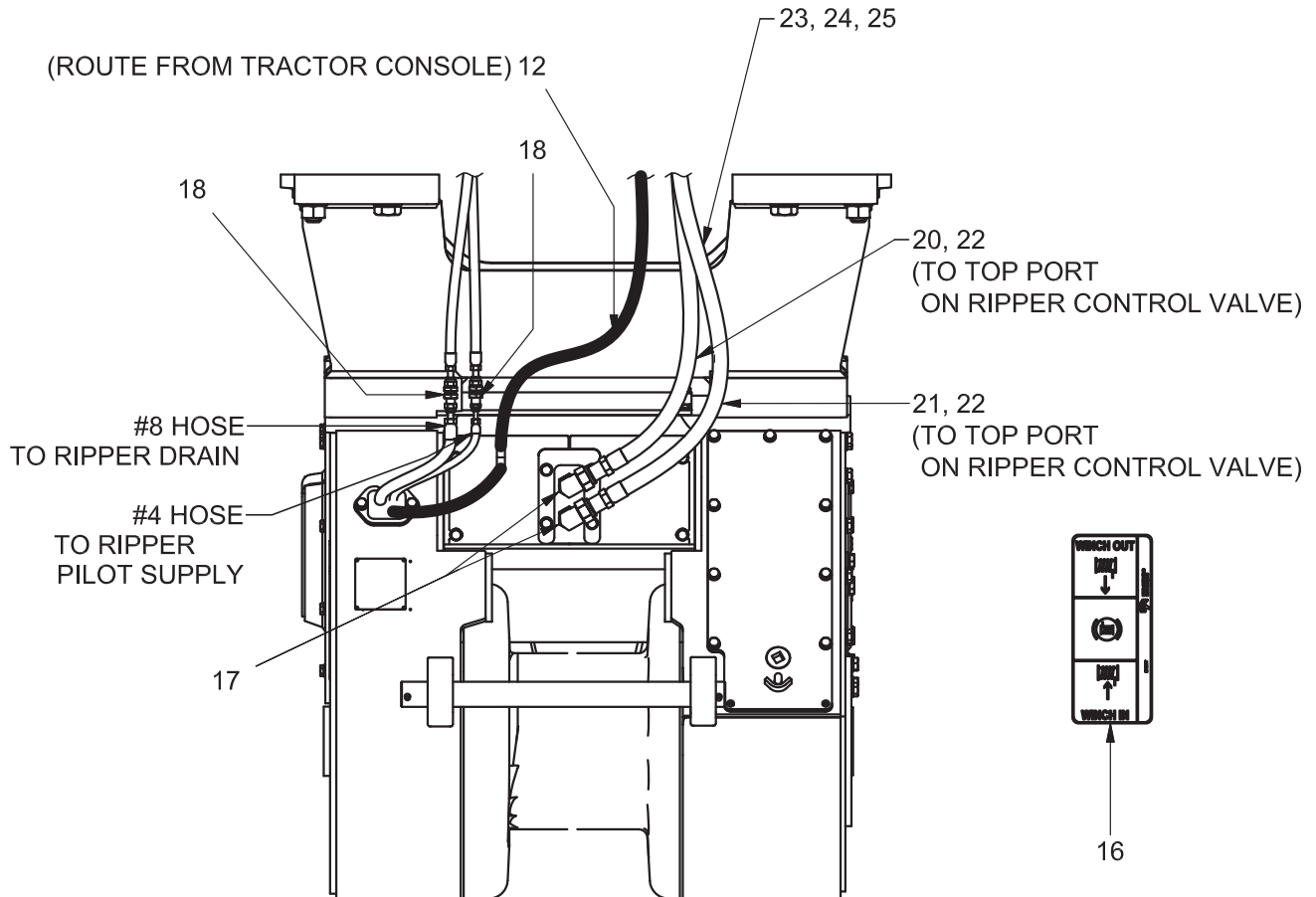
Liebherr PR754 (L54)

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty		
2.1	*a	2314206	Assembly, Hose	3	9.11	229383	Fitting	2	
2.2	*a	2314207	Assembly, Hose	1	9.12	235387	Fitting	2	
2.3		2314217	Fitting	3	9.13	R833253	Fitting	2	
2.4		2313684	Plug	1	9.14	2307625W	Coupler, Q.D. Male	4	
2.5		242598	Tie, Cable (Green)	1	9.15	2311770	Assembly, Control Manifold (3-30)	1	
2.6		242597	Tie, Cable (Yellow)	1	9.16	231439	Fitting	1	
2.7		242596	Tie, Cable (Orange)	1	9.17	231465	Fitting	1	
2.8		231820	Fitting	2	9.18	R833251	Fitting	3	
2.9		2313830	Harness, Winch Wire	1	9.19	R14040	Coupler, Q.D. Male	1	
2.10		2312208	Gasket, Hose Seal	1	9.20	R833400	Fitting	2	
9.1		2311718	Assembly, Counterbalance Relief Manifold (3-31)	1	9.21	*a	R11612	Assembly, Hose	1
9.2	Y09C-M1030		Capscrew	4	9.22	*a	2313483	Assembly, Hose	1
9.3		296420W	Washer	4	9.23	*a	242374	Assembly, Hose	1
9.4	*b	2313368	Assembly, Tube - Motor A	1	9.24	*a	2312878	Assembly, Hose	1
9.5	*c	2313369	Assembly, Tube - Motor B	1	9.25		R833103	Fitting	1
9.6		229448	Kit, Split Flange	2		*a	Included in Hose Kit 2313955		
9.7		R833218	Fitting	1		*b	Tube P/N 2313368 Discontinued, Replaced by P/N 2314694		
9.8		R833133	Fitting	1		*c	Tube P/N 2313369 Discontinued, Replaced by P/N 2314695 & Fitting P/N 2313948		
9.9		2313452	Fitting	2					
9.10		244959	Fitting	2					

Hydraulic Connections

Caterpillar D8R Series II (C59)



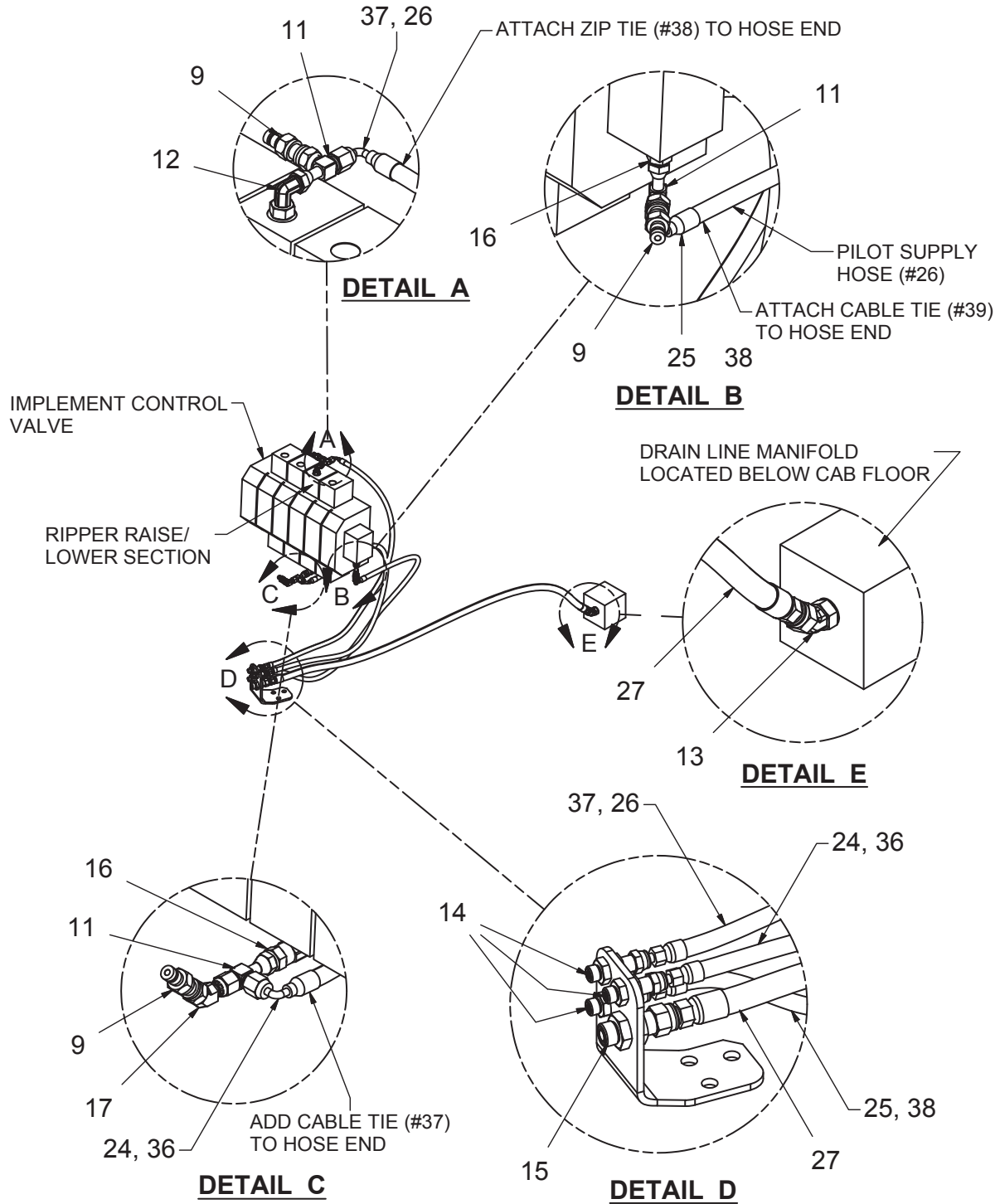
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
12	2313829	Harness, Console Wire	1	21	2315304	Assembly, Hose	1
16	2312177	Decal, LINE-IN/OUT	1	22	Y098629-219	O-Ring	2
17	R833805	Fitting	2	23	R13846	Sleeve, Cordura	1
18	231965	Fitting	2	24	242601	Tie, Cable (Black)	8
20	2315303	Assembly, Hose	1	25	242598	Tie, Cable (Green)	2

Intentionally Blank

Hydraulic Connections

Caterpillar D8T (C74)

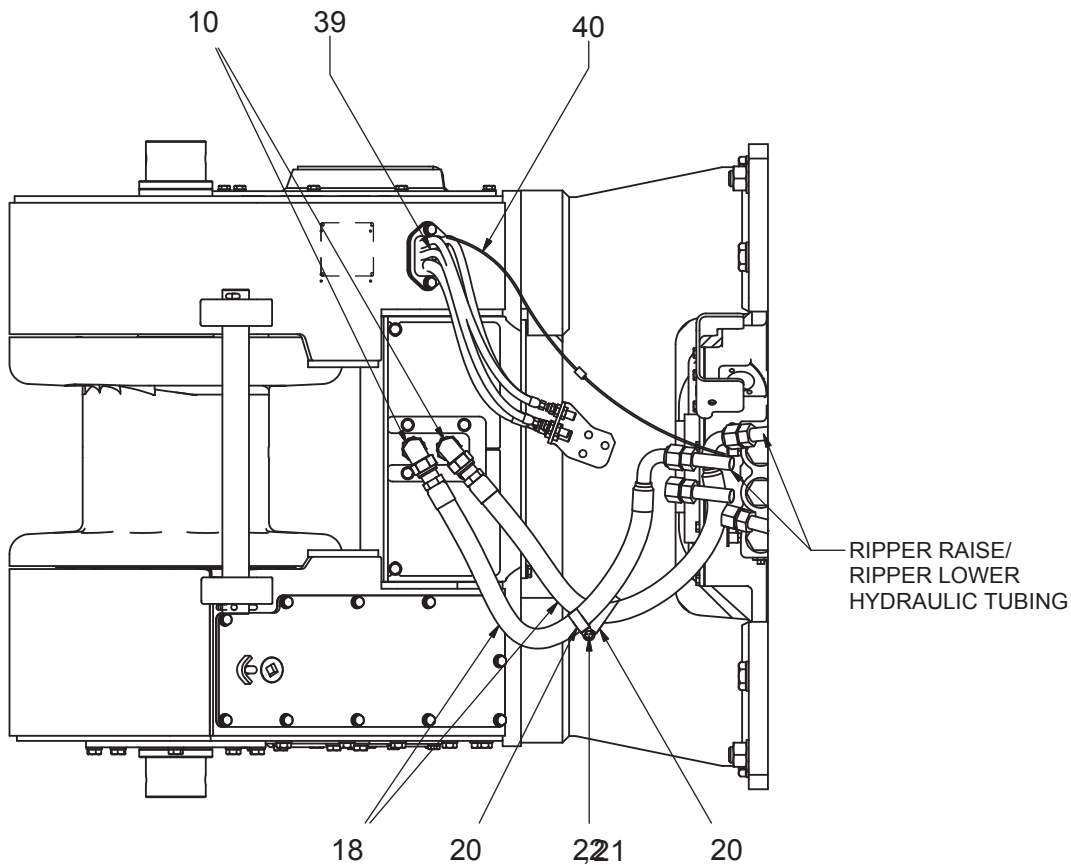
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Hydraulic Connections

Caterpillar D8T (C74)

