

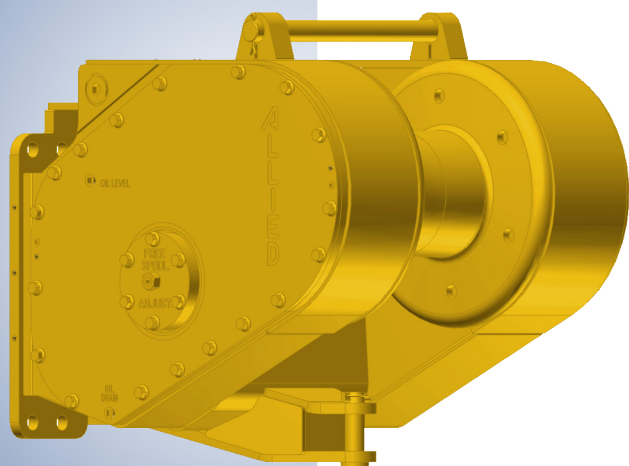


Parts Manual

Allied H5C

Hydraulic Winch

for Liebherr Dozers



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www.alliedsystems.com

Customer Edition

Safety Precautions

Read, understand and observe the Safety Summary on pages 1 through 3 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.

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

Multiple hazards.

Ignoring safety warnings may cause equipment damage, personal injury or death.

All possible safety hazards cannot be foreseen and included in this manual. The operator must always be alert to possible hazards that could endanger personnel or damage the equipment.

Training

- Do not operate the winch unless you are authorized and trained to do so.
- Read, understand, and follow the operating, inspection, and maintenance instructions in this manual.
- Keep yourself informed of any applicable codes, regulations and standards for the job.

Personnel Safety

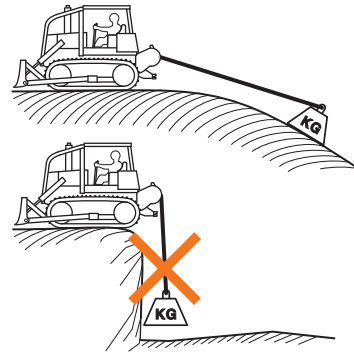
- Stay in the operator's seat when operating the winch.
- Do not stand on the vehicle when operating the winch.
- Avoid winch operation near people or other machines.
- Never stand nor permit others to stand in the bight (loop) of a wire rope.

- Do not stand nor permit others to be near the winch or wire rope when there is tension on the wire rope.



- 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.
- Observe jobsite rules.
- Do not use the control levers for hand holds when entering or leaving the vehicle.
- 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.
- Operation Warnings
- Do not operate the winch unless the vehicle is equipped with a screen to protect the operator if the wire rope breaks.
- 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.
- 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.

- 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.
- 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.



Wire Rope Safety

- 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.



WARNING

Wire rope or tail chain failure may cause serious injury or death.

Inspect rigging before use and obey all safety warnings.

- 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).
- 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.
- The hydraulic system must be kept clean and free of contamination at all times.
- Do not weld on any part of the winch. Contact Allied Systems if weld repairs are needed.

Hydraulic Hazards

- 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.



DANGER

Injection hazard.

Infection and gangrene will result when hydraulic oil penetrates the skin. See a doctor immediately to prevent loss of limb or death.

Use a piece of cardboard to check for hydraulic leaks.

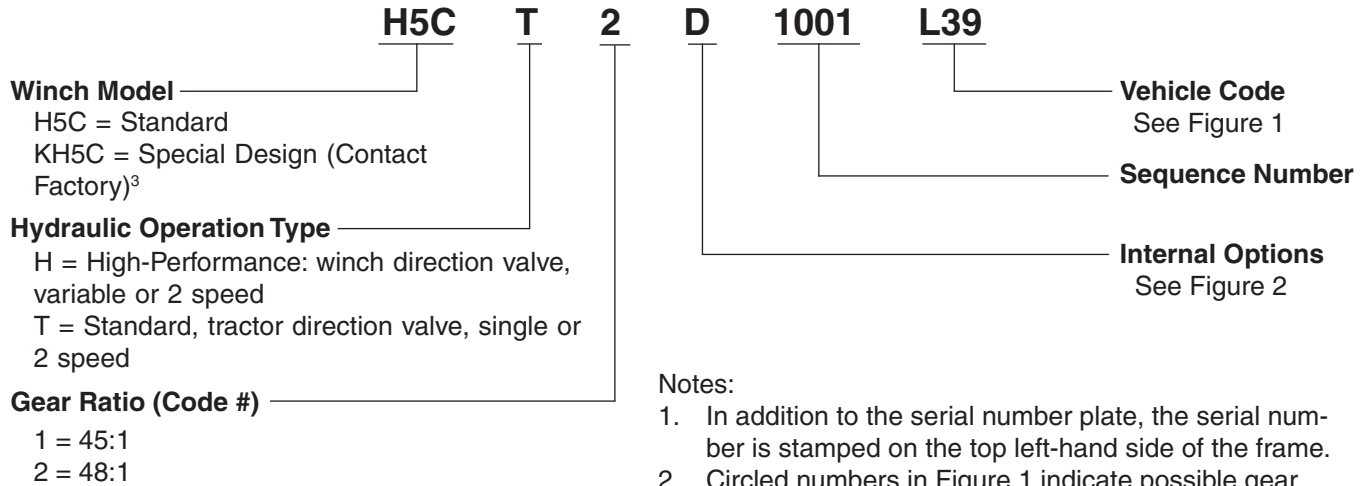
Maintenance Warnings

- 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.
- Replace any parts only with genuine Allied Winch parts.
- Use only the lubricants listed in the Recommended Oil List. See page 6.



Unit Identification

Allied Winch Serial Number Nameplate Data For Dozer Mountings



Notes:

1. In addition to the serial number plate, the serial number is stamped on the top left-hand side of the frame.
2. Circled numbers in Figure 1 indicate possible gear ratios.
3. If your serial number begins with the letter "K", contact the factory for parts and service information.
4. If your serial number ends with the letter "M", contact the factory for parts and service information.

C O D E	L Liebherr
39	716 ②

Figure 1, Dozer or Skidder Identification Codes and Available Gear Ratios

Circled numbers in Figure 1 indicate possible gear ratios.

	D	E	U
FREESPOOL	X	X	X
EXTERNAL PUMP	X	X	X
PFR	X	X	X
OVERWIND	X	X	
UNDERWIND			X
SINGLE SPEED		X	X
2 SPEED	X		
BRAKE-OFF (HI-P)		X	X

Figure 2, Internal Options

Using this Manual

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 4 for serial number information.

Abbreviations

Abbreviations are used both on the winch and in this manual. For example, a manifold may have a port stamped "FS". That port is related to the "freespool" circuit. This abbreviation is also used on pages in this manual that reference this port, or the ports connected to this port. Figure 3 lists the most common abbreviations used in this manual.

Abbreviation	Full Name
P	Pressure
T	Tank
BO	Brake Off
FA	Filter Outlet
FE	Filter Inlet
FS	Freespool
HS	High Speed
LS	Load Sense
PD	Pilot Drain
PP	Pilot Pressure
PS	Pilot Supply
RI	Reel In
RO	Reel Out
TP	Test Port
TS	Temperature Switch

Figure 3, Abbreviations

Oil Specifications

Oil Selection

For winches using tractor-supplied hydraulics for winch operation, use the dozer manufacturer's specified fluids. For gear oil, use the oils listed here. The winch gear housing factory fill is Mobil 424, which has an ISO Viscosity Grade 46 to 68.

The hydraulic circuit and winch gear housing have different fluids.

Note: Some hydraulic system oils are not recommended for use inside the winch case.

	Hydraulic System (Pump)	Winch Case (Gear Train)
Chevron	Use Tractor Fluid	Drive Train Fluids HD
Exxon-Mobil	Use Tractor Fluid	Mobil Trans HD Series

Figure 5, Recommended Oil List

Oil Capacity

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

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 U.S.A.

Phone: 503-625-2560

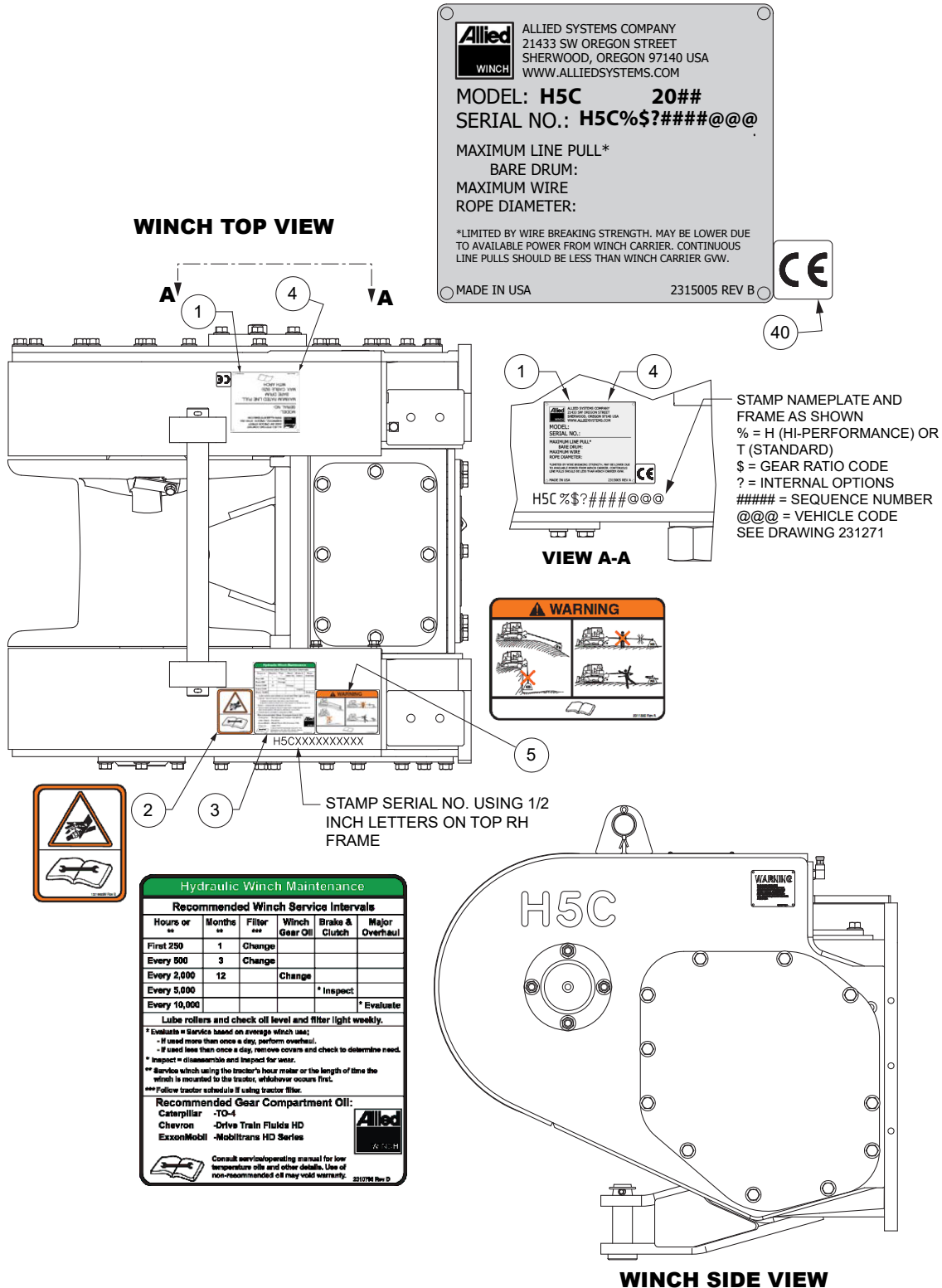
Fax: 503-625-5132

E-mail: parts@alliedsystems.com

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

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Nameplate & Decals



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	*	-----	Nameplate	5	2311330	1	Decal, Load & Wire Rope
2	1321665W	2	Decal, Warning	40	2311557	AR	Label, CE Mark
3	2311329	1	Decal, Maintenance				
4	16602W	4	Screw	*	Contact Factory		