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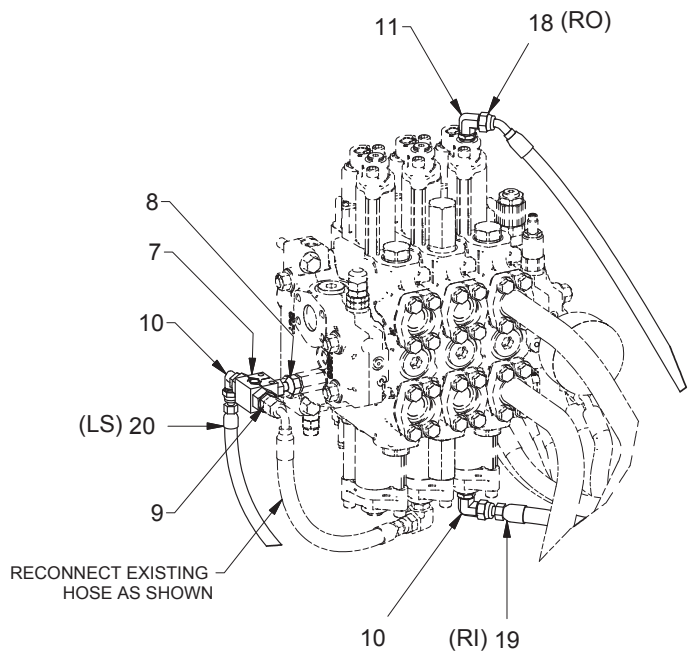
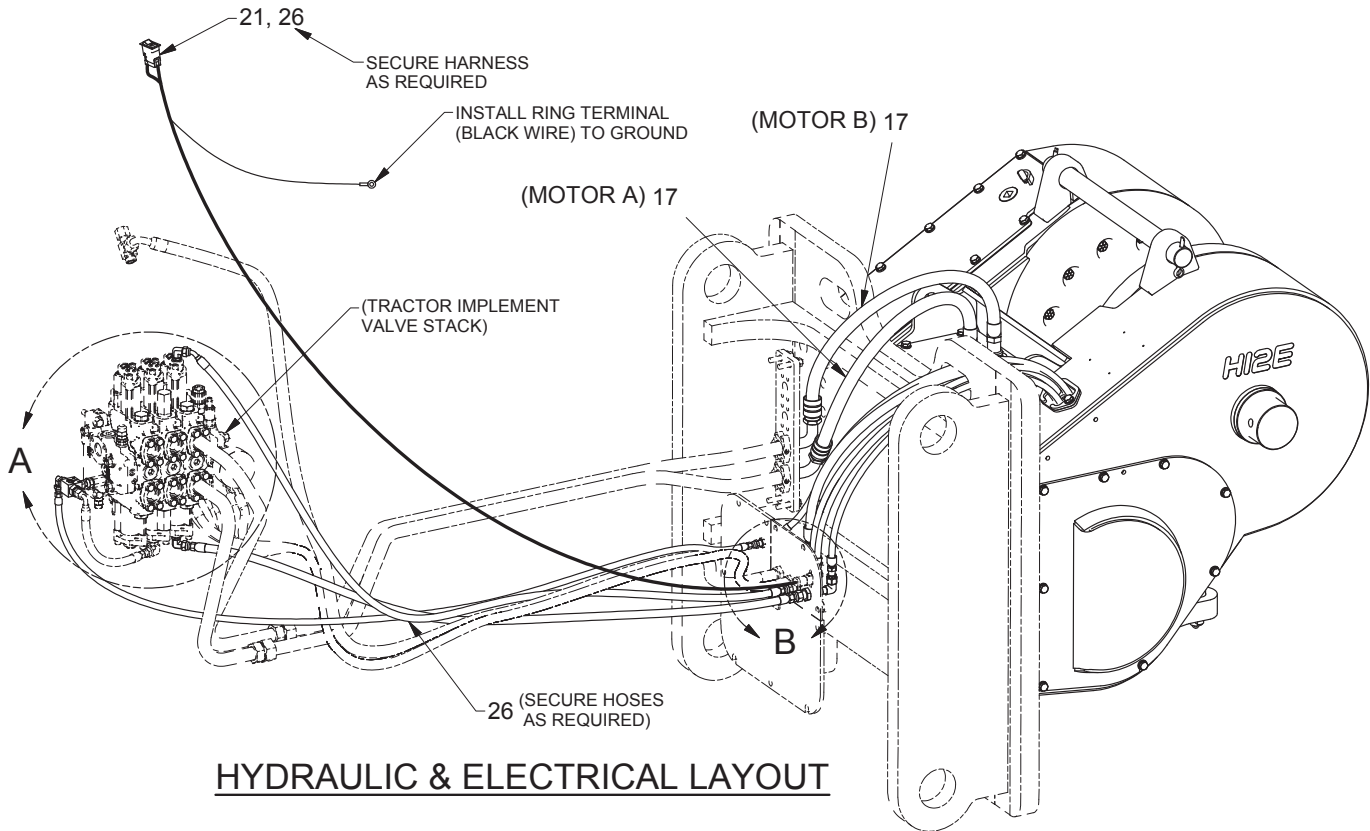


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
9	2307625W	Coupler, Q.D. Male	3	21	177947W	Washer	1
10	R833805	Fitting	2	22	16805W	Capscrew	1
11	236855	Fitting	3	24	242261	Assembly, Hose	1
12	R833253	Fitting	1	25	242259	Assembly, Hose	1
13	R833207	Fitting	1	26	249072	Assembly, Hose	1
14	R834100	Fitting	3	27	235528	Assembly, Hose	1
15	R834103	Fitting	1	36	242596	Tie, Cable (Orange)	2
16	R833103	Fitting	2	37	242597	Tie, Cable (Yellow)	2
17	2312422	Fitting	1	38	242598	Tie, Cable (Green)	2
18	2314746	Assembly, Hose	2	39	R13846	Sleeve, Cordura	4 FT.
20	R13805003	Clip, Insulation	2	40	2314708	Harness, Console	1

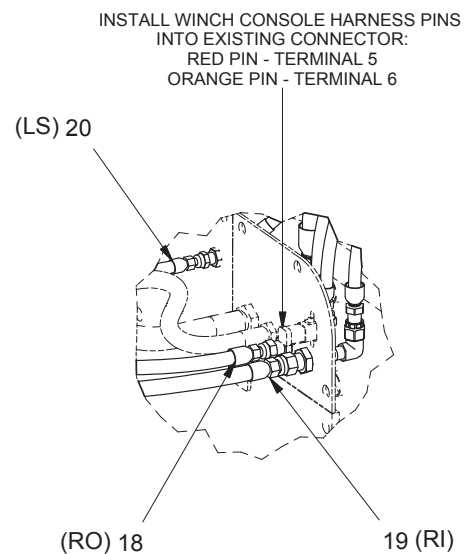
Hydraulic Connections

John Deere 1050K (E75)

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DETAIL A
IMPLEMENT VALVE STACK CONNECTIONS

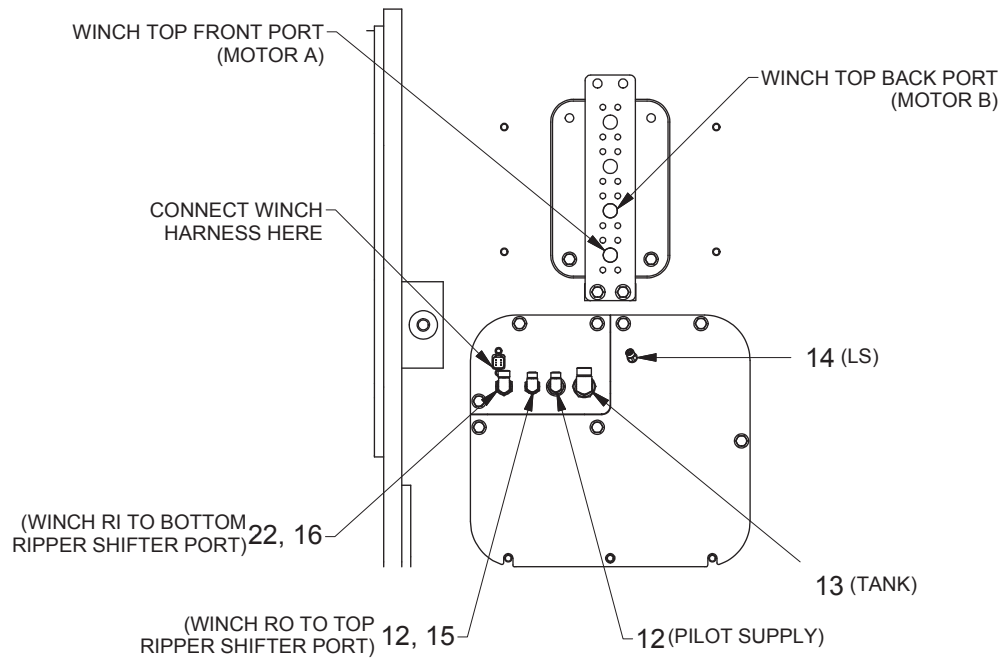


DETAIL B
INTERNAL BULKHEAD PLATE CONNECTIONS

Hydraulic Connections

John Deere 1050K (E75)

Page 2 of 2



WINCH HOSE CONNECTIONS

TRACTOR REAR FACE

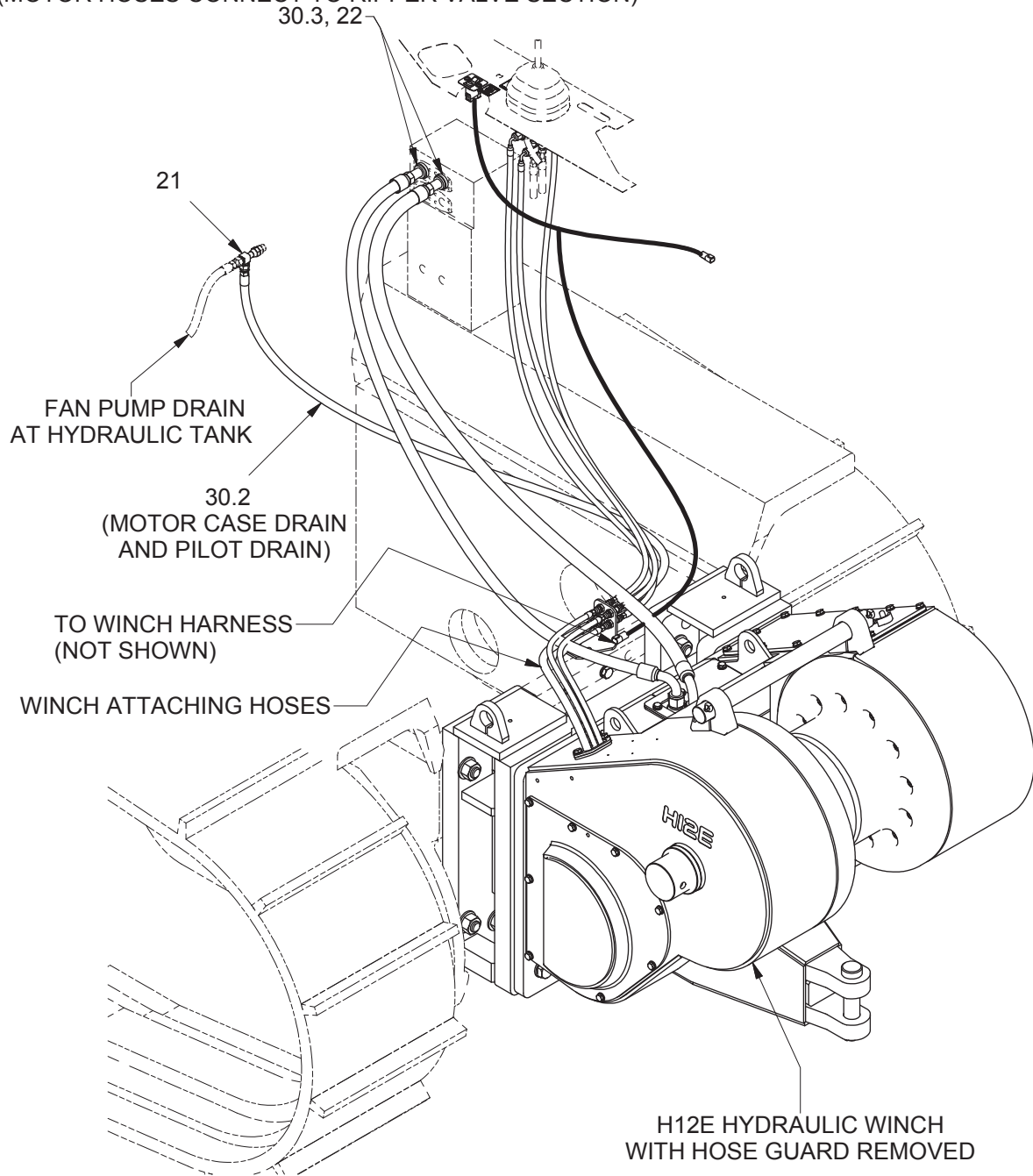
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
7	247426	Valve, Shuttle	1	16	R834103	Fitting	1
8	248852	Fitting	1	17	2312646	Assembly, Hose	2
9	231440	Fitting	1	18	2315213	Assembly, Hose	1
10	R833253	Fitting	1	19	2315214	Capscrew	1
11	2311285	Fitting	2	20	592577	Assembly, Hose	1
12	R833801	Fitting	1	21	2315222	Harness, Wire Sole	1
13	R833803	Fitting	1	22	R833802	Fitting	1
14	272-0348	Fitting	1	26	424601	Tie, Cable	10
15	231965	Fitting	1				

Hydraulic Connections

Komatsu D85X-15 (K50)

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(MOTOR HOSES CONNECT TO RIPPER VALVE SECTION)

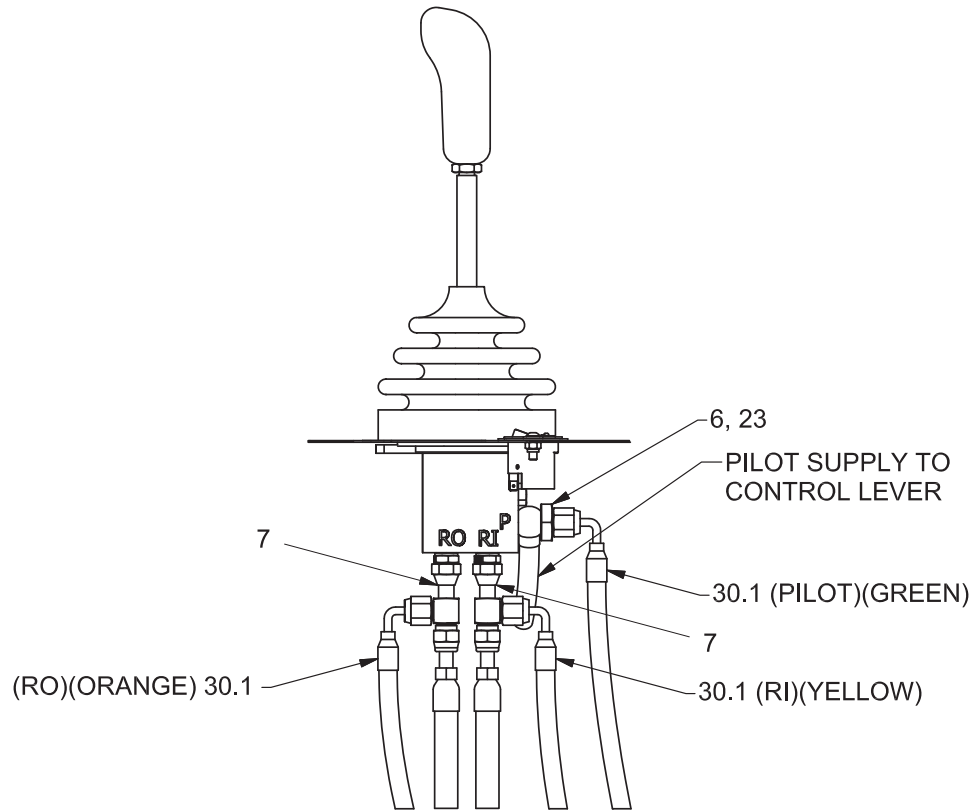


GENERAL LAYOUT OF INSTALLATION

Hydraulic Connections

Komatsu D85X-15 (K50)

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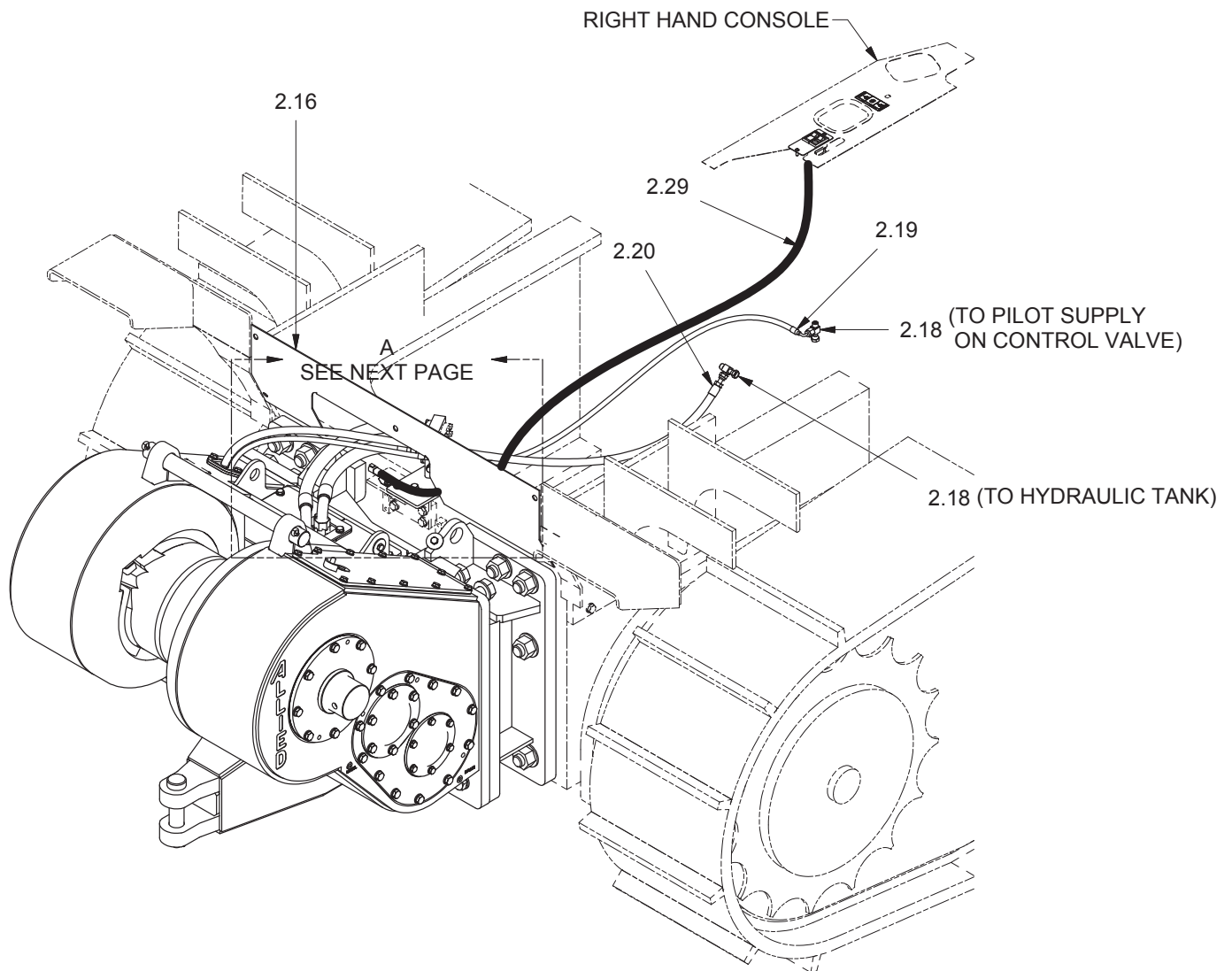
RIPPER CONTROL LEVER
WINCH PILOT LINE CONNECTIONS

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
6	2311047	Fitting, Special	1	26	242601	Tie, Cable (Not Shown)	12
7	231955	Fitting	2	30.1	2313817	Assembly, Hose	3
21	R834052	Fitting	1	30.2	2313818	Assembly, Hose	1
22	15866W	O-Ring	2	30.3	2314033	Assembly, Hose	2
23	Y098629-012	O-Ring	1				

Hydraulic Connections

Komatsu D155AX-6/7/8 (K64)

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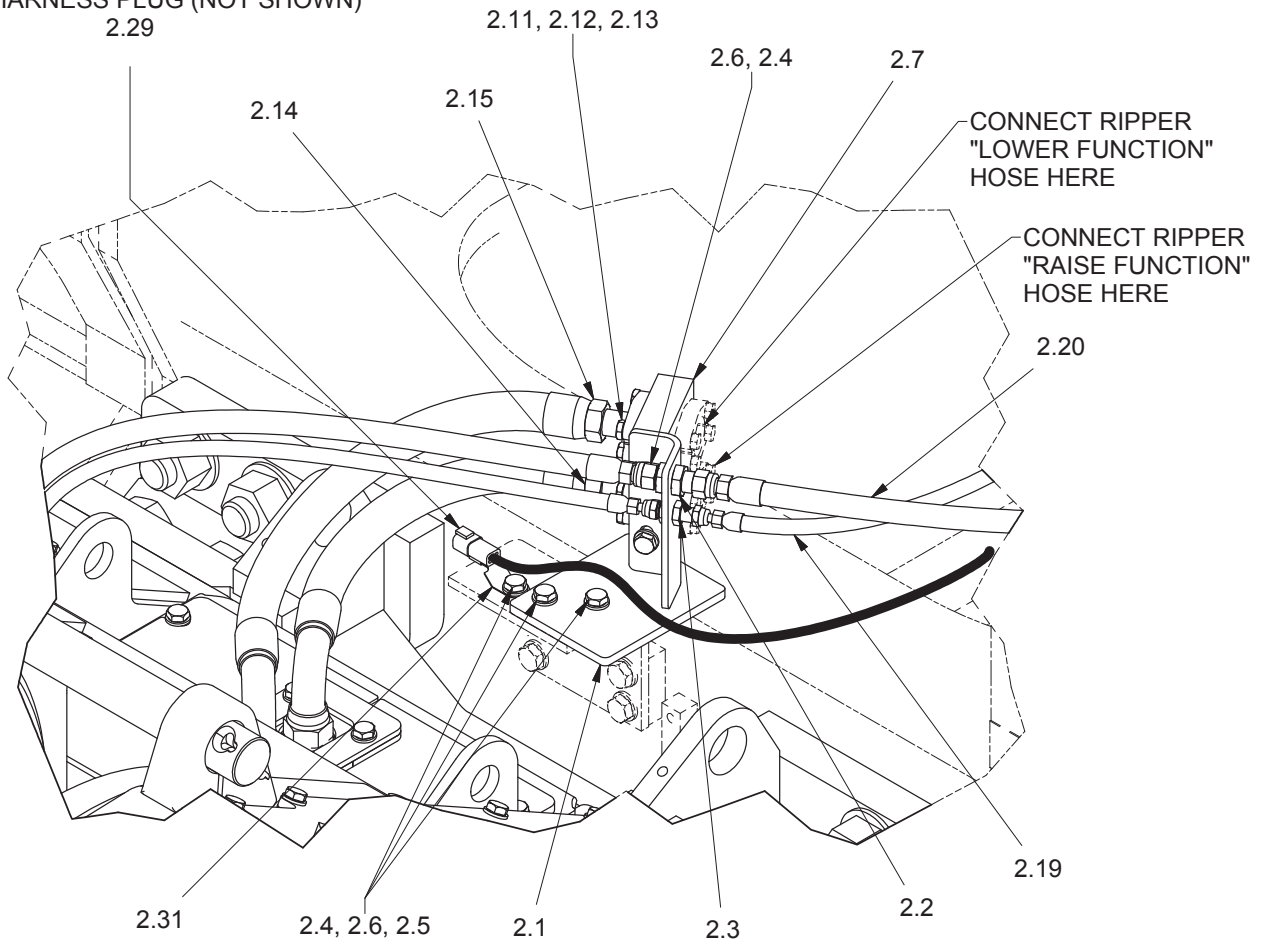


Hydraulic Connections

Komatsu D155AX-6/7/8 (K64)

Page 2 of 2

SECURE CONSOLE HARNESS
TO CLIP AS SHOWN & CONNECT 4-PIN
WINCH HARNESS PLUG (NOT SHOWN)
2.29



DETAIL A
FROM THE PREVIOUS PAGE

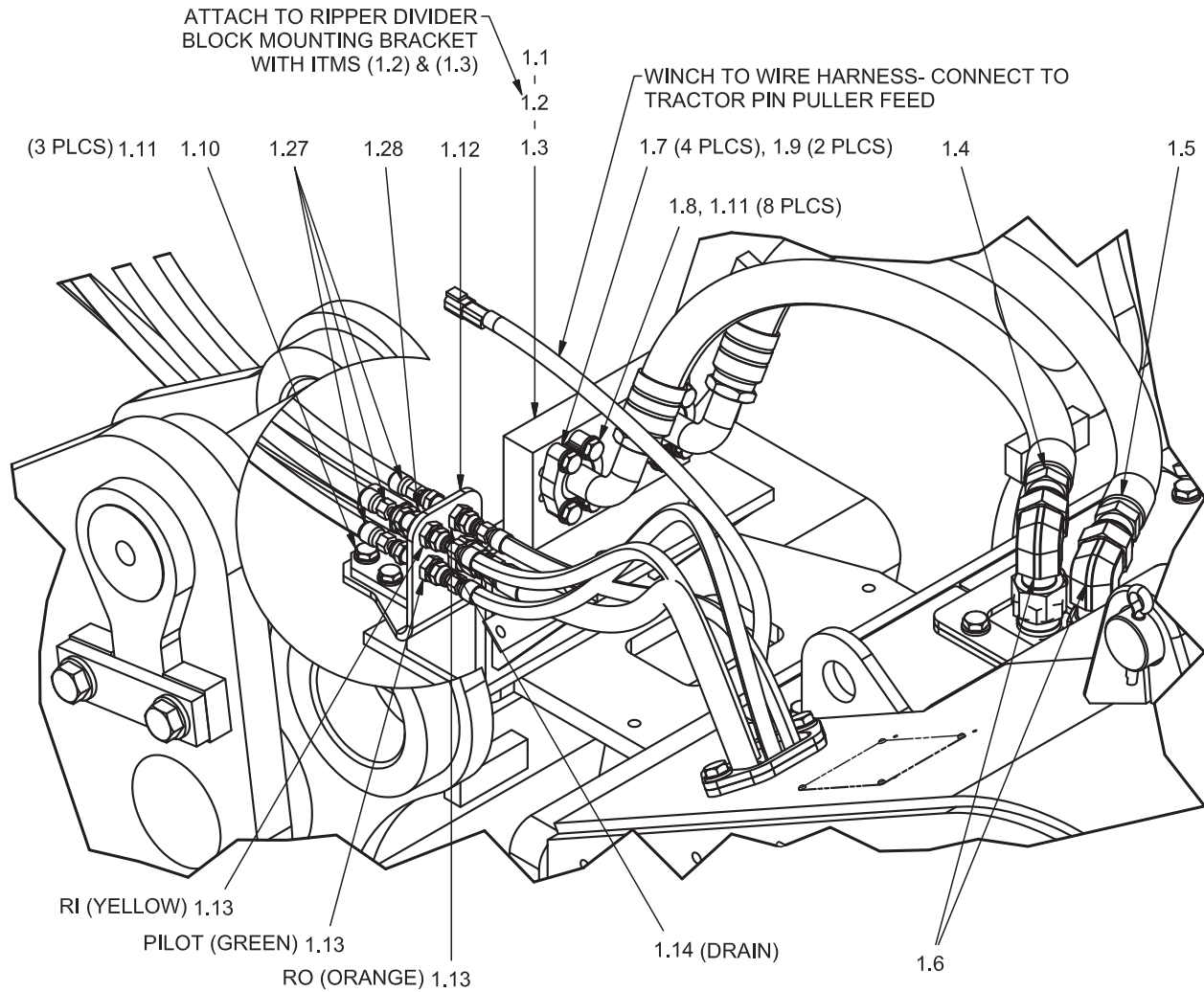
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2.1	2313866	Bulkhead	1	2.14	2313806	Assembly, Hose	1
2.2	R834103	Fitting	1	2.15	2313836	Assembly, Hose	1
2.3	R834100	Fitting	1	2.16	2313803	Plate, Cross Sheet	1
2.4	296422W	Washer	8	2.18	231955	Fitting	2
2.5	292656W	Nut	3	2.19	2313817	Assembly, Hose	1
2.6	293647W	Capscrew	5	2.20	2315482	Assembly, Hose	1
2.7	2314629	Block, Coupler	1	2.29	2313829	Harness, Console Wire	1
2.11	Y098629-219	O-Ring	2	2.30	242601	Tie, Cable (Black) (Not Shown)	12
2.12	209535	Clamp, Half	4	2.31	2311550	Clip, Harness Mounting	1
2.13	293629W	Capscrew	8				