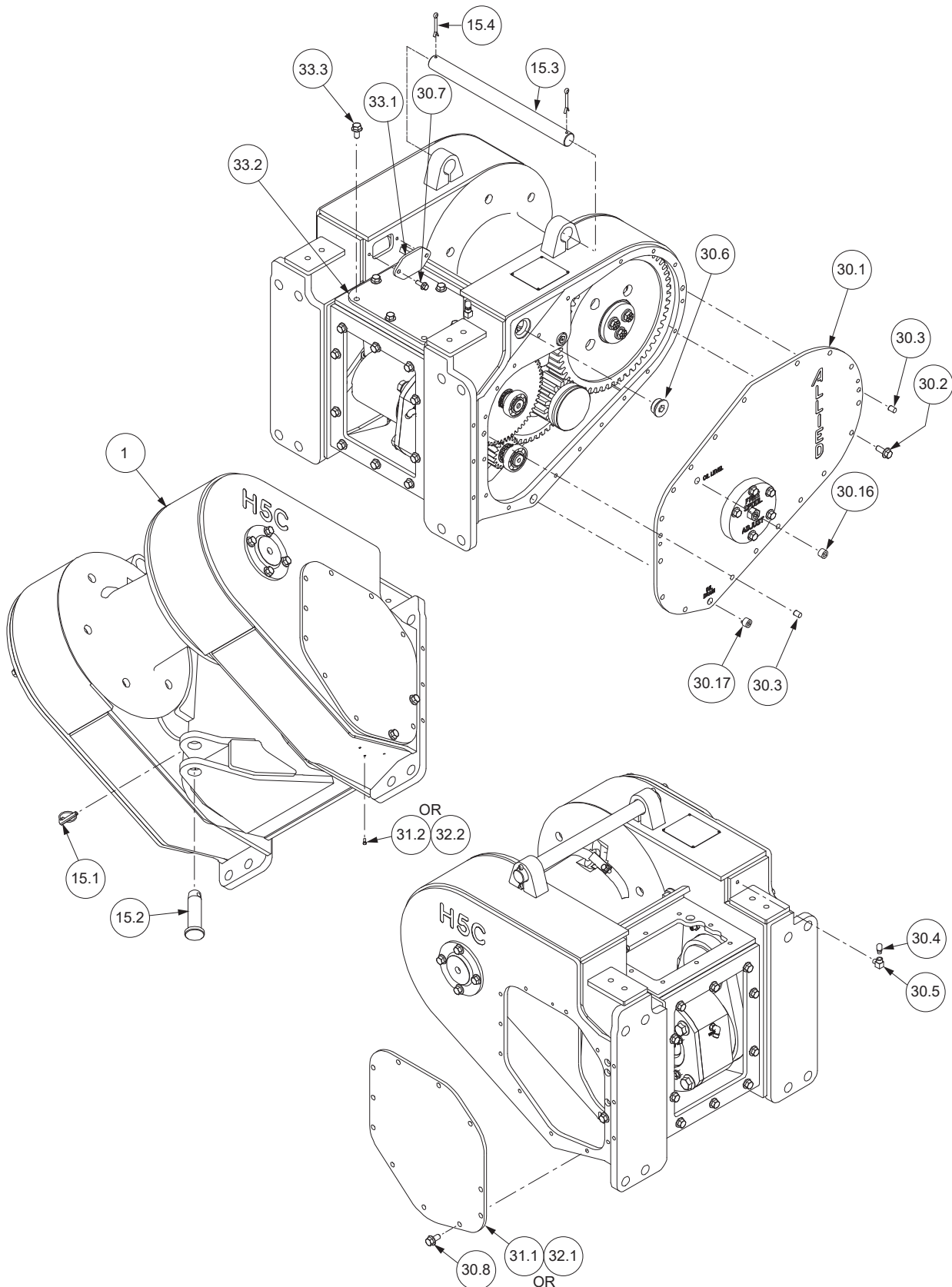
Section 1

Frames/Covers/Mounting Parts

Frame and Covers

Liebherr 716 (H5CT2D**L39)

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Frame and Covers

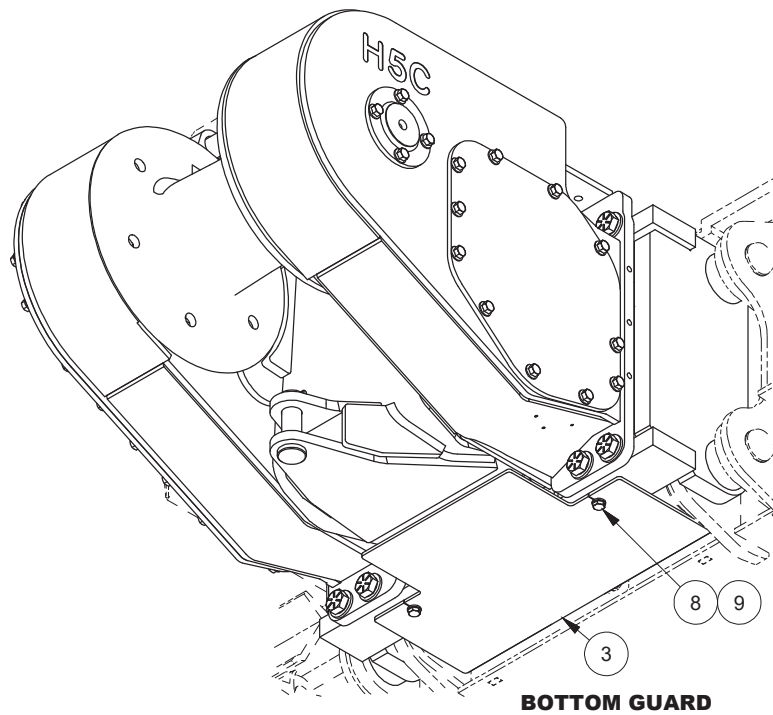
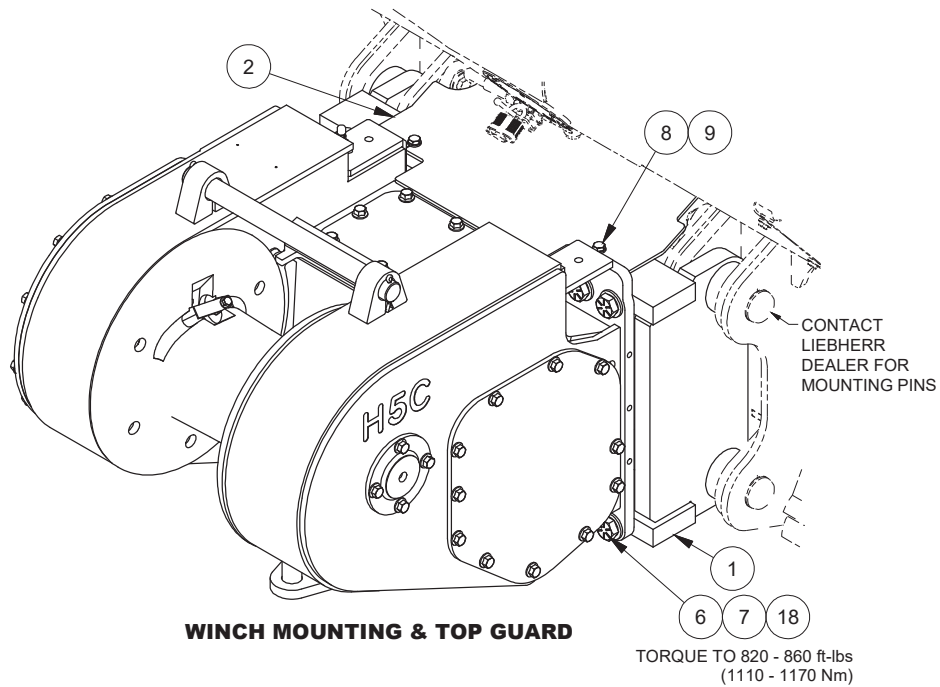
Liebherr 716 (H5CT2D**L39)

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Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2306189W	1	Frame	30.9	264159W	1	Adhesive
15.1	2303221W	1	Pin, Retaining	30.12	16243W	1	Screw
15.2	1314656W	1	Pin, Drawbar	30.16	15315W	1	Fitting
15.3	93927W	1	Rod, Tie	30.17	15290W	1	Fitting
15.4	15256W	2	Cotter Pin	31.1	2307097W	1	Cover, RH
30.1	2306570W	1	Cover, LH	31.2	16243W	1	Screw
30.2	2303848W	18	Screw, Flange	32.2	16243W	3	Screw
30.3	176208W	2	Pin	33.1	2307342W	1	Cover, Inner, RH
30.4	2304101W	1	Breather	33.2	2302513W	1	Cover, Top
30.5	16151W	1	Fitting	33.3	398817W	4	Screw, Flange
30.6	188210W	1	Fitting	33.4	16243W	1	Screw
30.7	398567W	2	Screw, Flange				
30.8	398817W	15	Screw, Flange				

Mounting Parts

Liebherr 716 (H5CT2D**L39)



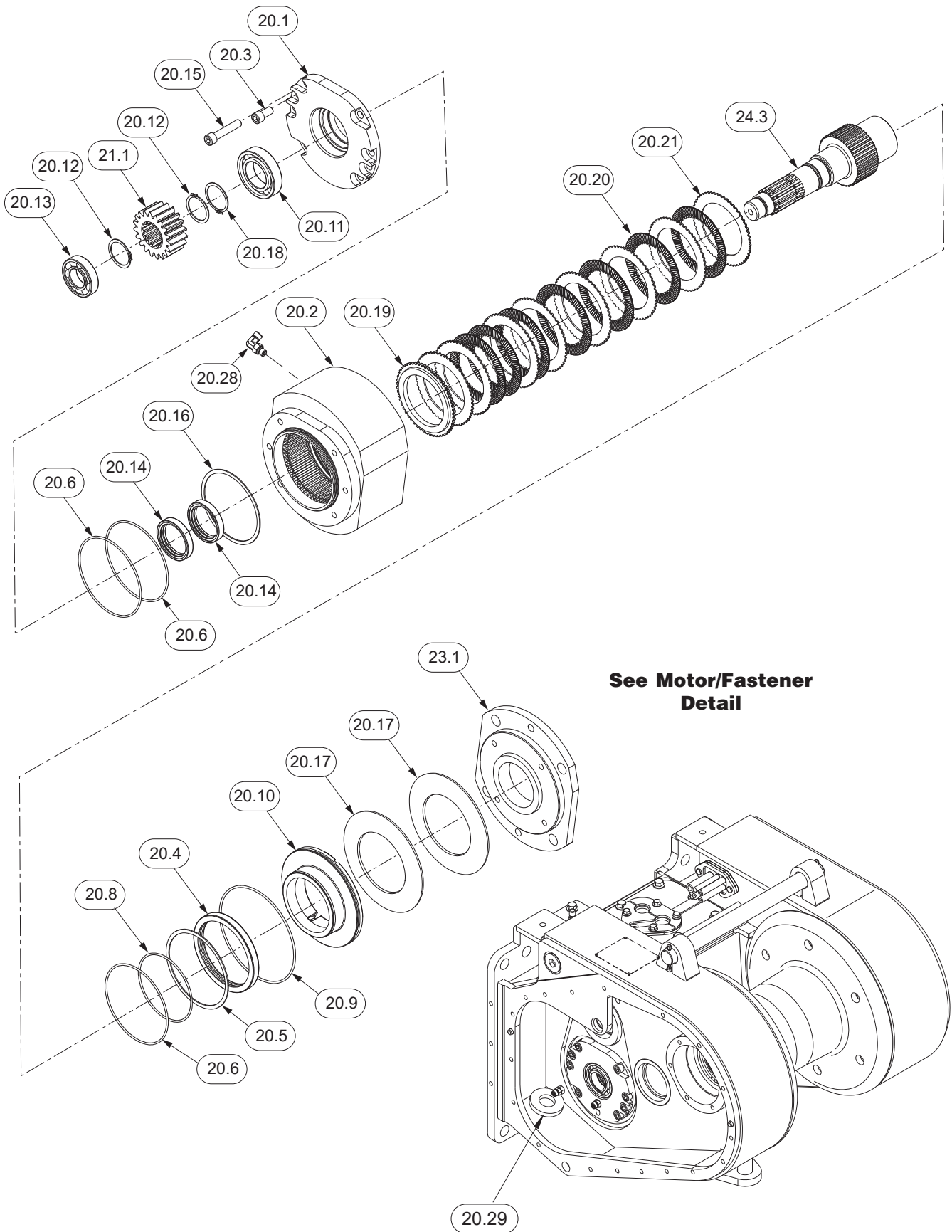
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2316630	1	Bracket, Mounting	9	296422W	4	Washer
2	2316637	1	Guard, Top	18	* 318702W	AR	Threadlock
3	2316638	1	Guard, Bottom				
6	221690W	8	Capscrew		* Not Shown		
7	221780W	8	Washer				
8	Y09C-M1225	4	Capscrew				