Hydraulic Connections

Komatsu D275AX-5 (K65)

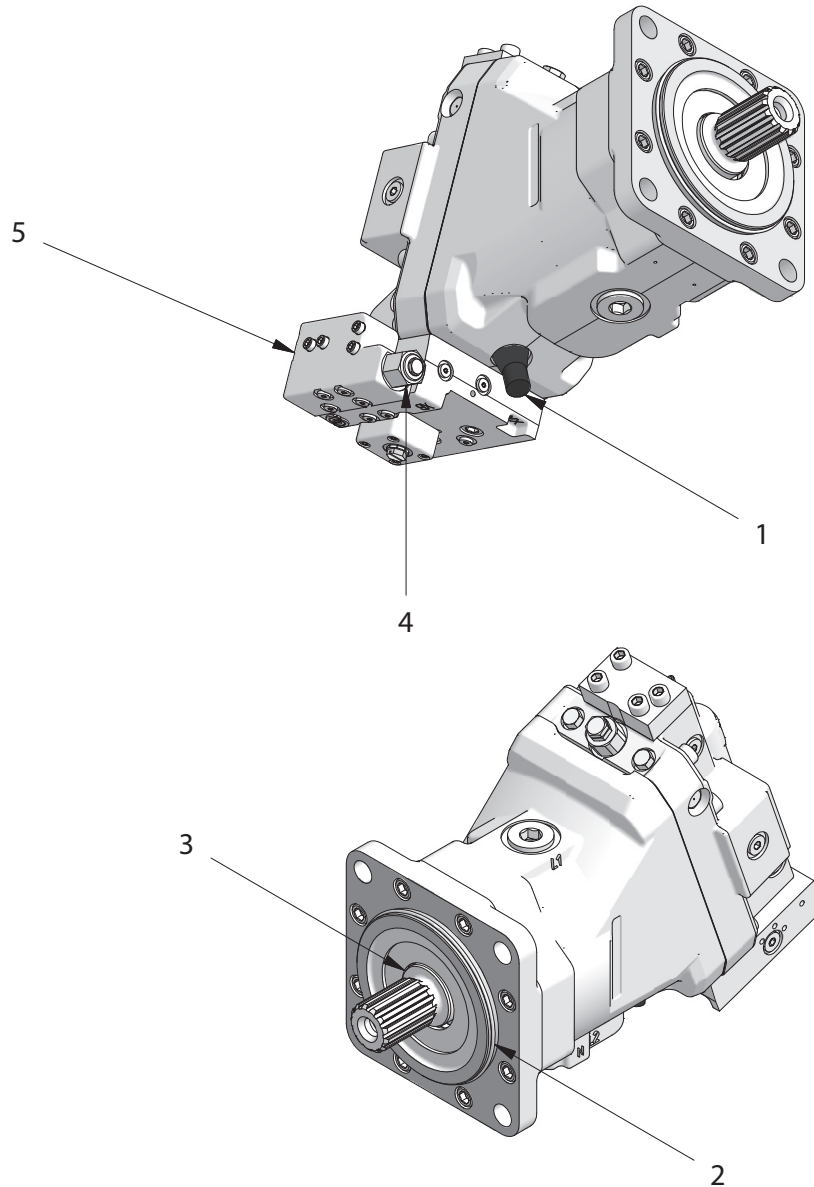
Page 2 of 2



DETAIL A
FROM PREVIOUS PAGE

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.1	2312776	Block, Coupler	1	1.11	296420W	Washer	11
1.2	293645W	Capscrew	2	1.12	2313459	Plate, Bulkhead	1
1.3	296422W	Washer	2	1.13	R834100	Fitting	3
1.4	2313475	Assembly, Hose	1	1.14	R834103	Fitting	1
1.5	2313474	Assembly, Hose	1	1.21	R834053	Fitting	1
1.6	R833805	Fitting	2	1.22	231955	Fitting	2
1.7	209535	Clamp, Half	4	1.25	2311047	Fitting	1
1.8	293631W	Capscrew	8	1.26	Y098629-012	O-Ring	1
1.9	15866W	O-Ring	2	1.27	2313756	Assembly, Hose	3
1.10	293629W	Capscrew	3	1.28	2313628	Assembly, Hose	1

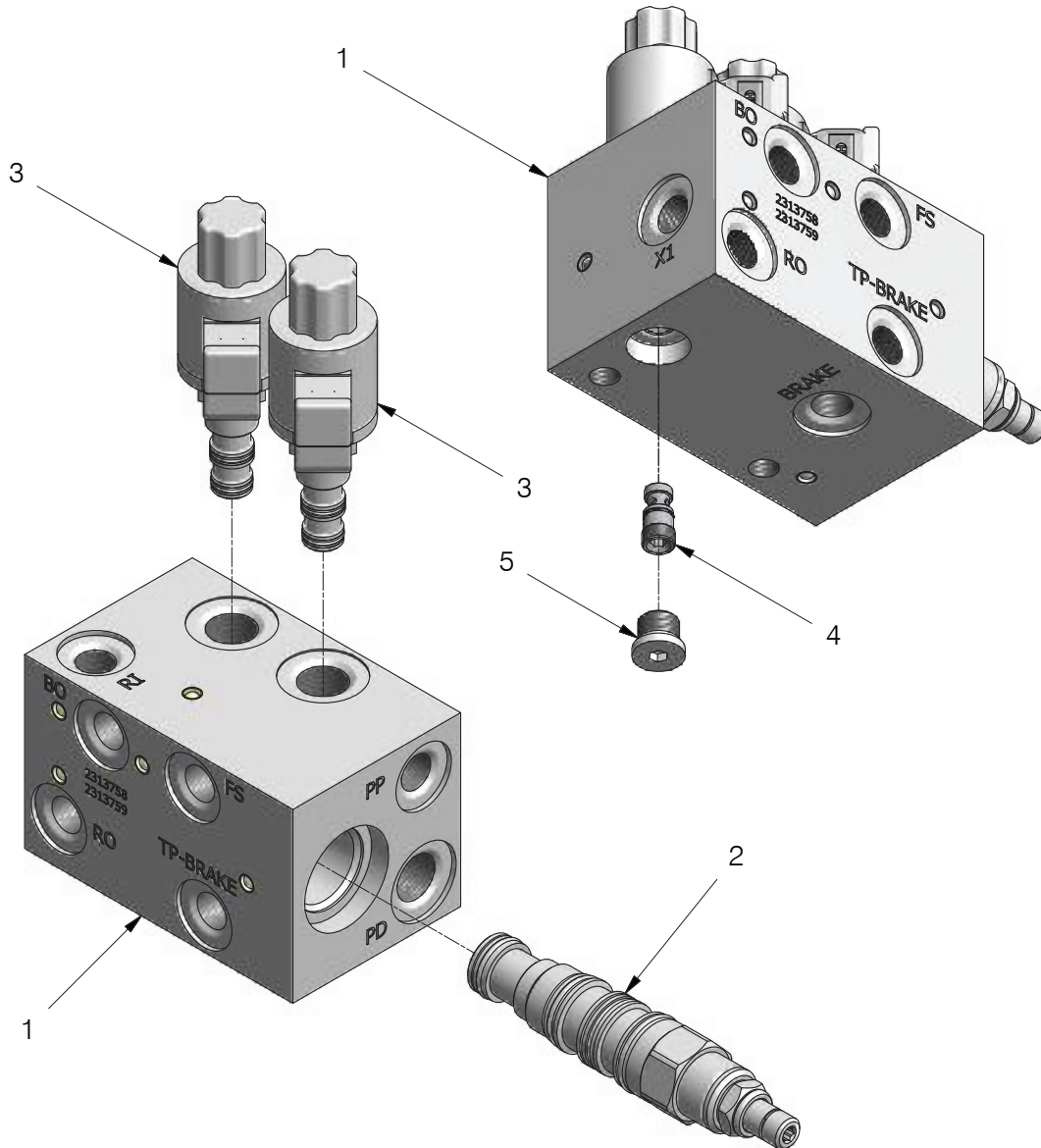
Hydraulic Motor



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	*a	2313260	Motor, Hydraulic				
	*b	2314180	Motor, Hydraulic				
	*c	2314590	Motor, Hydraulic				
	*d	2315035	Motor, Hydraulic				
1		2312682	. Cap, Tamper Resistant		*a	Used on Komatsu D155AX-6/7/8 (K64) and D275AX-5 (K65)	
2		2313890	. O-Ring, Motor Pilot		*b	Used on John Deere 1050K (E75), and Liebherr PR754 (L54),	
3		2313892	. Seal Kit, Motor Shaft		*c	Used on Caterpillar D8R Series II (C59) and D8T Tier 4 (C74)	
4		2313893	. Adjuster		*d	Used on Komatsu D85X-15 (K50)	
5		2313895	. Kit, Spool				

Control Manifold Assembly

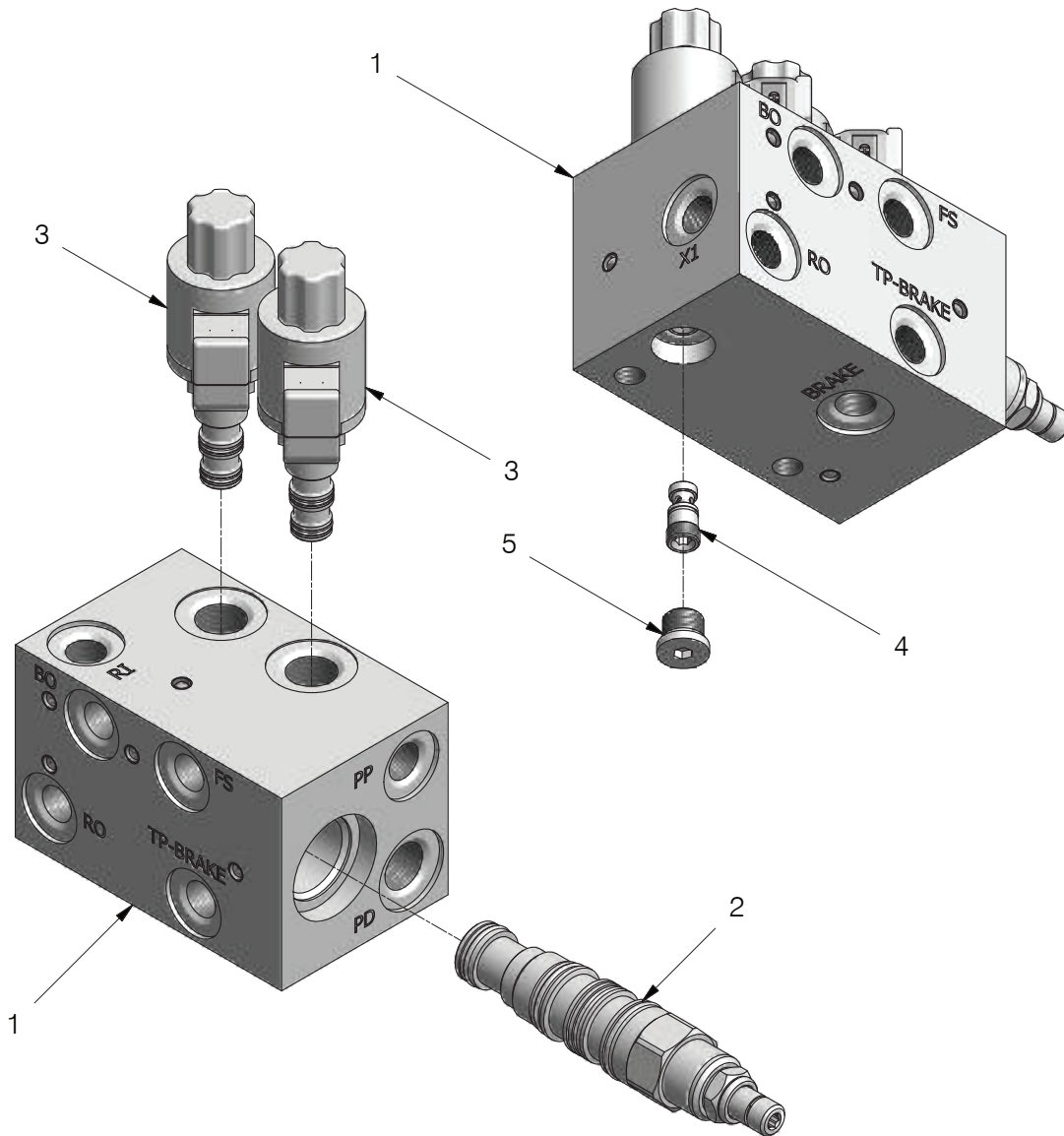
Caterpillar D8R Series II (C59);
Komatsu D155AX-6/7/8 (K64)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313758	Assembly, Control Manifold	1				
1	2313759	. Body, Control Manifold	1	4	2312074	. Valve, Shuttle	1
2	2311592	. Valve, Directional	1		2312112	. . Kit, Seal	1
	252566	. . Kit, Seal	1	5	235387	. Fitting	1
3	2312073	. Valve, Cartridge	2				
	2312111	. . Kit, Seal	1				
	2313984	. . Coil	1				
	2314106	. . Cartridge, Base Valve	1				

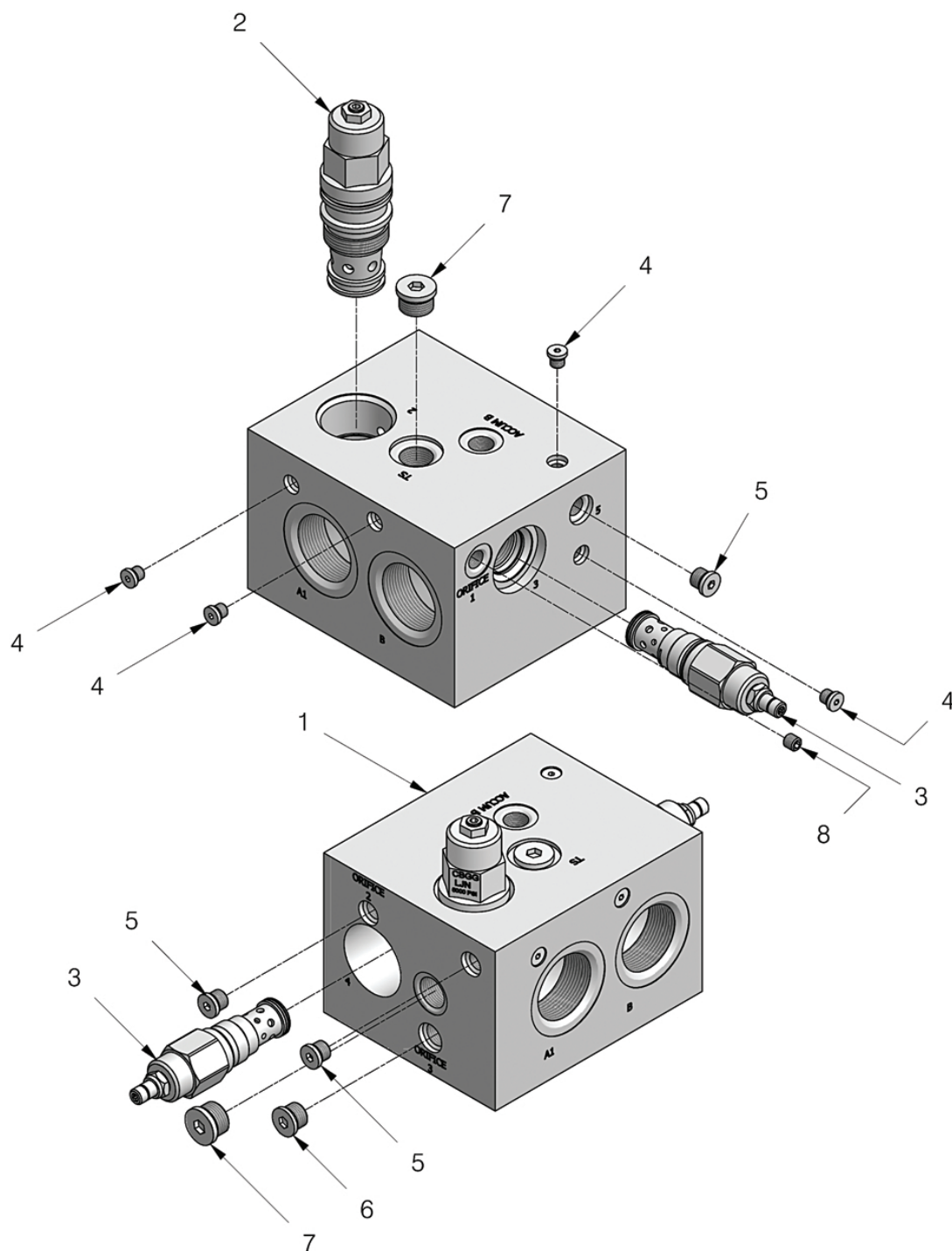
Control Manifold Assembly

Caterpillar D8T (C74)
John Deere 1050K (E75)
Komatsu D85X-15 (K50); D275AX-5 (K65)
Liebherr PR754 (L54)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311770	Assembly, Control Manifold	1				
1	2311771	. Body, Control Manifold	1	4	2312074	. Valve, Shuttle	1
2	2311592	. Valve, Directional	1		2312112	. . Kit, Seal	1
	252566	. . Kit, Seal	1	5	235387	. Fitting	1
3	2312073	. Valve, Cartridge	2				
	2312111	. . Kit, Seal	1				
	2313984	. . Coil	1				

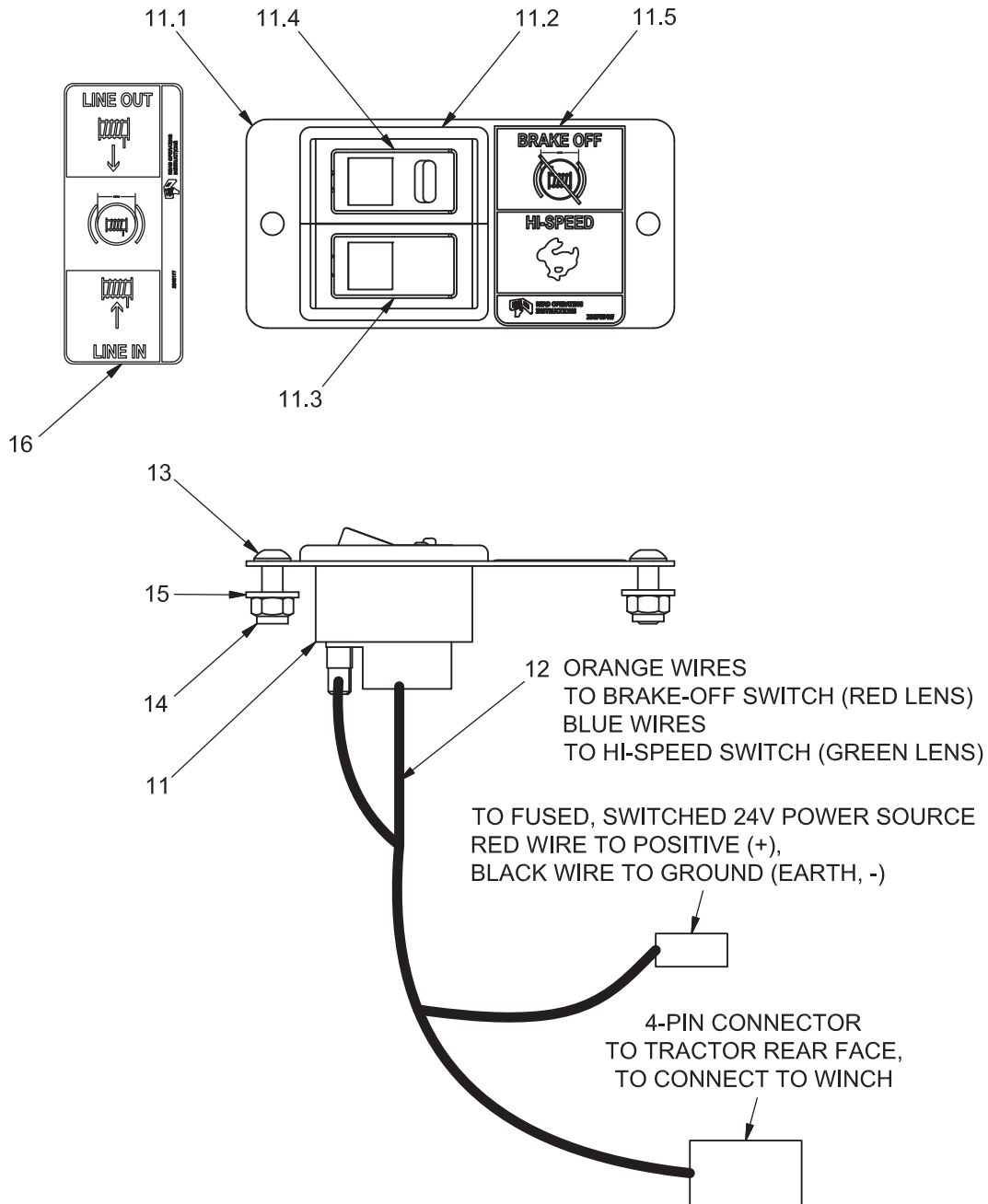
Counterbalance Relief Manifold Assembly



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311718	Assembly, Counterbalance Relief Manifold	1				
1	2311719	. Body, Manifold	1	4	242230	. Fitting	4
2	2312068	. Valve, Counterbalance	1	5	235387	. Fitting	3
	243815	. . Kit, Seal	1	6	229383	. Fitting	1
3	2307438W	. Valve, Relief	2	7	229345	. Fitting	2
	259258	. . Kit, Seal	1	8	2310181	. Plug, Orifice	1

Operator Controls

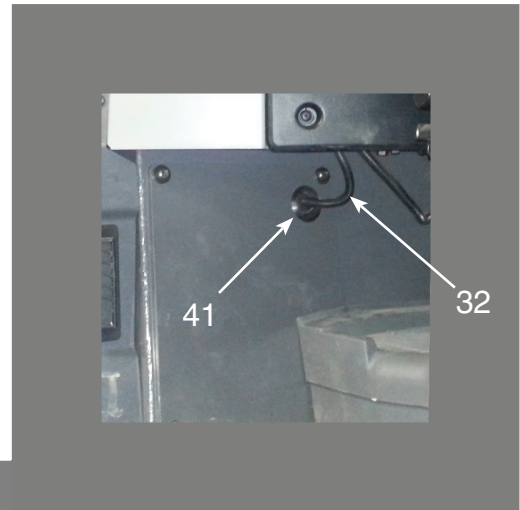
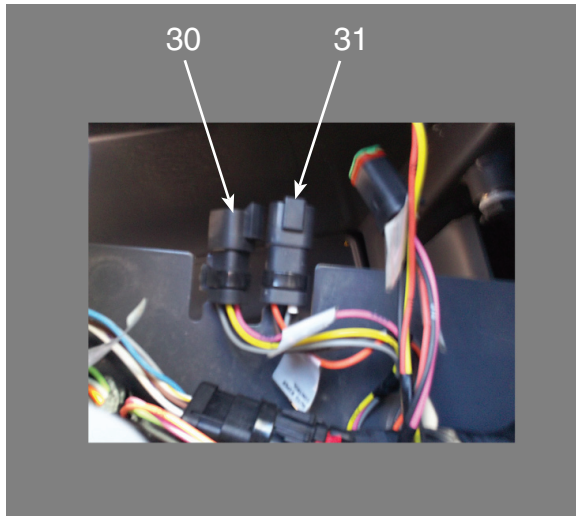
Caterpillar D8R Series II (C59)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
11	2314610	Assembly, Switch Panel	1	11.4.2	251345	.. Lamp, Red LED (28V)	1
11.1	2314611	. Panel, Switch Mounting	1	11.4.3	236503	.. Lens, Red	1
11.2	234505	. Frame, Mounting	2	11.5	2307054W	. Decal, Switch Panel	1
11.3	2311072	. Assembly, Switch - 12/24V (3-39)	1	12	2313829	Harness, Console Wire	1
11.3.1	2310300	.. Switch, Rocker	1	13	18720W	Cap screw	2
11.3.2	236504	.. Lens, Green	1	14	15113W	Nut	2
11.3.3	251106	.. Lamp, Green LED (28V)	1	15	15127W	Washer	2
11.4	2310504	. Assembly, Switch w/Lock (3-38)	1	16	2312177	Decal, LINE-IN/OUT	1
11.4.1	2307582W	.. Switch, Rocker w/Lock	1				

Operator Controls

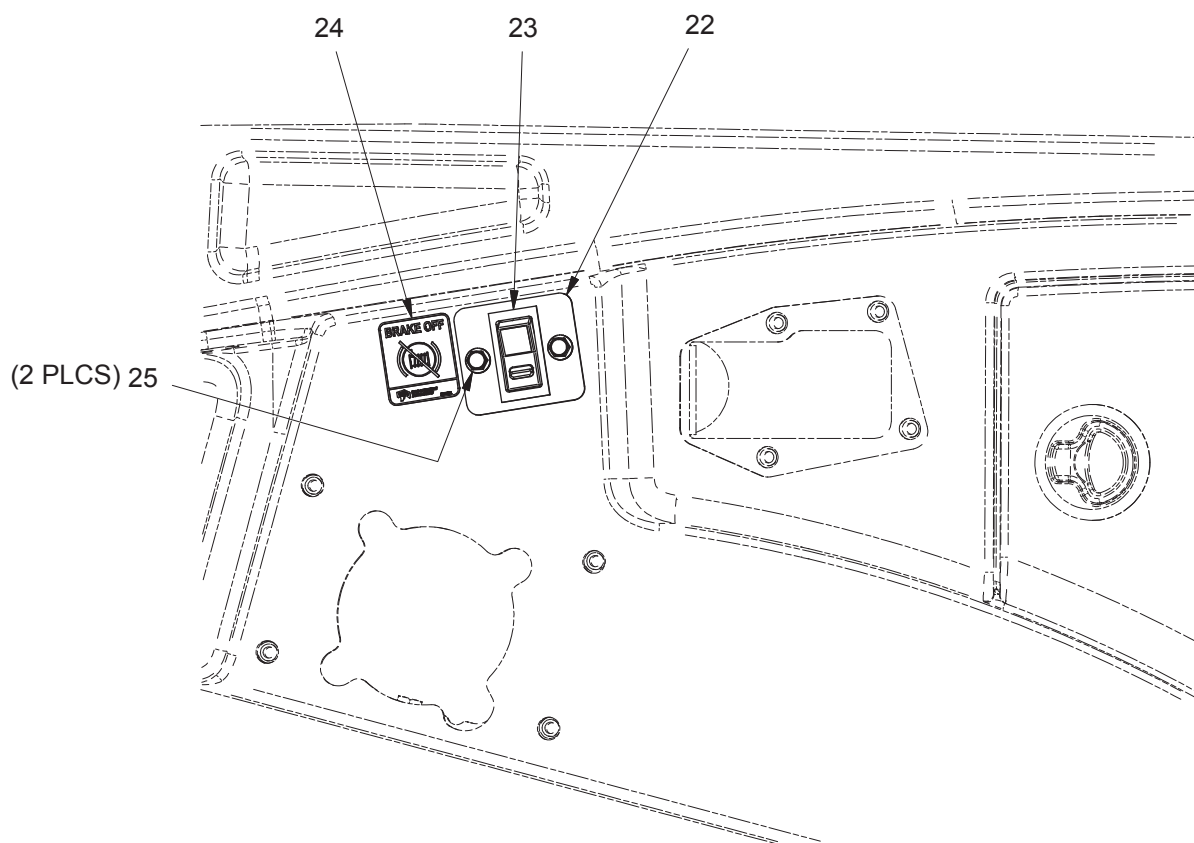
Caterpillar D8T (C74)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
29	2314703	Decal, Thumb Wheel - LINE-IN/OUT	1	33.1	2307582W	.. Switch, Rocker w/Lock	1
30	2314709	Counter Plug, 3-Pin	1	33.2	251345	.. Lamp, Red LED (28V)	1
31	2314710	Counter Plug, 4-Pin	1	33.3	236503	.. Lens, Red	1
32	2314708	Harness, Console Wiring	1	34	2313991	Decal, BRAKE-OFF	1
33	2310504	Assembly, Switch (3-38)	1	35	242601	Tie, Cable (Black, Not Shown)	8
				41	2307343W	Grommet	1