Section 2

Gear/Shaft Train

Motor Shaft Assembly

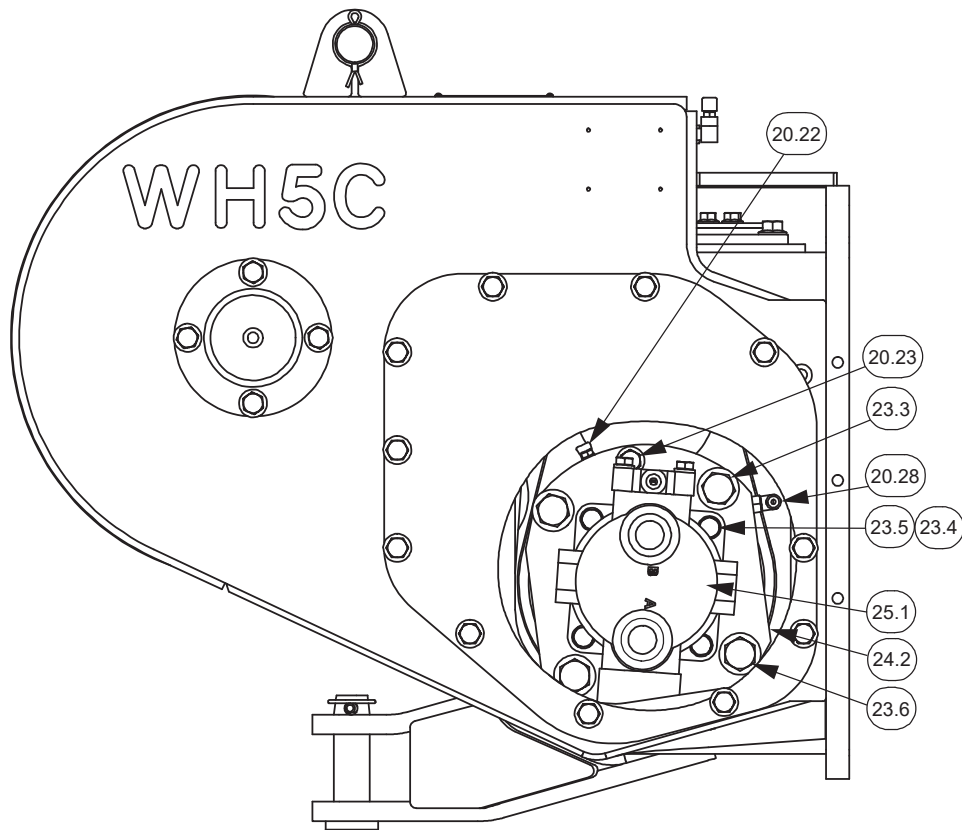
Liebherr 716 (H5CT2D**L39)



Motor Shaft Assembly

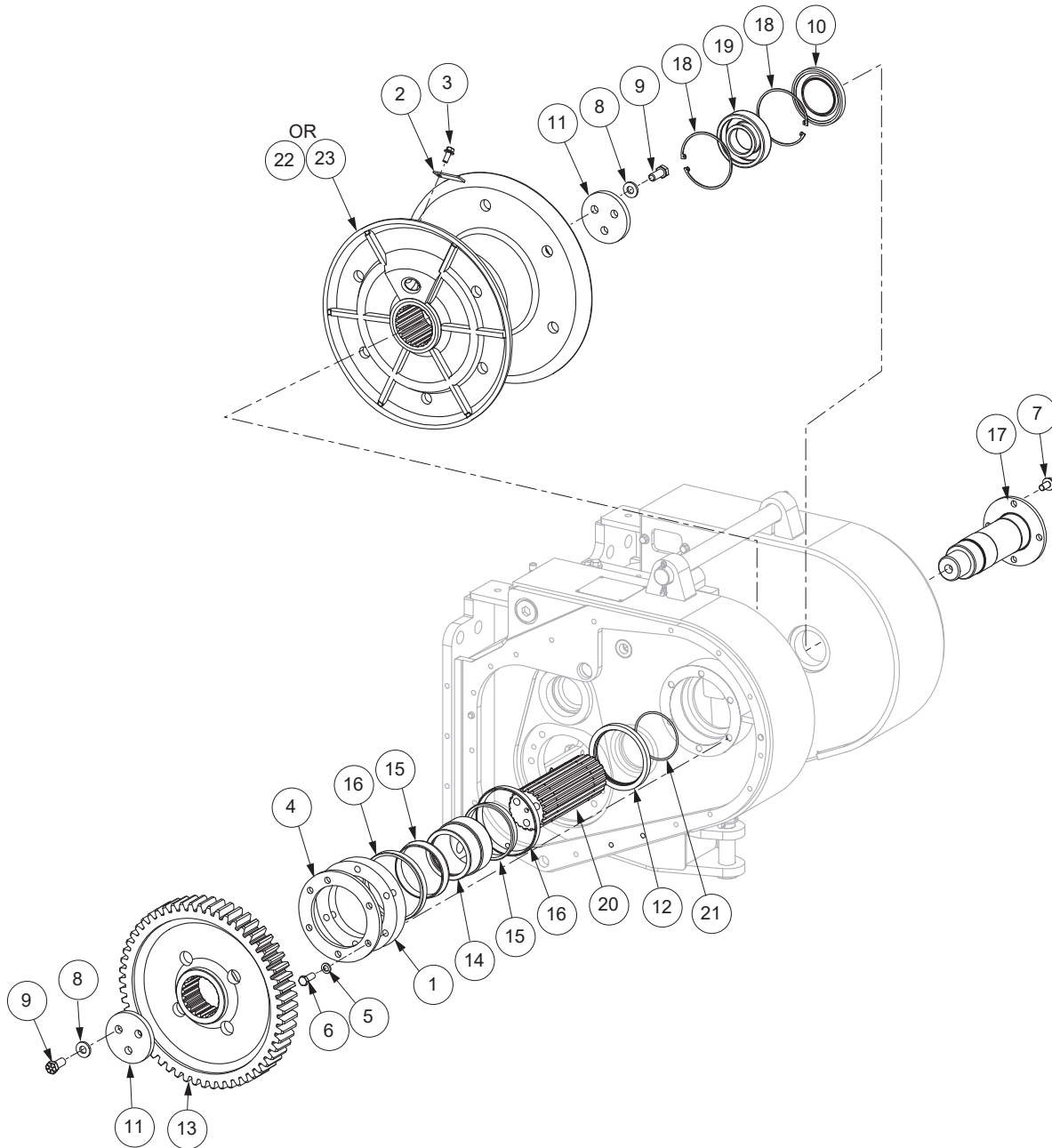
Liebherr 716 (H5CT2D**L39)

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
20.1	2314062	1	Mounting, Brake	20.20	2306198W	7	Disc, Friction
20.2	2306078W	1	Housing, Brake	20.21	2304874W	8	Plate, Separator
20.3	Y73G-0816	2	Capscrew	20.22	NA	NA	Fitting
20.4	2306599W	1	Sleeve	20.23	398820W	2	Screw
20.5	2306604W	1	Snap Ring	20.25	313022W	1	Adhesive (Use on 20.23)
20.6	89776W	3	O-Ring	20.28	R833251	1	Fitting
20.8	86596W	1	O-Ring	20.29	R525293	1	Magnet, Ceramic
20.9	87287W	1	O-Ring	22.1	2311411	1	Gear, 24T
20.10	2306077W	1	Piston, Brake	23.1	2306214W	1	Mounting, Motor
20.11	41210W	1	Bearing, Ball	23.3	398828W	2	Screw, Flange
20.12	12916W	2	Snap Ring	23.4	15158W	4	Lockwasher
20.13	41207W	1	Bearing, Ball	23.5	18588W	4	Capscrew
20.14	2306073W	2	Seal	23.6	917373W	2	Capscrew
20.15	Y73G-0840	6	Capscrew	23.2	24531	2	Fitting
20.16	334475W	1	Ring, Snap, Internal	24.3	2306494W	1	Shaft
20.17	219084W	2	Spring	25.1	2306938W	1	Motor, Hydraulic 2-Speed (See p. 19)
20.18	12944W	1	Snap Ring				
20.19	334442W	1	Plate, Pressure				



Motor/Fastener Detail

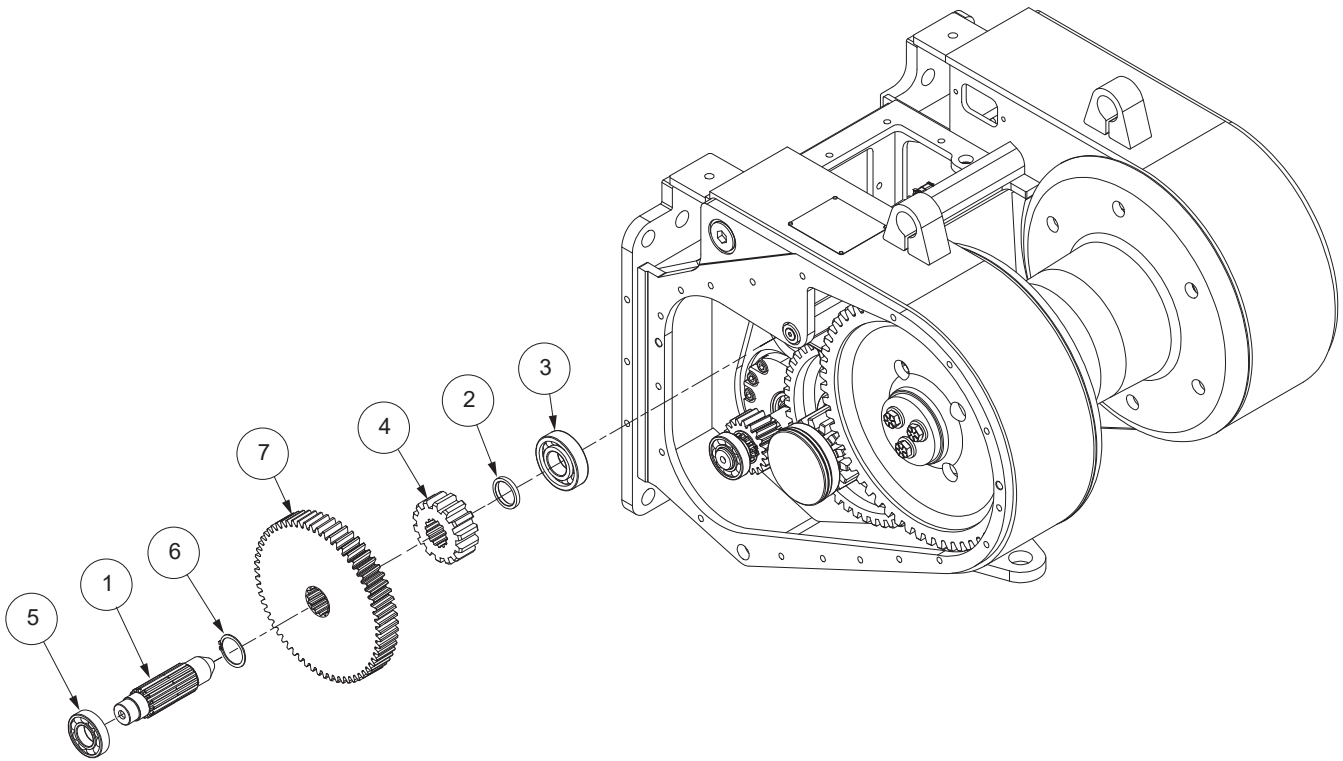
Drum Shaft



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

*a Use 313022W Adhesive

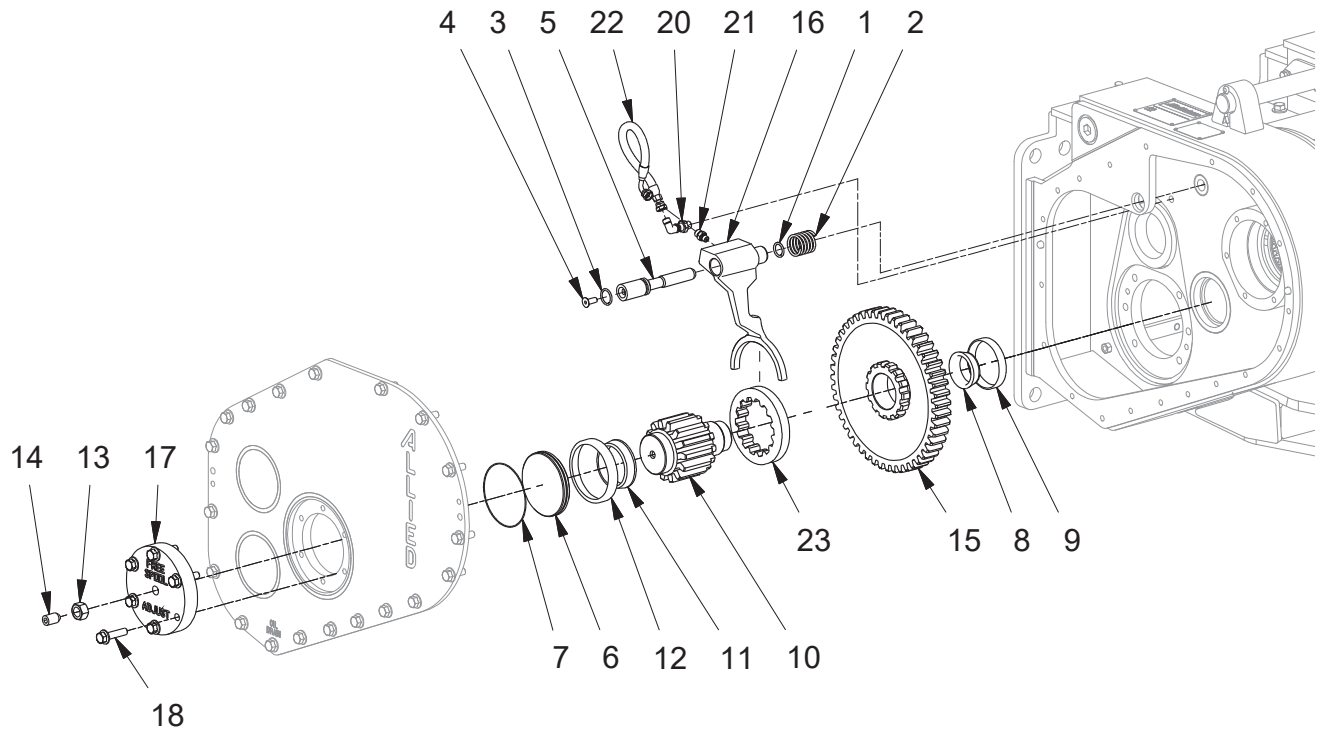
Shaft, Idler



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2307282W	1	Shaft, Idler	5	41207W	1	Bearing, Ball
2	2300842W	1	Spacer	6	12916W	1	Ring, Snap
3	2304580W	1	Bearing, Cylinder Roller	7	2311412	1	Gear, 84T
4	219066W	1	Gear, Pinion				

Intermediate Gear Shaft

With Freespool

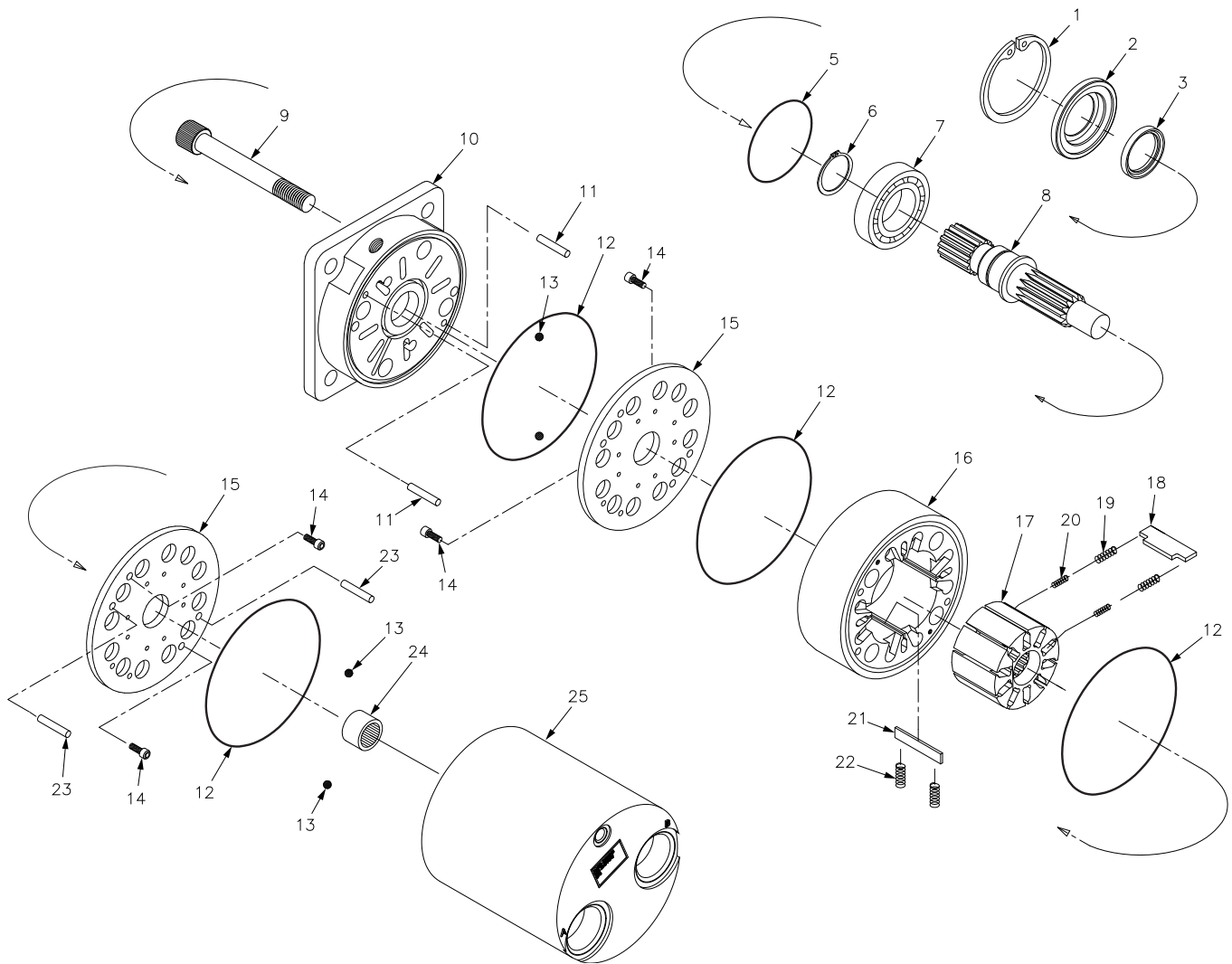


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	61142W	1	O-Ring	14	2304803W	1	Screw
2	2303906W	1	Spring, Freespool	15	225050W	1	Assy, Intermediate Gear
3	61056W	1	O-Ring	16	2303908W	1	Fork, Freespool Shifter
4	Y09G-0616	1	Capscrew	17	2302625W	1	Housing, Freespool Adjust
5	2303907W	1	Shaft, Freespool	18	2305415W	6	Screw, Flange
6	2302624W	1	Piston, Freespool Adjust	20	2307081W	1	Fitting
7	159940W	1	O-Ring	21	231439	1	Fitting
8	2305923W	1	Cone, Roller Bearing	22	*a 2307037W	1	Assy, Hose
9	45733W	1	Cup, Roller Bearing	23	224108W	1	Clutch, Dental
10	2305915W	1	Shaft, Pinion				
11	219114W	1	Cone, Roller Bearing				
12	2302515W	1	Cup, Roller Bearing				
13	221717W	1	Nut				

*a Use 313022W Pipe Thread Sealant

Hydraulic Motor, 2-Speed

Komatsu



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

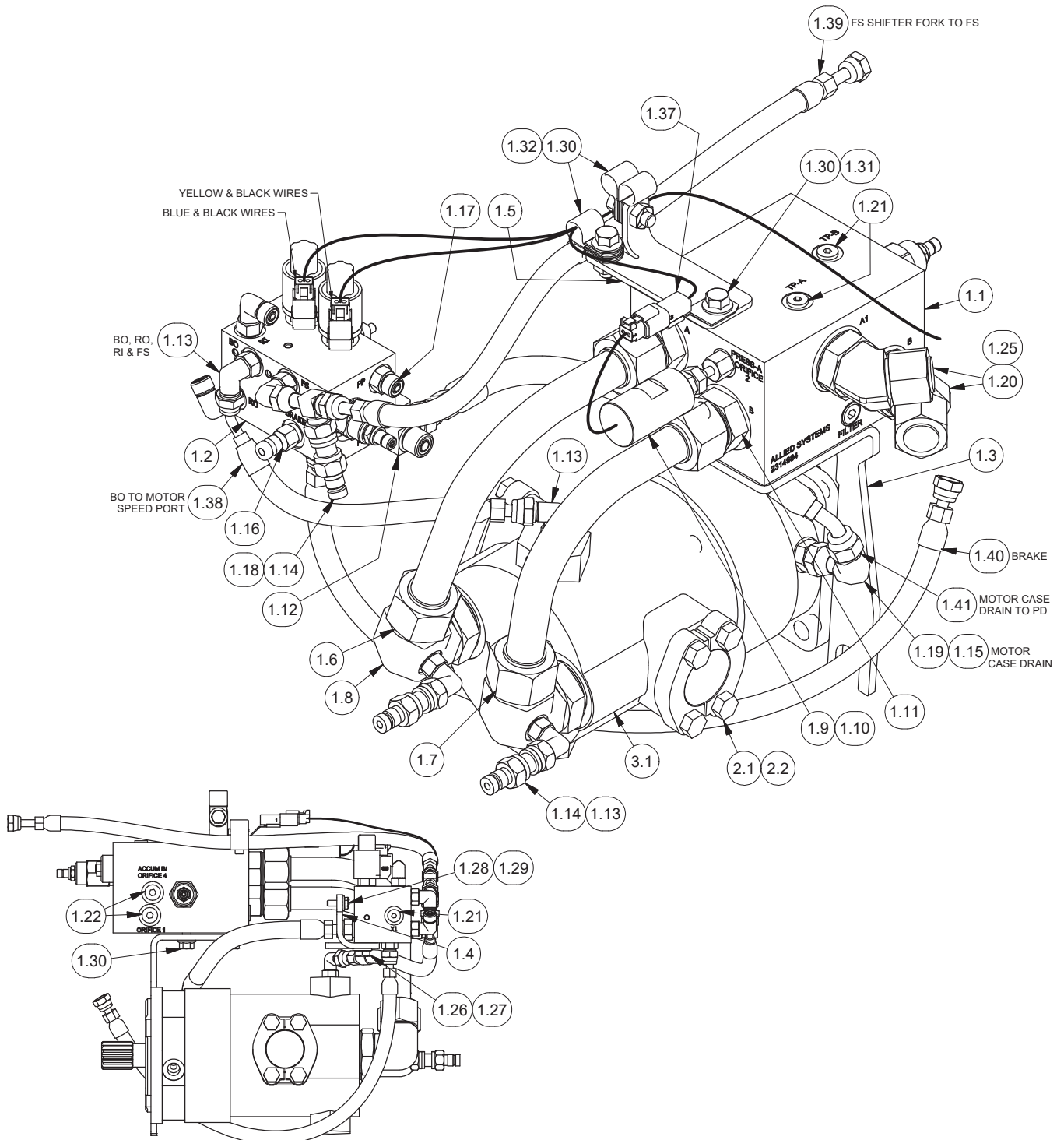
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Section 3
Hydraulics/Electrical/Controls

Hydraulic Group

Liebherr 716 (H5CT2D**L39)