Operator Controls

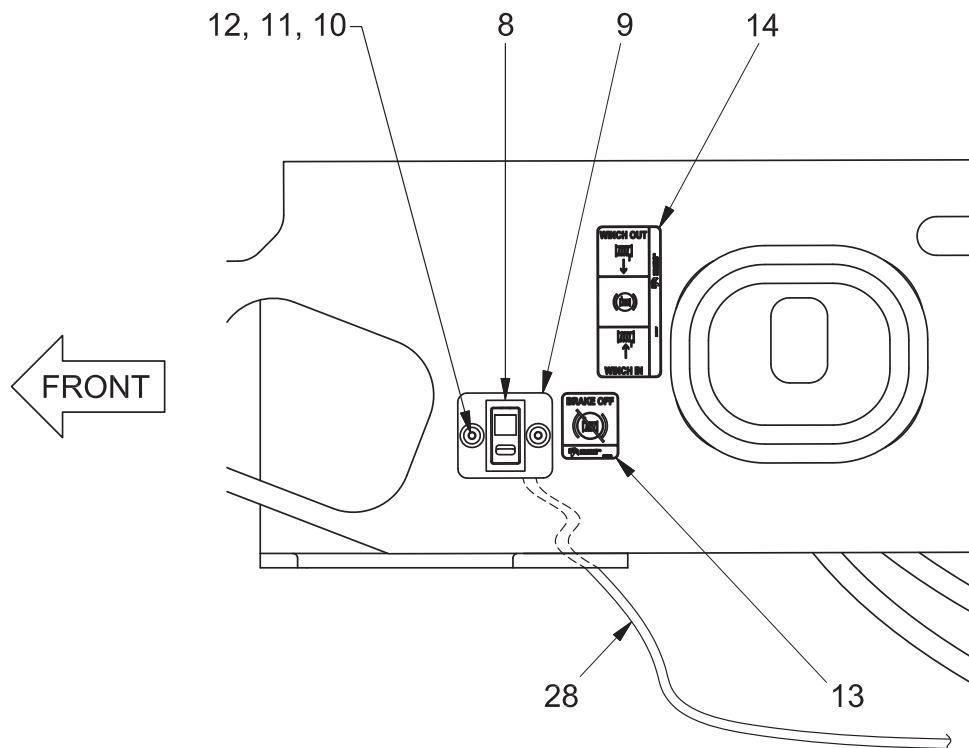
John Deere 1050K (E75)

**CONTROLS INSTALLATION**

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
22	2307643W	Plate, Switch Mounting	1	24	2313991	Decal, Switch Panel; BRAKE-OFF	1
23	2310504	Assembly, Switch - W/Lock (3-38)	1	25	277280W	Screw	2

Operator Controls

Komatsu D85X-15 (K50)

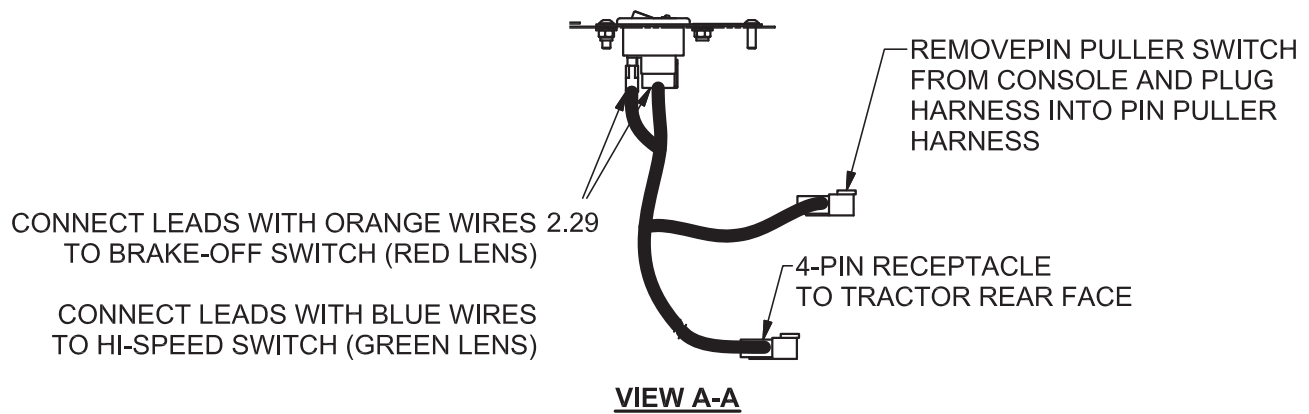
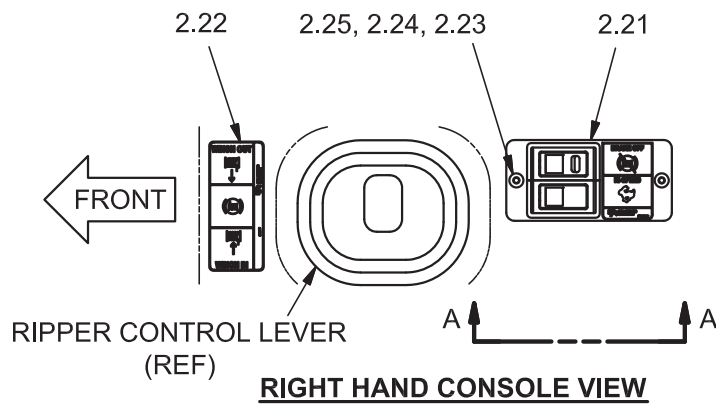


RIGHT-HAND SIDE CONSOLE VIEW

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
8	2310504	Assembly, Switch - Red LED (3-38)	1	11	15127W	Washer	2
8.1	2307582W	.. Switch, Rocker w/Lock	1	12	15113W	Nut	2
8.2	251345	.. Lamp, Red LED (28V)	1	13	2313991	Decal, Switch Panel; BRAKE-OFF	1
8.3	236503	.. Lens, Red	1	14	2312177	Decal, LINE-IN/OUT	1
9	2307643W	Plate, Switch Mounting	1	28	2313829	Harness, Console Wire	1
10	18720W	Capscrew	2				

Operator Controls

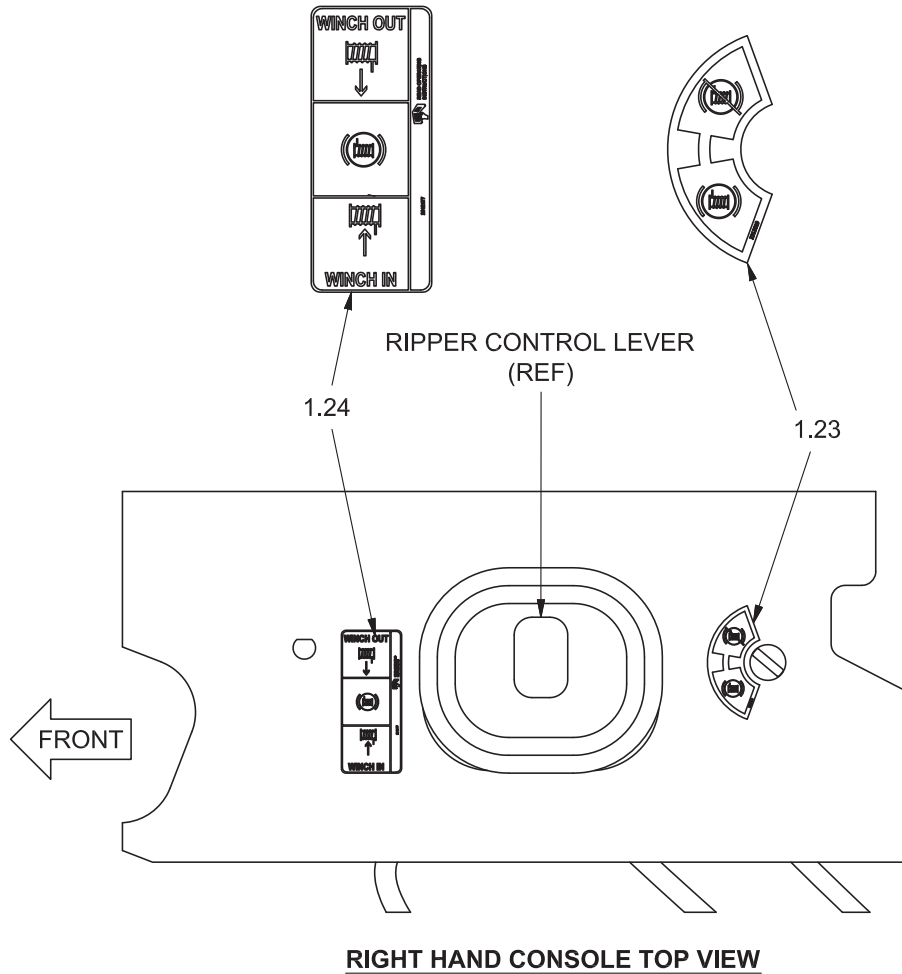
Komatsu D155AX-6/7/8 (K64)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2.21	2314610	Assembly, Switch Panel	1	2.21.5	2307054W	. Decal, Switch Panel	1
2.21.1	2314611	. Panel, Switch Mounting	1	2.22	2312177	Decal, LINE-IN/OUT	1
2.21.2	234505	. Frame, Mounting	2	2.23	18720W	Capscrew	2
2.21.3	2311072	. Assembly, Switch - 12/24V (3-39)	1	2.24	15127W	Washer	2
2.21.3.1	2307582W	. Switch, Rocker w/Lock	1	2.25	15113W	Nut	2
2.21.3.2	251345	. Lamp, Red LED (28V)	1	2.29	2313829	Harness, Console Wire	1
2.21.3.3	236503	. Lens, Red	1				
2.21.4	2310504	. Assembly, Switch w/Lock (3-38)	1				
2.21.4.1	2307582W	. Switch, Rocker w/Lock	1				
2.21.4.2	251345	. Lamp, Red LED (28V)	1				
2.21.4.3	236503	. Lens, Red	1				

Operator Controls

Komatsu D275AX-5 (K65)



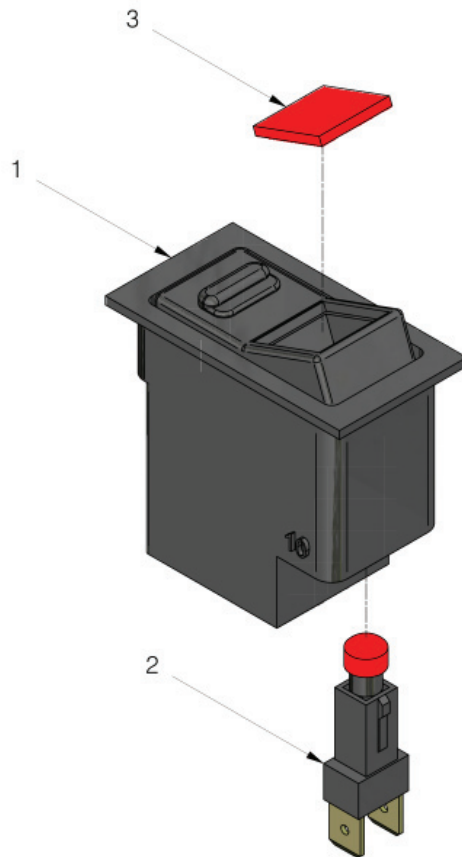
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1.23	2313619	Decal, BRAKE-ON/OFF	1	1.24	2312177	Decal, LINE-IN/OUT	1

Switch Assembly

Caterpillar D8R Series II (C59); D8T (C74)

John Deere 1050K (E75)