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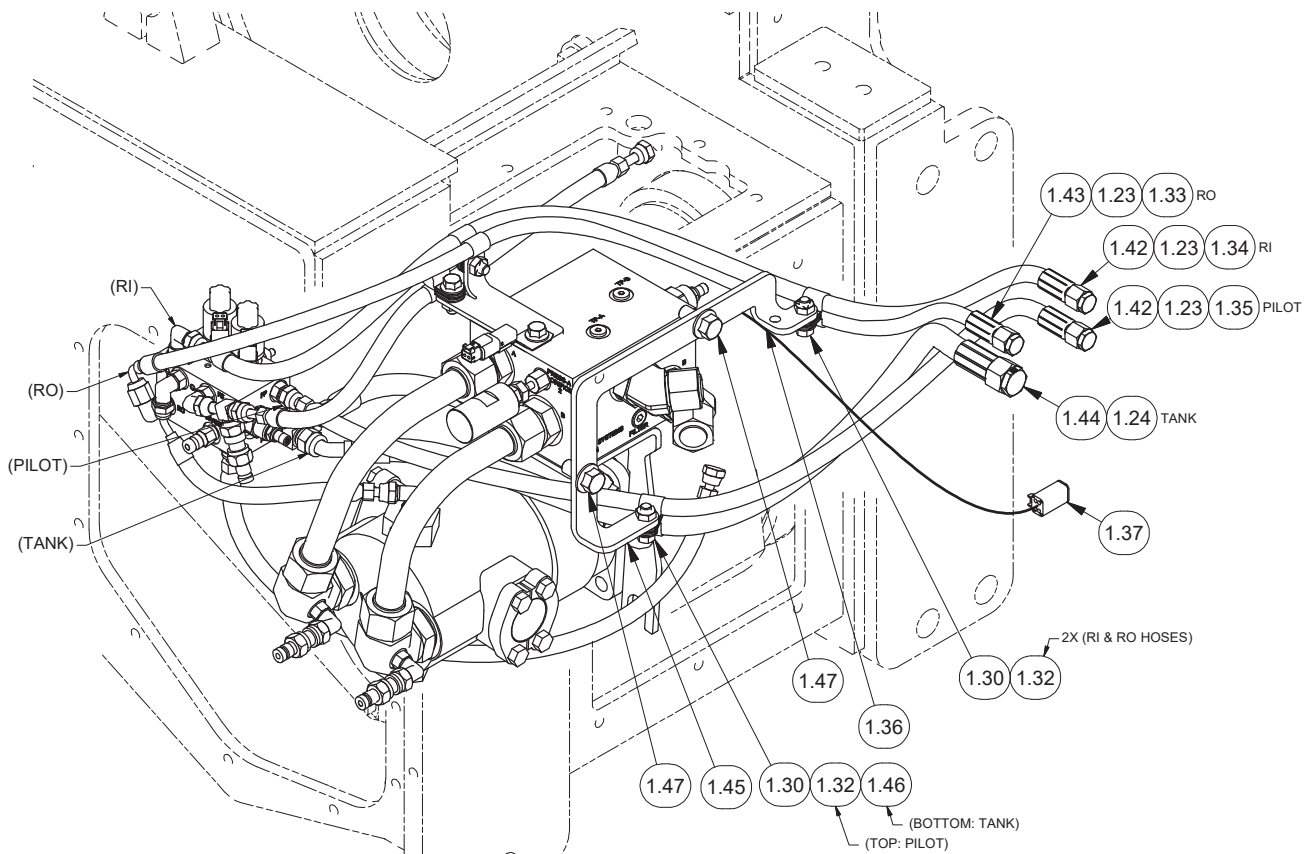


Hydraulic Group

Liebherr 716 (H5CT2D**L39)

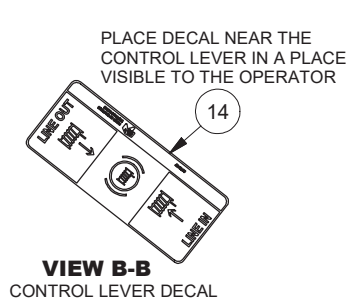
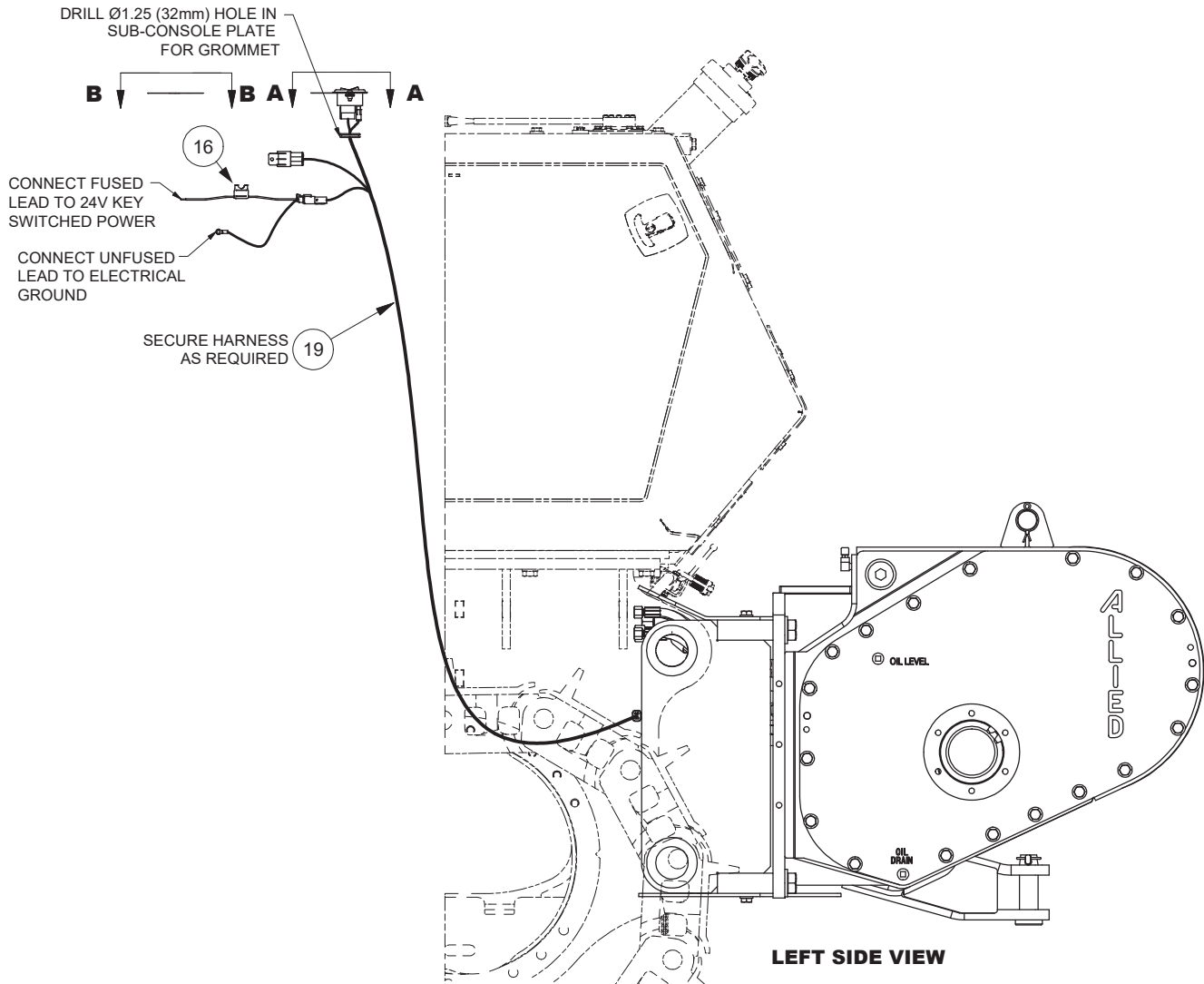
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Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	2314984	1	Assy, Counterbalance	1.26	232382	1	. O-Ring
1.2	2311770	1	Manifold (See p. 28)	1.27	293628W	2	Capscrew
			Manifold Assy, Logic	1.27	296420W	2	Washer
			(See p. 27)	1.28	224120W	2	Capscrew
1.3	2314983	1	Bracket, Manifold	1.29	221763W	2	Washer
1.4	2313443	1	Bracket, Manifold	1.30	398567W	7	Screw, Flange
1.5	2316646	1	Bracket, Support, Hose	1.31	2311550	1	Clip, Harness Mounting
1.6	2312197	1	Tube Assembly, Motor A	1.32	209579	7	Clip, Insulated
1.7	2314986	1	Tube Assembly, Motor B	1.33	242596	1	Cable Tie
1.8	2307123W	2	Fitting	1.34	242597	1	Cable Tie
1.9	2307291W	1	Switch, Pressure	1.35	242598	1	Cable Tie
1.10	2304147W	1	Fitting	1.36	137852W	1	Cable Tie
1.11	231444	2	Fitting	1.37	2316633	1	Harness, Wire, Winch
1.12	231465	1	Fitting	1.38	2313639	1	Hose Assembly
1.13	R833251	7	Fitting	1.39	257331	1	Hose Assembly
1.14	2307625W	3	Fitting	1.40	243178	1	Hose Assembly
1.15	231440	1	Fitting	1.41	R12113	1	Hose Assembly
1.16	R14040	1	Coupler, Male	1.42	2316454	2	Hose Assembly
1.17	231439	2	Fitting	1.43	2316452	1	Hose Assembly
1.18	236855	1	Fitting	1.44	2316641	1	Hose Assembly
1.19	R833801	1	Fitting	1.45	2316639	1	Weldment, Bracket
1.20	231847	2	Fitting, FF	1.46	R13803047	1	Clip, Insul
1.21	235387	3	Fitting	1.47	398817W	2	Screw, Flange
1.22	229383	3	Fitting	2.1	11740	2	Kit, Split Flange
1.23	2316645	3	Plug	2.2	24531	2	Fitting
1.24	2313684	1	Plug	3.1	2306938W	1	Motor, Hydraulic 2-Speed
1.25	231821	2	Fitting				(See p. 19)

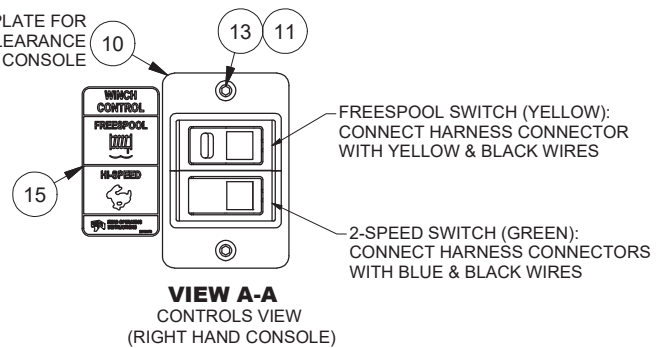


Electrical/Control Installation

Liebherr 716 (H5CT2D**L39)



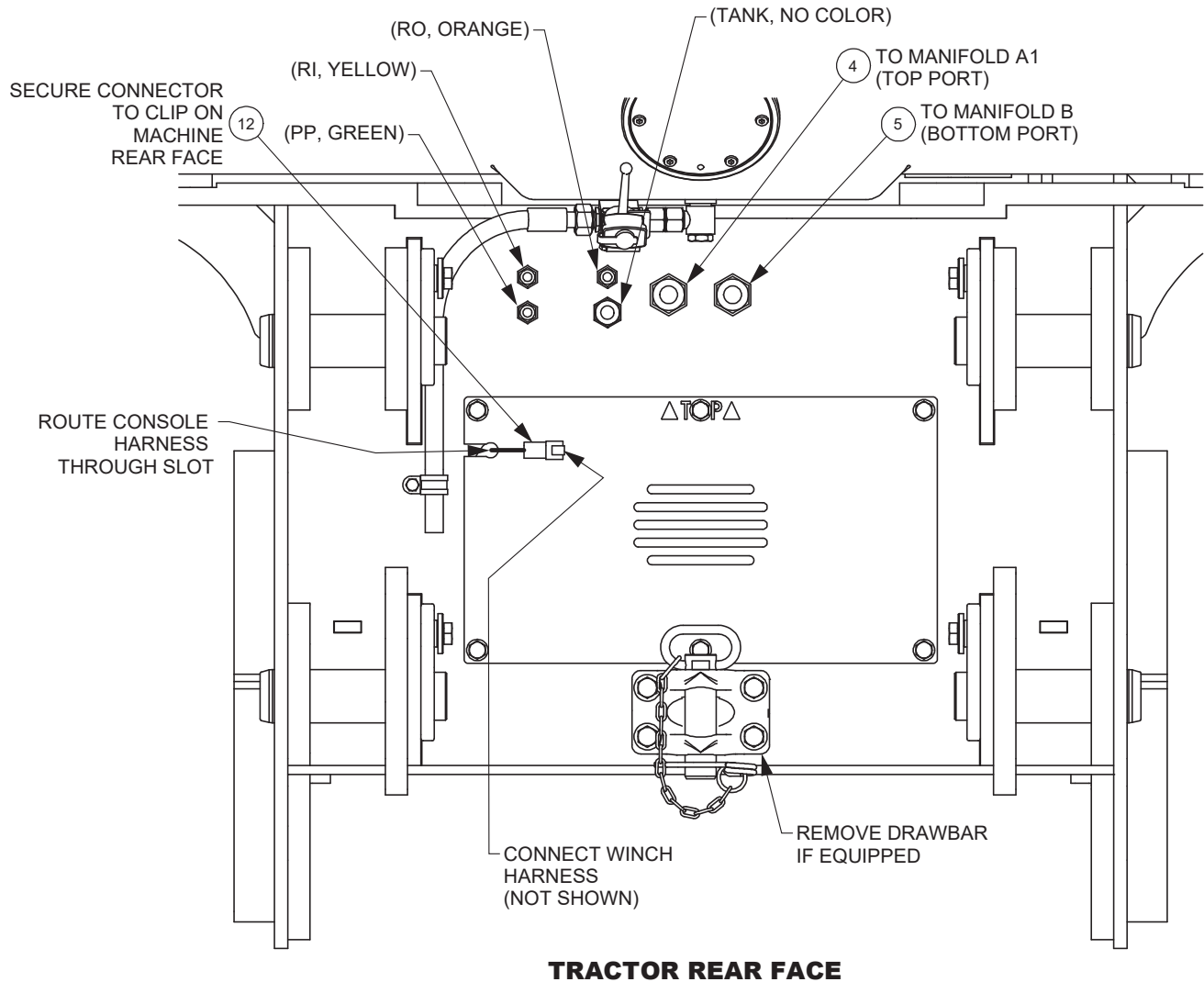
USE AS TEMPLATE FOR DRILLING 2X M6 CLEARANCE HOLES IN CONSOLE



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
10	* 2316636	1	Assy, Switch Panel (See p. 26)	14	2312177	1	Decal, Line In, Line Out
11	2313623	2	Nut, Clip	15	2313676	1	Decal, FS and Hi-Speed
13	296159W	2	Capscrew	16	2313685	1	Wire Harness
				19	129563W	10	Cable Tie

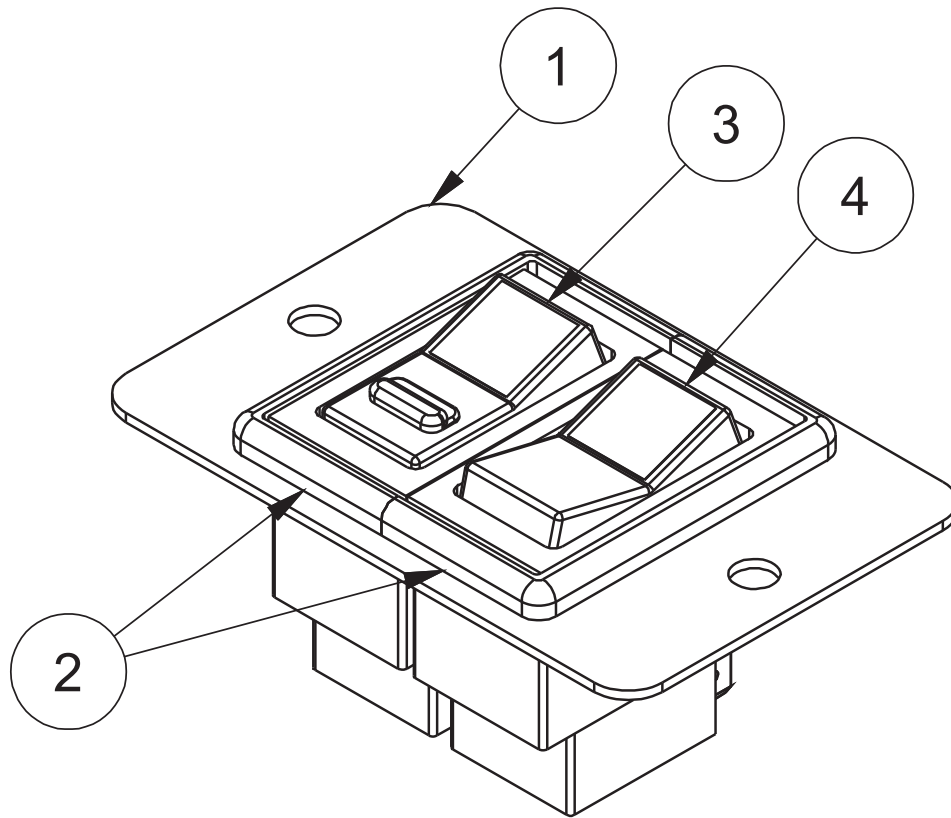
Electrical/Control Installation

Liebherr 716 (H5CT2D**L39)



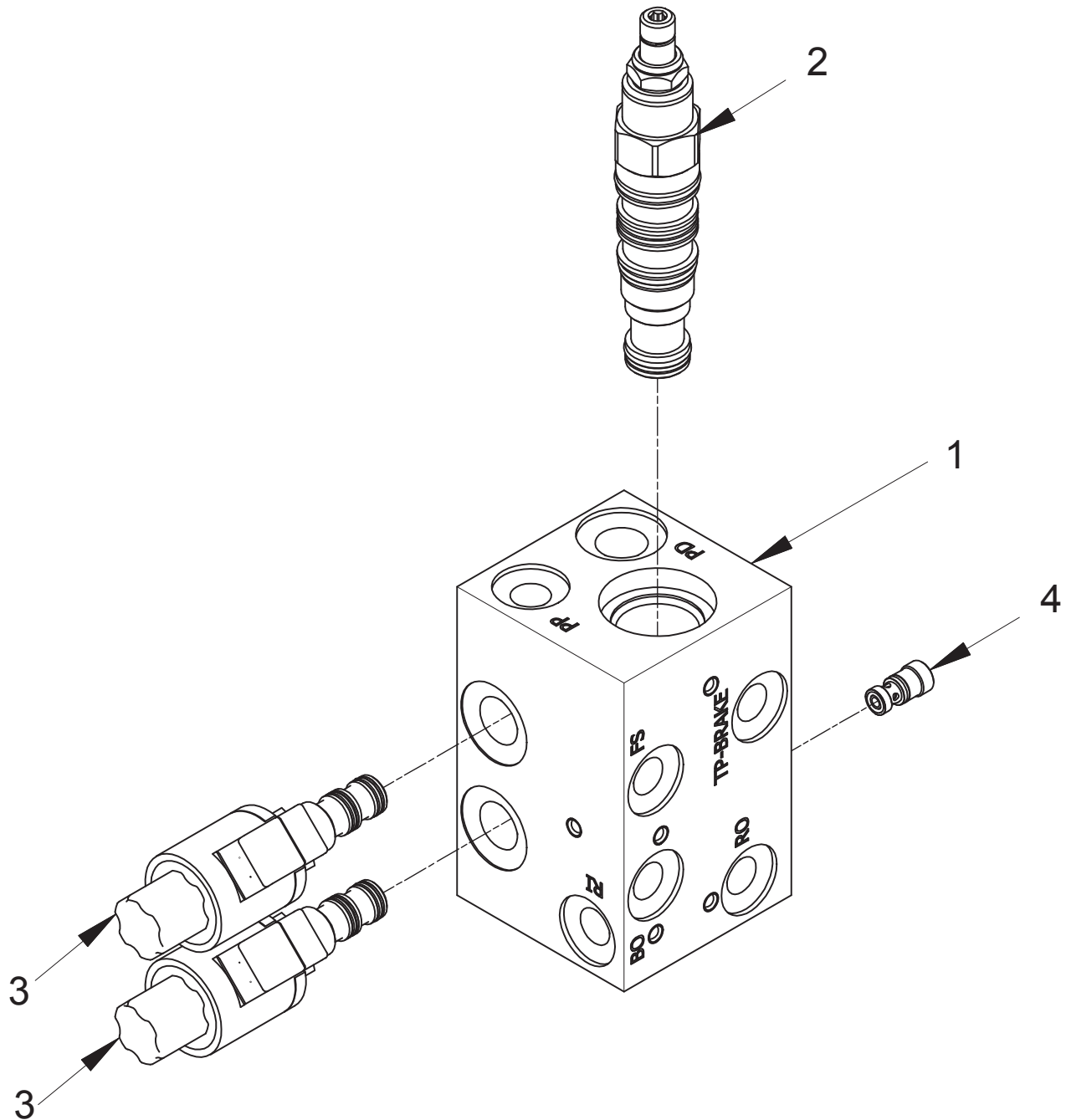
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
4	2316642	1	Hose Assembly				
5	2316643	1	Hose Assembly				
12	2316634	1	Harness, Wire, Console				

Switch Assembly



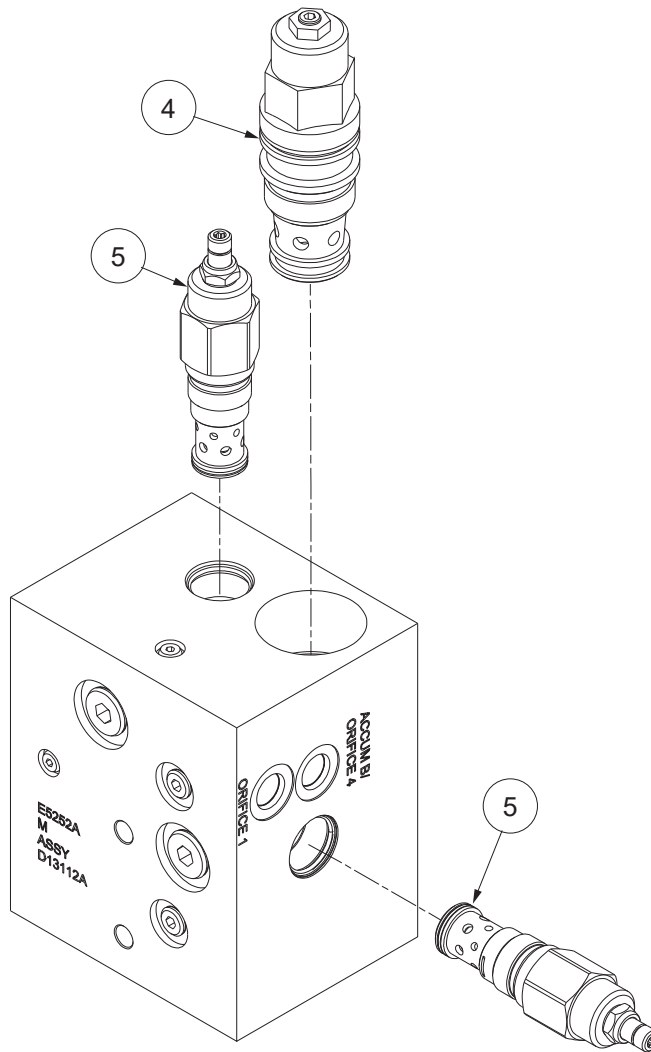
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	2316636		Assembly, Switch Panel				
1	2315985	1	. Plate, Switch Mounting				
2	234505	2	. Frame				
3	2310013	1	. Switch Assy, Yellow				
4	2310502	1	. Switch Assembly, Green				

Control Manifold Assembly



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	2311770	1	Assy, Control Manifold				
1	2311771	1	. Body, Control Manifold	4	2312074	1	. Valve, Shuttle
2	2311592	1	. Valve, Directional		2312112	1	. . Seal, O-Ring
	252566	1	. . Kit, Seal				
3	2312073	2	. Valve, Cartridge				
	2314106	1	. . Base, Valve Cartridge				
	2313984	1	. . Coil				
	2312111	1	. . Kit, Seal				