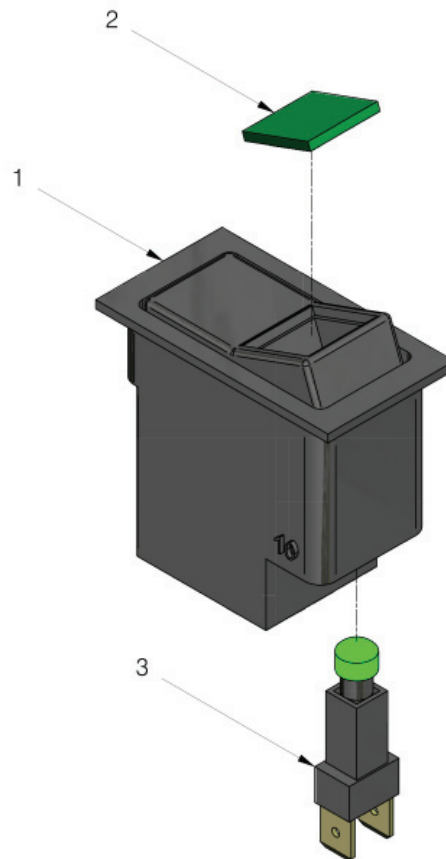
Komatsu D85X-15 (K50); D155AX-6/7/8 (K64)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2310504	Assembly, Switch w/Lock	1				
1	2307582W	. Switch, Rocker w/Lock	1	3	236503	. Lens, Red	1
2	251345	. Lamp, Red LED (28V)	1				

Switch Assembly

Caterpillar D8R Series II (C59)
Komatsu D155AX-6/7/8 (K64)



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311072	Assembly, Switch - 12/24V	1				
1	2310300	. Switch, Rocker	1	3	251106	. Lamp, Green LED (28V)	1
2	236504	. Lens, Green	1				

Intentionally Blank

Optional Equipment

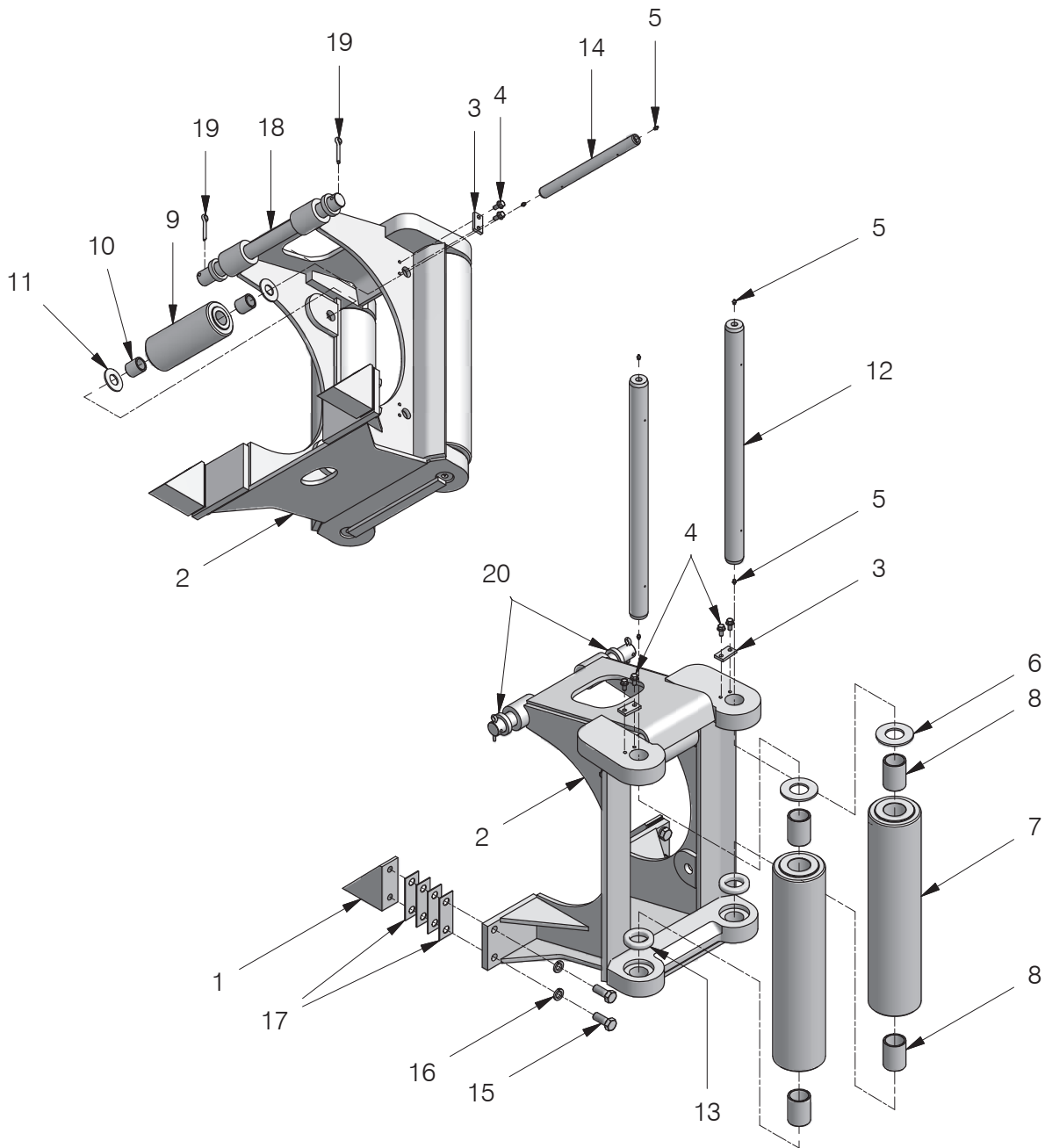
Fairlead4-2 & 4-3

Wire Rope Assemblies 4-4



Fairlead

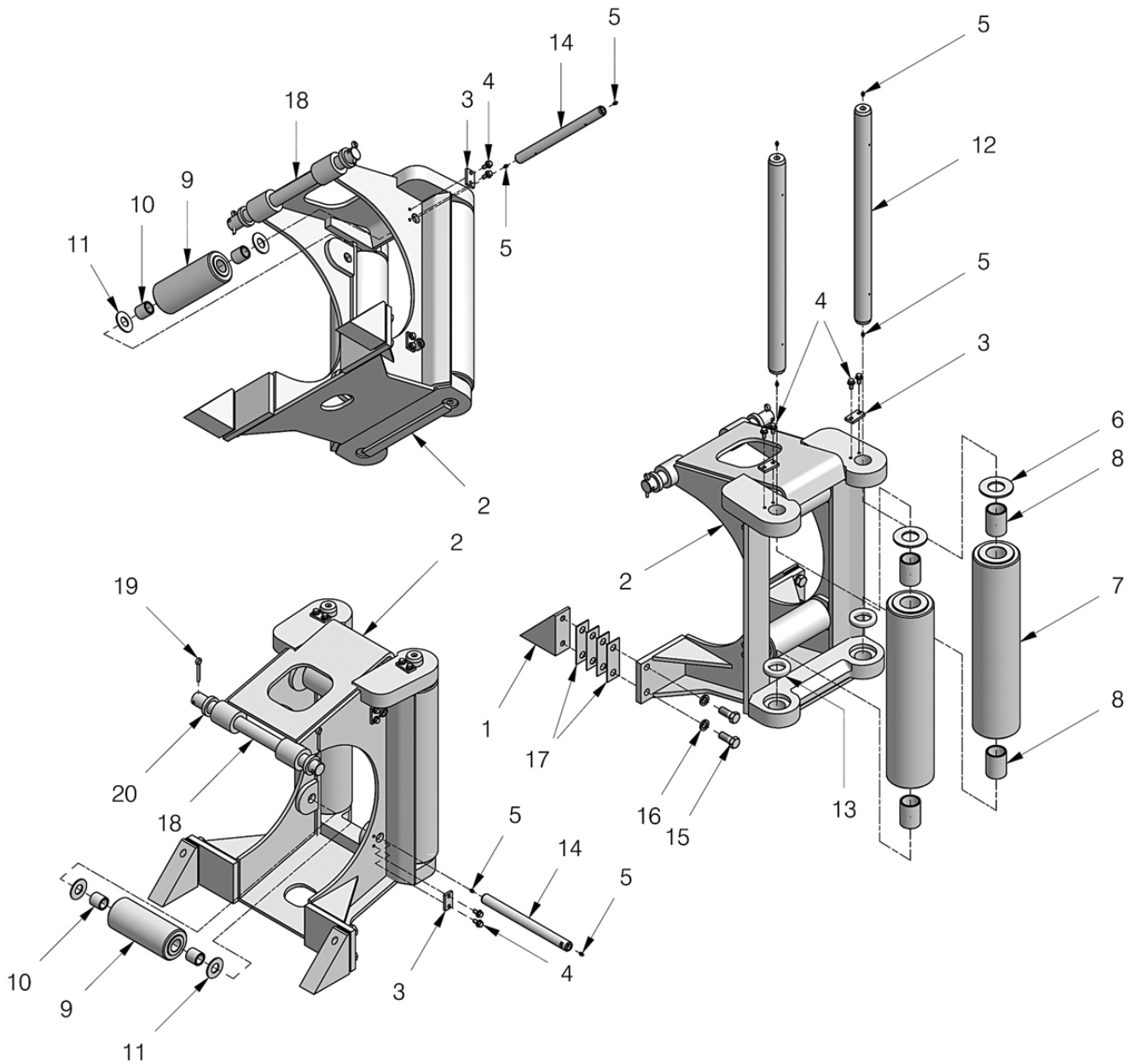
Three Rollers



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	335462W	Assembly, 3-Roller Fairlead	1				
1	182733W	Plate, Bracket	2	11	92720W	. Washer	2
2	95801W	. Frame	1	12	93981W	. Shaft	2
3	93166W	. Keeper	3	13	230353W	. Bearing, Thrust	2
4	398817W	. Screw, Flanged	6	14	93658W	. Shaft	1
5	16001W	. Fitting, Grease	6	15	18670W	Capscrew	4
6	38672W	. Washer	2	16	15166W	Lockwasher	4
7	93980W	. Roller	2	17	96504W	Shim .135	AR
8	93979W	. Bushing	2	18	92606W	Rod, Tie	1
9	92212W	. Roller	1	19	15272W	Pin, Cotter	2
10	59419W	. Bushing	2	20	173608W	Spacer	2

Fairlead

Four Rollers



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	335464W	Assembly, 4-Roller Fairlead	1				
1	182733W	Plate, Bracket	2	11	92720W	. Washer	4
2	95801W	. Frame	1	12	93981W	. Shaft	2
3	93166W	. Keeper	4	13	230353W	. Bearing, Thrust	2
4	398817W	. Screw, Flanged	8	14	93658W	. Shaft	2
5	16001W	. Fitting, Grease	8	15	18670W	Capscrew	4
6	38672W	. Washer	2	16	15166W	Lockwasher	4
	93980W	. Roller	2	17	96504W	Shim .135	AR
8	93979W	. Bushing	2	18	92606W	Rod, Tie	1
9	92212W	. Roller	2	19	15272W	Pin, Cotter	2
10	59419W	. Bushing	4	20	173608W	Spacer	2

Wire Rope Assemblies

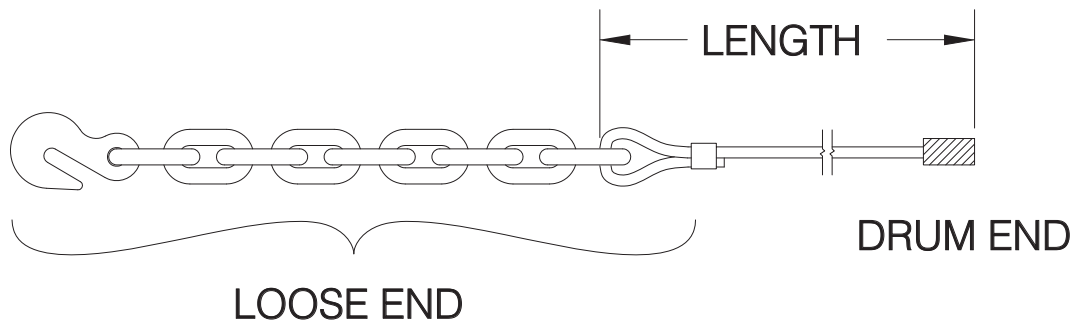


Figure A

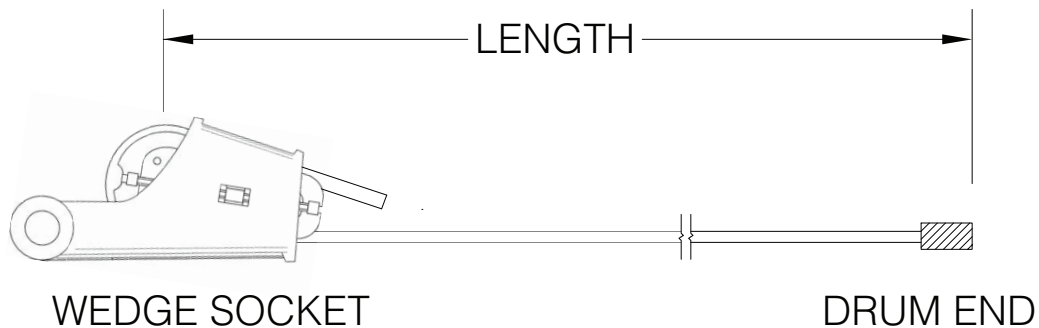


Figure B

Part No.	Wire Diameter		Length Ft (M)	Part No.	Wire Diameter	Length Ft (M)
WR8-188J	*a	1"	188 (57) *	* Length to fill drum to 2/3 capacity (recommended) ** Length to fill drum to full capacity *a WR Series Wire Rope (Illustrated in Figure A) *b YS Series Wire Rope (Illustrated in Figure B)		
WR8-285J	*a	1"	285 (87) **			
WR9-150J	*a	1 1/8"	150 (46) *			
WR9-228J	*a	1 1/8"	228 (69) **			
WR10-119J	*a	1 1/4"	119 (36) **			
WR10-182J	*a	1 1/4"	182 (55) **			
YS10-182JWS	*b	1 1/4"	182 (55) **			

Suggested Spares Guide

Recommended Service Kits.....	5-2
• Gaskets & Seals	5-2 & 5-3
• Motor, Reducer & Brake Assembly Rebuild Kit, P/N 2313952	5-3
• Intermediate/drum Shaft, and Brake Assembly Rebuild Kit, P/N 2313953	5-4
• Spare Parts	5-5
• Wire Rope Assemblies.....	5-5
• Operator Controls Components	5-5
• Tool Kits	5-6
• Diagnostic Tools	5-6



Suggested Spares Guide

H12E Hydraulic Winch

Recommended Service Parts

The following pages list some of the service parts and kits that are available for your Allied H12E Winch.