Counterbalance Manifold Assembly

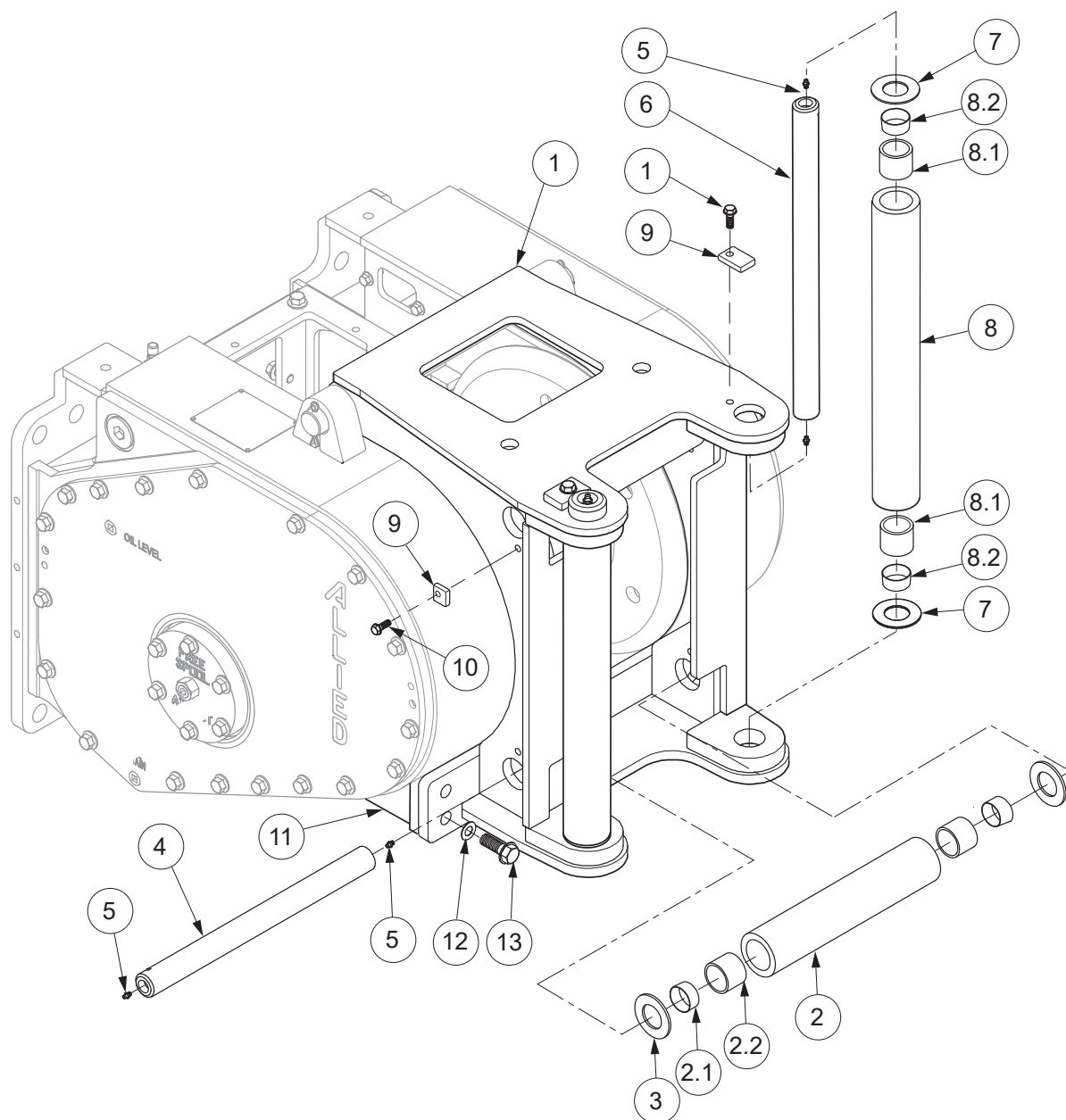


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	2314984		Counterbalance Manifold Assembly				
4	2312068	1	. Counterbalance Valve				
	243815		. . Kit, Seal				
5	2307438W	2	. Relief Valve				
	259258	1	. . Seal Kit				

Section 4

Optional Equipment

Fairlead

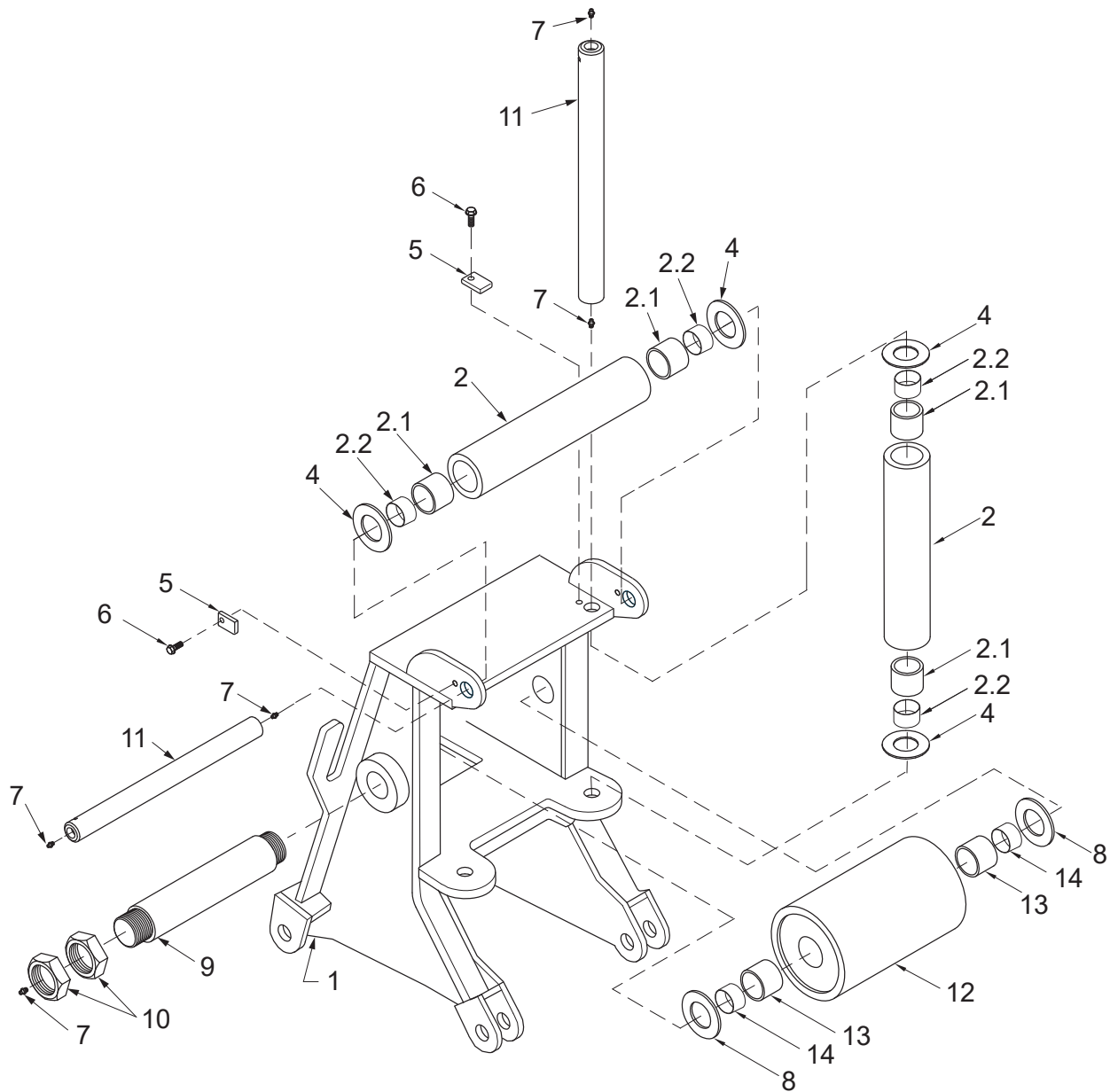


A = 3-Roller Fairlead

B = 4-Roller Fairlead

Item	Part No.	Qty A/B	Description	Item	Part No.	Qty A/B	Description
	2307784W	1--	Fairlead, 3-Roller				
	2306335W	--1	Fairlead, 4-Roller				
1	2306333W	1/1	. Frame	6	2306572W	2/2	. Shaft
2	2301727W	1/2	. Assy Roller	7	331767W	4/4	. Washer
2.1	2570W	2/4	. . Bushing	8	2301907W	2/2	. Assy Roller
2.2	2301961W	2/4	. . Spacer	8.1	2301742W	2/2	. . Spacer
3	33394W	2/2	. Washer	8.2	35135W	2/2	. . Bushing
4	2301722W	1/2	. Shaft	9	2301706W	3/4	. Keeper
5	16001W	8/8	. Fitting, Lube	10	398817W	3/4	. Screw, Flange
				11	2306330W	2/2	Block, Mounting
				12	221777W	4/4	Washer
				13	221657W	4/4	Capscrew

Arch Assembly



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	2301923W		Assy Arch				
1	2301922W	1	. Arch	7	16001W	8	. Fitting, Lube
2	2301910W	3	. Assy Roller	8	2821W	2	. Washer
2.1	2301742W	2	.. Spacer	9	2302120W	1	. Shaft
2.2	35135W	2	.. Bushing	10	221336W	4	. Nut
4	331767W	6	. Washer	11	2301919W	3	. Shaft
5	2301706W	3	. Keeper	12	2301925W	1	. Roller
6	398817W	3	. Capscrew	13	2301927W	2	.. Spacer
				14	2817W	2	.. Bushing

Wire Rope Assemblies

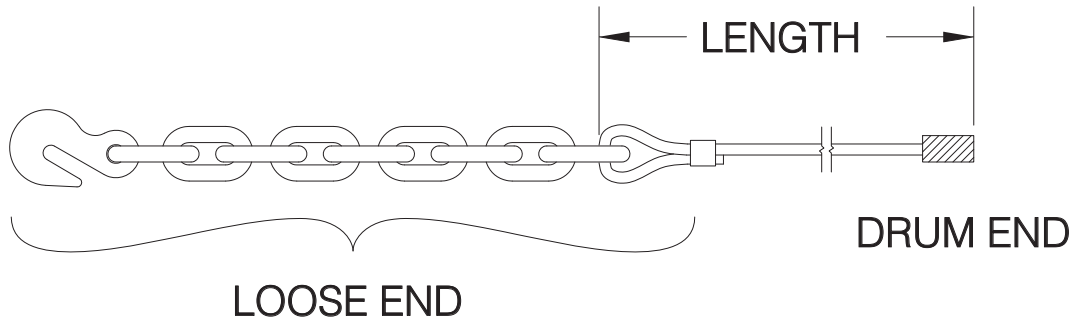


Figure A

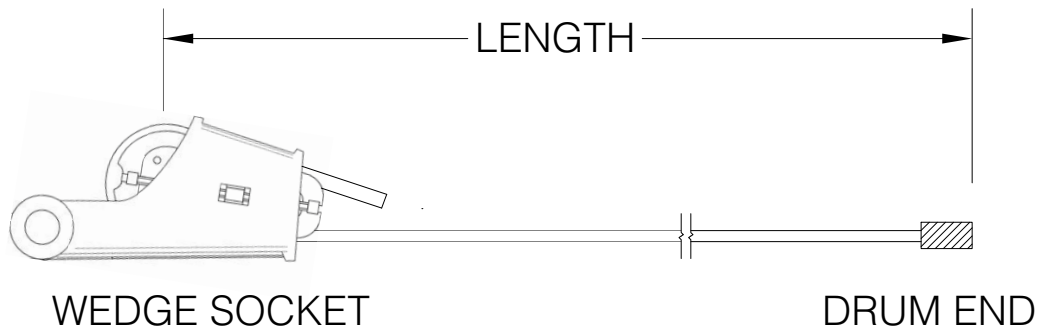


Figure B

	Wire Rope	Tail Chain & Hook
Wire Rope Diameter Dia (in)	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.**

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

*a WR Series Wire Rope (Illustrated in Figure A)

*b YS Series Wire Rope (Illustrated in Figure B)

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

*d Length to fill drum to full capacity

Section 5

Recommended Service Parts, Intervals & Kits

Recommended Winch Service Intervals and Kits

Following the service schedule recommended here to help keep tractor winch downtime to a minimum, optimize winch operation, and extend the life of your investment. See Table 1 for recommended service intervals, and Table 2 for recommended service kits.

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 every week.					

* Evaluate = Service based on average winch use;

If used more than once a day, perform an 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.

Table 1 Recommended Winch Service Intervals

Service Kits for H5C Winches			
Service Description	Kit Description	Winch Serial Number	Kit Part#
Filter change	Filter kit	All	Refer to tractor operator and service manuals
Complete oil change (every 1,000 hours)	N/A	All	Check our website for current operator's and service manuals for appropriate oils
Clutch and brake overhaul (every 5,000 hours)	Motor, reducer & brake assembly rebuild kit	All	2312857
Major overhaul (every 10,000 hours)	Intermediate/drum shaft & brake assembly rebuild kit	All	2311896

Table 2 Routine Maintenance Kits

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 36 and page 37 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 36 also contains a list of wire rope assemblies. Order parts as required and as relevant for your installation.

Page 38 contains lists of hose kits. Order as required. Page 38 also includes lists of gaskets and seals. Keep these parts in stock at all times for regular maintenance.

Page 39 contains lists of tool kits and 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>.

Wire Rope Assemblies		Order as Required		
Allied P/N	Description	Length	Will Fill Drum To:	Order Quantity
WR5-279L	Wire Rope Assy 5/8" TC	279' (85 M)	2/3 Capacity (Recommended)	
WR5-423L	Wire Rope Assy 5/8" TC	423' (129 M)	Full Capacity	
YS5-279LWS	Wire Rope Assy 5/8" WS	279' (85 M)	2/3 Capacity (Recommended)	
YS5-423LWS	Wire Rope Assy 5/8" WS	423' (129 M)	Full Capacity	
WR6-197L	Wire Rope Assy 3/4" TC	197' (60 M)	2/3 Capacity (Recommended)	
WR6-298L	Wire Rope Assy 3/4" TC	298' (91 M)	Full Capacity	
YS6-197LWS	Wire Rope Assy 3/4" WS	197' (60 M)	2/3 Capacity (Recommended)	
YS6-298LWS	Wire Rope Assy 3/4" WS	298' (91 M)	Full Capacity	
WR8-142L	Wire Rope Assy 7/8" TC	142' (43 M)	2/3 Capacity (Recommended)	
WR7-215L	Wire Rope Assy 7/8" WS	215' (66 M)	Full Capacity	
YS7-142LWS	Wire Rope Assy 7/8" TC	142' (43 M)	2/3 Capacity (Recommended)	
YS7-215LWS	Wire Rope Assy 7/8" WS	215' (66 M)	Full Capacity	

TC = Tail chain and hook

WS = Wedge socket

Motor, Reducer & Brake Assembly Rebuild Kit, P/N: 2312857				
Service Interval: Every 5,000 Hours				
Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2312857	Kit, Motor, Reducer & Brake Assy 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	

Intermediate/Drum/Idler Shaft, Motor and Brake Assembly Rebuild Kit, P/N: 2311896
Service Interval: Every 10,000 hours

Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2311896	Kit, Intermediate, Idler, Drum Shaft, Motor & Brake Assembly Rebuild	1		
41207W	. Bearing, Ball	1	Motor Shaft	
41210W	. Bearing, Ball	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	

Hose Kits		Order as Required		
Allied P/N	Description	Quantity on Winch	Relevant for Installation	Order Quantity
2314767	Hose Kit, Winch Hydraulics	1		
2314768	Hose Kit, Winch Hydraulics	1		
2314769	Hose Kit, Winch Hydraulics	1		
2315051	Hose Kit, Winch Hydraulics	1		
2315054	Hose Kit, Winch Hydraulics	1		

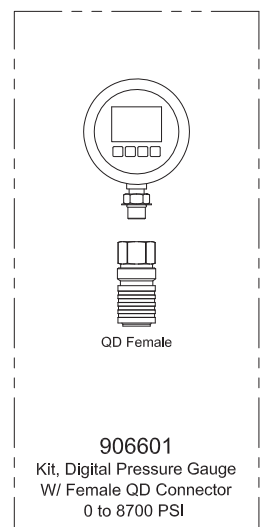
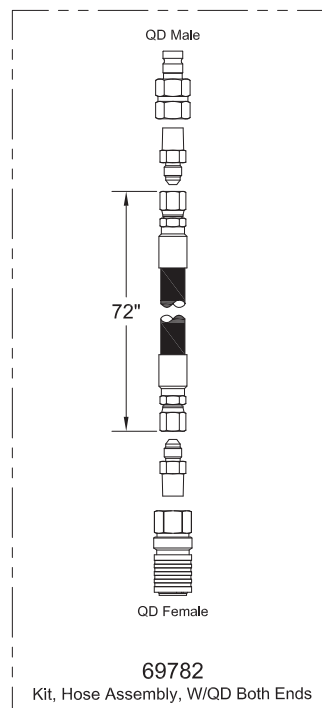
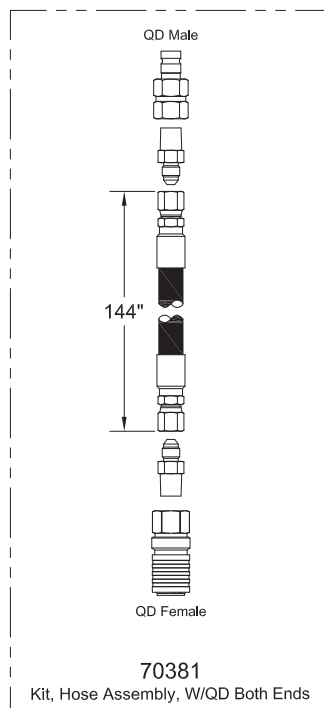
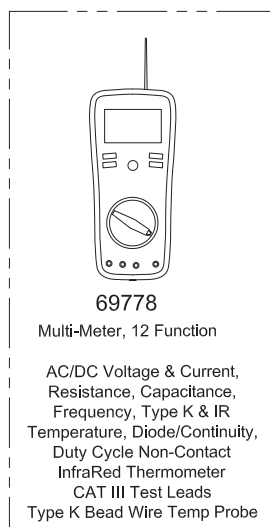
Gaskets & Seals		Order as Required		
Allied P/N	Description	Quantity on Winch	See Parts Manual Page	Order Qty
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	Counterbalance Manifold Assy	
259258	Seal Kit, Relief Valve (P/N 2307438W)	1	Counterbalance Manifold Assy	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	

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	



Numerical Index

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24531	23	2.2	2311330	8	5	12916W	15	20.12
203533	16	21	2311411	15	22.1	12916W	17	6
209579	23	1.32	2311412	17	7	12944W	15	20.18
229383	23	1.22	2311550	23	1.31	129563W	24	19
231439	18	21	2311557	8	40	12956W	16	18
231439	23	1.17	2311592	27	2	1300780W	16	3
231440	23	1.15	2311770	23	1.2	1314503W	16	2
231444	23	1.11	2311770	27		1314656W	11	15.2
231465	23	1.12	2311771	27	1	1321665W	8	2
231821	23	1.25	2312068	28	4	133523W	16	10
231847	23	1.2	2312073	27	3	137852W	23	1.36
234505	26	2	2312074	27	4	15158W	15	23.4
235387	23	1.21	2312111	27		15158W	16	5
236855	23	1.18	2312112	27		15256W	11	15.4
238056	19	2	2312177	24	14	15290W	11	30.17
238058	19	5	2312197	23	1.6	15315W	11	30.16
238059	19	12	2313443	23	1.4	159940W	18	7
238060	19	1	2313623	24	11	16001W	30	5
238061	19	4	2313639	23	1.38	16001W	31	7
238062	19	6	2313676	24	15	16151W	11	30.5
238063	19	7	2313684	23	1.24	16243W	11	30.12
238064	19	8	2313685	24	16	16243W	11	31.2
238065	19	9	2313984	27		16243W	11	32.2
238067	19	11	2314062	15	20.1	16243W	11	33.4
238068	19	14	2314106	27		16602W	8	4
238070	19	16	2314983	23	1.3	16830W	16	6
238071	19	22	2314984	23	1.1	176208W	11	30.3
238072	19	21	2314984	28		18588W	15	23.5
238073	19	17	2314986	23	1.7	188210W	11	30.6
238074	19	18	2315985	26	1	219066W	17	4
238075	19	19	2316452	23	1.43	219084W	15	20.17
238076	19	20	2316454	23	1.42	219093W	16	15
238077	19	13	2316630	12	1	219094W	16	16
238078	19	23	2316633	23	1.37	219095W	16	19
238080	19	25	2316634	25	12	219114W	18	11
242596	23	1.33	2316636	24	10	221336W	31	10
242597	23	1.34	2316636	26		221657W	30	13
242598	23	1.35	2316637	12	2	221690W	12	6
243178	23	1.4	2316638	12	3	221717W	18	13
243815	28		2316639	23	1.45	221763W	23	1.29
252566	27		2316641	23	1.44	221775W	16	8
257331	23	1.39	2316642	25	4	221777W	30	12
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2300842W	17	2	2306189W	11	1	398817W	11	30.8
2301706W	30	9	2306198W	15	20.2	398817W	11	33.3
2301706W	31	5	2306214W	15	23.1	398817W	23	1.47
2301722W	30	4	2306330W	30	11	398817W	30	10
2301727W	30	2	2306333W	30	1	398817W	31	6
2301742W	30	8.1	2306335W	30		398820W	15	20.23
2301742W	31	2.1	2306494W	15	24.3	398828W	15	23.3
2301907W	30	8	2306570W	11	30.1	41207W	15	20.13
2301910W	31	2	2306572W	30	6	41207W	17	5
2301919W	31	11	2306599W	15	20.4	41210W	15	20.11
2301922W	31	1	2306604W	15	20.5	45733W	18	9
2301923W	31		2306938W	15	25.1	61056W	18	3
2301925W	31	12	2306938W	19		61142W	18	1
2301927W	31	13	2306938W	23	3.1	86596W	15	20.8
2301961W	30	2.2	2307037W	18	22	87287W	15	20.9
2302120W	31	9	2307081W	18	20	89776W	15	20.6
2302333W	16	13	2307097W	11	31.1	917373W	15	23.6
2302334W	16	20	2307123W	23	1.8	93927W	11	15.3
2302335W	16	14	2307282W	17	1	NA	15	20.22
2302336W	16	11	2307291W	23	1.9	R12113	23	1.41
2302338W	16	22	2307342W	11	33.1	R13803047	23	1.46
2302379W	16	17	2307438W	28	5	R14040	23	1.16
2302513W	11	33.2	2307625W	23	1.14	R525293	15	20.29
2302515W	18	12	2307784W	30		R833251	15	20.28
2302624W	18	6	2307962W	19	15	R833251	23	1.13
2302625W	18	17	2570W	30	2.1	R833801	23	1.19
2303221W	11	15.1	264159W	11	30.9	WR5-279L	32	
2303256W	16	4	2817W	31	14	WR5-423L	32	
2303257W	16	1	2821W	31	8	WR6-197L	32	
2303848W	11	30.2	293628W	23	1.26	WR6-298L	32	
2303902W	16	7	296159W	24	13	WR7-142L	32	
2303906W	18	2	296420W	23	1.27	WR7-215L	32	
2303907W	18	5	296422W	12	9	Y09C-M1225	12	8
2303908W	18	16	313022W	15	20.25	Y09G-0616	18	4
2304101W	11	30.4	318702W	12	18	Y17C-1024	16	9
2304147W	23	1.1	331767W	30	7	Y73G-0816	15	20.3
2304580W	17	3	331767W	31	4	Y73G-0840	15	20.15
2304803W	18	14	33394W	30	3	YS7-215LWS	32	
2304874W	15	20.21	334442W	15	20.19			
2305415W	18	18	334475W	15	20.16			
2305915W	18	10	339681W	16	12			
2305923W	18	8	35135W	30	8.2			
2306073W	15	20.14	35135W	31	2.2			



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599029W-LIEBHERR Rev. 11/2019 Printed in U.S.A.

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