Pages 5-2 and 5-3 include gaskets and seals. Keep these parts in stock at all times for regular maintenance. Order parts from the table based on your winch.

Pages 5-3 and 5-4 contain kits for 5,000 hour and 10,000 hour scheduled maintenance. Order these kits in preparation for these intervals. Each kit includes all parts listed in the table. Order parts from the table based on your winch.

Page 5-5 contains lists of spare parts, wire rope assemblies and operator control components. Order parts as required and as relevant for your installation.

Page 5-6 contains lists of tool kits, and diagnostic tools. Order parts as required and as relevant for your installation.

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

Gaskets & Seals				Order as Required
Applies to: Caterpillar D8R Series II (C59), Komatsu D155AX-6/7/8 (K64)				
Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2312536	Seal, Top	1	Frames/Covers	
2313831	Gasket, Hose Seal	1	Frames/Covers	
2313396	Gasket, Top Right-Hand Cover	1	Frames/Covers	
252566	Seal Kit, Directional Valve	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve	1	Control Manifold Assembly	
243815	Seal Kit, Counter Balance Valve	1	CBR Manifold Assembly	
259258	Seal Kit, Relief Valve	2	CBR Manifold Assembly	
255601	Seal Kit, Relief Valve	2	CBR Manifold Assembly	

Gaskets & Seals				Order as Required
Applies to: Caterpillar D8T (C74), Komatsu D85X-15 (K50), Komatsu D275AX-5 (K65), Liebherr PR754 (L54)				
Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2312536	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
2313396	Gasket, Top Right-Hand Cover	1	Frames/Covers	
252566	Seal Kit, Directional Valve	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve	1	Control Manifold Assembly	
243815	Seal Kit, Counter Balance Valve	1	CBR Manifold Assembly	
259258	Seal Kit, Relief Valve	2	CBR Manifold Assembly	
255601	Seal Kit, Relief Valve	2	CBR Manifold Assembly	



Suggested Spares Guide

Gaskets & Seals				Order as Required
Applies to: John Deere 1050K (E75)				
Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2312536	Seal, Top	1	Frames/Covers	
2312118	Gasket, Hose Seal	1	Frames/Covers	
2313396	Gasket, Top Right-Hand Cover	1	Frames/Covers	
252566	Seal Kit, Directional Valve	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve	1	Control Manifold Assembly	
243815	Seal Kit, Counter Balance Valve	1	CBR Manifold Assembly	
259258	Seal Kit, Relief Valve	2	CBR Manifold Assembly	
255601	Seal Kit, Relief Valve	2	CBR Manifold Assembly	

Motor, Reducer & Brake Assembly Rebuild Kit, P/N: 2313952				
Applies to: All				
Service Interval: Every 5,000 Hours				
Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2313952	Kit, Rebuild, Motor, Reducer & Brake Assy			
R13804959	. O-Ring	1	Motor Shaft Group	
2311880	. Ring, Seal	1	Motor Shaft Assembly	
86585W	. O-Ring	1	Motor Shaft Assembly	
87287W	. O-Ring	1	Motor Shaft Assembly	
237349	. O-Ring	1	Motor Shaft Assembly	
2312302	. Kit, O-Ring Repair	1	Brake, Dry Disc	
2313890	. O-Ring	1	Hydraulic Motor	
2313892	. Kit, Seal	1	Hydraulic Motor	



Suggested Spares Guide

Intermediate / Drum Shaft, and Brake Assembly Rebuild Kit, P/N: 2313953

Applies to: All

Service Interval: Every 10,000 Hours

Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2313953	Kit, Rebuild, Intermed./Drum Shaft, & Brake Assy			
2312303	. Kit, Bearing Repair	1	Brake, Dry Disc	
250850	. Kit, Spring Repair	1	Brake, Dry Disc	
250847	. Kit, Lining Repair	1	Brake, Dry Disc	
15888W	. O-Ring	1	Shaft, Drum	
44570W	. Seal, Oil	1	Shaft, Drum	
39764W	. O-Ring	1	Shaft, Drum	
141149W	. Seal, Oil	1	Shaft, Drum	
15886W	. O-Ring	1	Shaft, Drum	
230329W	. Bearing, Roller	2	Shaft, Drum	
280472W	. Sealant, Adhesive	1	Shaft, Drum	
231011W	. Cone, Roller Bearing	2	Shaft, Intermediate Gear	
230327W	. Cup, Roller Bearing	2	Shaft, Intermediate Gear	
93284W	Shim .005*	AR	Shaft, Intermediate Gear	
93285W	Shim .007*	AR	Shaft, Intermediate Gear	
93286W	Shim .020*	AR	Shaft, Intermediate Gear	
133274W	Shim .005*	AR	Shaft, Drum	
133275W	Shim .007*	AR	Shaft, Drum	
133276W	Shim .020*	AR	Shaft, Drum	
95033W	Shim .005*	AR	Shaft Group, Motor	
95166W	Shim .007*	AR	Shaft Group, Motor	
95034W	Shim .020*	AR	Shaft Group, Motor	

* Note: Shims are not included in Rebuild Kit, 2313953. Order shims as required for your winch installation.



Suggested Spares Guide

Spare Parts			Order as Required	
Applies to: All				
Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Quantity
2313260	Motor, Hydraulic - K64, K65	1	Motor Shaft Group	
2314180	Motor, Hydraulic - E75, L54	1	Motor Shaft Group	
2314590	Motor, Hydraulic - C59, C74	1	Motor Shaft Group	
2315035	Motor, Hydraulic - K50	1	Motor Shaft Group	
2312155	Brake, Dry Disk	1	Motor Shaft Assembly	
2312453	Reducer, Planetary Kit	1	Motor Shaft Assembly	
21420W	Plug, Breather	1	Frame/Covers	
2300962W	Cap, Breather	1	Frame/Covers	
95959W	Pin, Drawbar	1	Frame/Covers	
2303221W	Pin, Retaining	1	Frame/Covers	
2313258	Nut, Blind	2	Shaft, Drum	
274908W	Keeper, Ferrule	1	Shaft, Drum	
328715W	Disc, Friction	14	Clutch Assembly	
95494W	Gear	1	Shaft, Intermediate Gear	
93979W	Bushing	4	Fairlead	
59419W	Bushing	4	Fairlead	

Wire Rope Assemblies				Order as Required
Applies to: All				
Allied P/N	Description	Length	Will Fill Drum To:	Order Quantity
WR8-188J	Wire Rope Assembly, 1"	188' (57 M)	2/3 Capacity (recommended)	
WR8-285J	Wire Rope Assembly, 1"	285' (87 M)	Full Capacity	
WR9-150J	Wire Rope Assembly, 1 1/8"	150' (46 M)	2/3 Capacity (recommended)	
WR9-228J	Wire Rope Assembly, 1 1/8"	228' (69 M)	Full Capacity	
WR10-119J	Wire Rope Assembly, 1 1/4"	119' (36 M)	2/3 Capacity (recommended)	
WR10-182J	Wire Rope Assembly, 1 1/4"	182' (55 M)	Full Capacity	
YS10-182JWS	Wire Rope Assembly, 1 1/4"	182' (55 M)	Full Capacity	

Operator Controls Components				Order as Required
Applies to: See Column of Relevant for Installation				
Allied P/N	Description	Quantity on Winch	Relevant for Installation	Order Quantity
2311072	Assembly, Switch (Green LED)	1	All	
2310504	Assembly, Switch (Red LED)	1	All	
2314610	Assembly, Switch Panel	1	Caterpillar D8R Series II (C59), Komatsu D155AX-6/7/8 (K64)	



Suggested Spares Guide

Tool Kits

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	

Diagnostic Tools

Order as Required

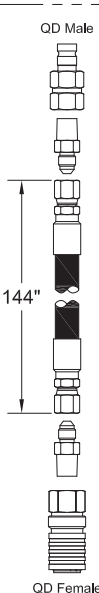
Order these Tools as required for maintenance and service of your winch(es).

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	

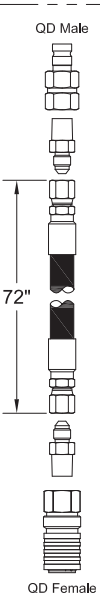


69778
Multi-Meter, 12 Function

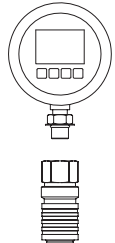
AC/DC Voltage & Current,
Resistance, Capacitance,
Frequency, Type K & IR
Temperature, Diode/Continuity,
Duty Cycle Non-Contact
InfraRed Thermometer
CAT III Test Leads
Type K Bead Wire Temp Probe



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

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209535	3-25	2.12	235387	3-5	10.12	244959	3-12	9.1	2311718	3-5	10.1
209535	3-27	1.7	235387	3-7	9.12	244959	3-15	9.1	2311718	3-7	9.1
225851	1-9	2	235387	3-9	12	244959	3-3	10.1	2311718	3-9	1
229345	3-31	7	235528	3-19	27	244959	3-5	10.1	2311719	3-31	1
229383	3-11	9.11	236503	3-32	11.4.3	244959	3-7	9.1	2311770	3-11	9.15
229383	3-12	9.11	236503	3-33	33.3	244959	3-9	10	2311770	3-12	9.15
229383	3-15	9.11	236503	3-35	8.3	247426	3-21	7	2311770	3-15	9.15
229383	3-3	10.11	236503	3-36	2.21.3.3	248852	3-21	8	2311770	3-30	
229383	3-31	6	236503	3-36	2.21.4.3	249072	3-13	2.5	2311770	3-7	9.15
229383	3-5	10.11	236503	3-38	3	249072	3-19	26	2311770	3-9	15
229383	3-7	9.11	236504	3-32	11.3.2	251106	3-32	11.3.3	2311771	3-30	1
229383	3-9	11	236504	3-39	2	251106	3-39	3	2311880	2-5	12
229448	3-11	9.6	236855	3-13	2.11	251345	3-32	11.4.2	2311906	2-8	6
229448	3-12	9.6	236855	3-19	11	251345	3-33	33.2	2312039	2-5	4
229448	3-15	9.6	236892	3-11	2.1	251345	3-35	8.2	2312041	2-5	26
229448	3-3	10.6	236892	3-7	2.5.2	251345	3-36	2.21.3.2	2312068	3-31	2
229448	3-5	10.6	236892	3-9	26	251345	3-36	2.21.4.2	2312073	3-29	3
229448	3-7	9.6	237349	2-5	25	251345	3-38	2	2312073	3-30	3
229448	3-9	6	239847	3-3	10.35	252566	3-29	2	2312074	3-29	4
231439	2-3	25	239847	3-5	10.35	252566	3-30	2	2312074	3-30	4
231439	3-11	9.16	242230	3-31	4	256448	3-11	2.1	2312111	3-29	3
231439	3-12	9.16	242259	3-19	25	256448	3-11	3.1	2312111	3-30	3
231439	3-15	9.16	242261	3-19	24	256448	3-9	35	2312112	3-29	4
231439	3-3	10.16	242264	3-11	3.1	259258	3-31	3	2312112	3-30	4
231439	3-5	10.16	242264	3-3	10.25	424601	3-21	26	2312117	1-3	8
231439	3-7	9.16	242264	3-5	10.25	592577	3-21	20	2312119	1-3	9
231439	3-9	16	242374	3-11	9.23	2310181	3-31	8	2312155	2-5	2
231440	3-21	9	242374	3-12	9.23	2310300	3-32	11.3.1	2312155	2-7	1
231465	3-11	9.17	242374	3-15	9.23	2310300	3-39	1	2312177	3-16	16
231465	3-12	9.17	242374	3-3	10.23	2310504	3-32	11.4	2312177	3-32	16
231465	3-15	9.17	242374	3-5	10.23	2310504	3-33	33	2312177	3-35	14
231465	3-3	10.17	242374	3-7	9.23	2310504	3-34	23	2312177	3-36	2.22
231465	3-5	10.17	242374	3-9	23	2310504	3-35	8	2312177	3-37	1.24
231465	3-7	9.17	242596	3-11	2.7	2310504	3-36	2.21.4	2312208	1-3	7
231465	3-9	17	242596	3-11	3.7	2310504	3-38		2312208	3-11	2.12
231820	3-11	2.8	242596	3-15	2.7	2310796	1-11	3	2312208	3-11	3.12
231820	3-11	3.8	242596	3-19	36	2310796	1-13	3	2312208	3-15	2.1
231820	3-13	2.1	242596	3-7	2.6	2310880	1-5	7	2312208	3-7	2.1
231820	3-15	2.8	242596	3-9	32	2310891	2-10	24	2312276	2-6	1
231820	3-3	10.3	242597	3-11	2.6	2310949	2-10	18	2312277	2-6	3
231820	3-5	10.3	242597	3-11	3.6	2310950	2-10	17	2312283	2-6	5
231820	3-7	2.4	242597	3-15	2.6	2310951	2-10	19	2312284	2-6	2
231820	3-9	33	242597	3-19	37	2311047	3-23	6	2312339	3-7	2.9
231955	3-23	7	242597	3-7	2.7	2311047	3-27	1.25	2312422	3-19	17
231955	3-25	2.18	242597	3-9	31	2311072	3-32	11.3	2312442	2-5	6
231955	3-27	1.22	242598	3-11	2.5	2311072	3-36	2.21.3	2312486	1-3	12
231955	3-3	10.32	242598	3-11	3.5	2311072	3-39	3	2312487	2-3	4
231955	3-5	10.32	242598	3-15	2.5	2311251	2-8	9	2312488	2-3	20
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231965	3-21	15	242598	3-19	38	2311330	1-11	4	2312529	2-6	9
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