

# Parts Manual



# H6H

## Hydraulic Winch for Caterpillar Dozers

A Product of

**Allied Systems**  
COMPANY

Sherwood, OR USA

Please check the Allied Systems website  
regularly for updates to this manual.  
[www.alliedsystems.com](http://www.alliedsystems.com)

# Safety Precautions

**Read, understand and observe the Safety Summary  
on pages 2 through 4  
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’ 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 your 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.

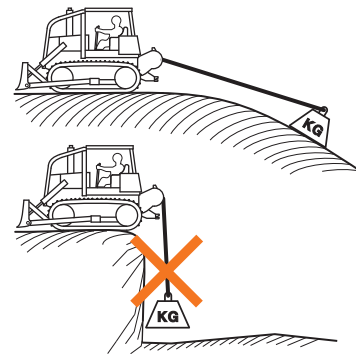


- Do not stand nor permit others to be near the winch or wire rope when there is tension on the wire rope.



- 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.

### 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 7.

- 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.**

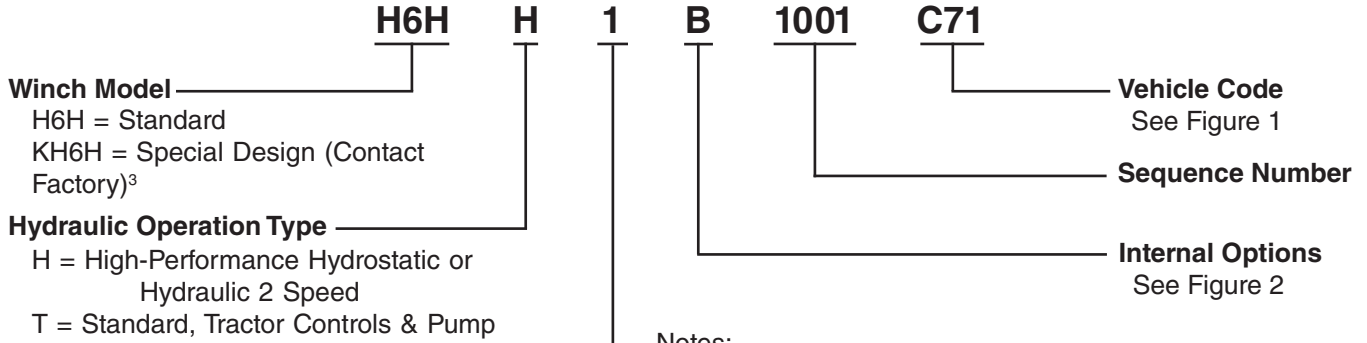
**Infection and gangrene will result when hydraulic oil penetrates the skin. See a doctor immediately to prevent loss of limb or death.**

**Use a piece of cardboard to check for hydraulic leaks.**



## Unit Identification

Allied Winch S/N Nameplate Data For Tractor 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.

VEHICLE CODE	CATERPILLAR MODEL	AVAILABLE GEAR RATIOS
<b>C71</b>	DR Series II, III, D6T	⑥
<b>C712</b>	D6/D6XE BUILD 20A	⑥
<b>C805</b>	D6K2 T4f	② ③
<b>C81</b>	D6N	①
<b>C811</b>	D6N <sup>1</sup>	①
<b>C812</b>	D5 BUILD 17 A/B	①
<b>C963</b>	963D Track Loader	①

<sup>1</sup> Tractor serial numbers with prefixes GHS, MLW & LJR use vehicle code C811.

**Figure 1 - Dozer or Loader Identification Codes and Available Gear Ratios**

INTERNAL OPTION	FREESPOOL	BRAKE-OFF	OVERWIND	2-SPEED CONTROL	HI-SPEED DEFAULT
<b>B</b>	X	X	X		X
<b>D</b>	X	X	X	X	
<b>E</b>	X		X		
<b>U</b>	X	X			
<b>BN</b>		X	X		X
<b>DN</b>		X	X	X	
<b>EN</b>			X		
<b>DE</b>	X		X	X	
<b>DU</b>	X	X		X	
<b>DL</b>	X	X	X	X	X

**Figure 2 - Internal Options**

Circled numbers in Figure 1 indicate possible gear ratios.

### 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 0-6 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 2 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

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

Recommended Oils* - General Conditions			
Manufacturer	Oil Type	Ambient Temperature Range	
		°F	°C
ExxonMobil	Mobil Fluid 424 (Factory fill)	-13 to 104	-25 to 40
Chevron	1000 THF	-13 to 104	-25 to 40
Caterpillar	Multipurpose Tractor Oil (MTO)	-13 to 104	-25 to 40
Recommended Oils* - Low Temperature Conditions			
Manufacturer	Oil Type	Ambient Temperature Range	
		°F	°C
ExxonMobil	Mobil Fluid LT	-40 to 86	-40 to 30
Chevron	THF W	-40 to 86	-40 to 30

\* Use of a non-recommended oil may void warranty.

For winches using tractor-supplied hydraulics for winch operation, the recommended oil is used only in the winch gear case.

Figure 4 - Oil Selection Chart

Factory fill is TO-4, 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)
<b>Caterpillar</b>	Use Tractor Fluid	TO-4
<b>Chevron</b>	Use Tractor Fluid	Drive Train Fluids HD
<b>Exxon-Mobil</b>	Use Tractor Fluid	Mobil Trans HD Series

Figure 5 - Recommended Oil List

### Oil Capacity

The oil capacity for H6H winch is 4 gallons (15 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](mailto:parts@alliedsystems.com)

Also see our website, [www.alliedsystems.com](http://www.alliedsystems.com), where the most current copy of this manual is always available.

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# Nameplate & Decals

All Models



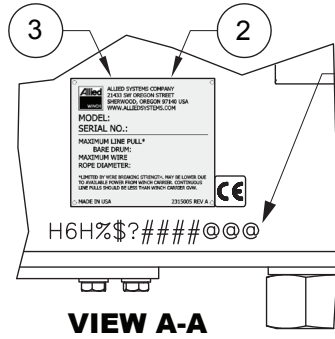
ALLIED SYSTEMS COMPANY  
21433 SW OREGON STREET  
SHERWOOD, OREGON 97140 USA  
WWW.ALLIEDSYSTEMS.COM

MODEL: H6H                      20##  
SERIAL NO.: H6H%\$?#####@@@

MAXIMUM LINE PULL\*  
BARE DRUM: 88,800 LBS  
MAXIMUM WIRE  
ROPE DIAMETER: 1 INCH DIA

\*LIMITED BY WIRE BREAKING STRENGTH. MAY BE LOWER DUE TO AVAILABLE POWER FROM WINCH CARRIER. CONTINUOUS LINE PULLS SHOULD BE LESS THAN WINCH CARRIER GVW.

MADE IN USA                      2315005 REV A



STAMP NAMEPLATE AND FRAME AS SHOWN  
% = H (HI-PERFORMANCE) OR T (STANDARD)  
\$ = GEAR RATIO CODE  
? = INTERNAL OPTIONS  
##### = SEQUENCE NUMBER  
@@@ = VEHICLE CODE  
SEE DRAWING 231271



**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

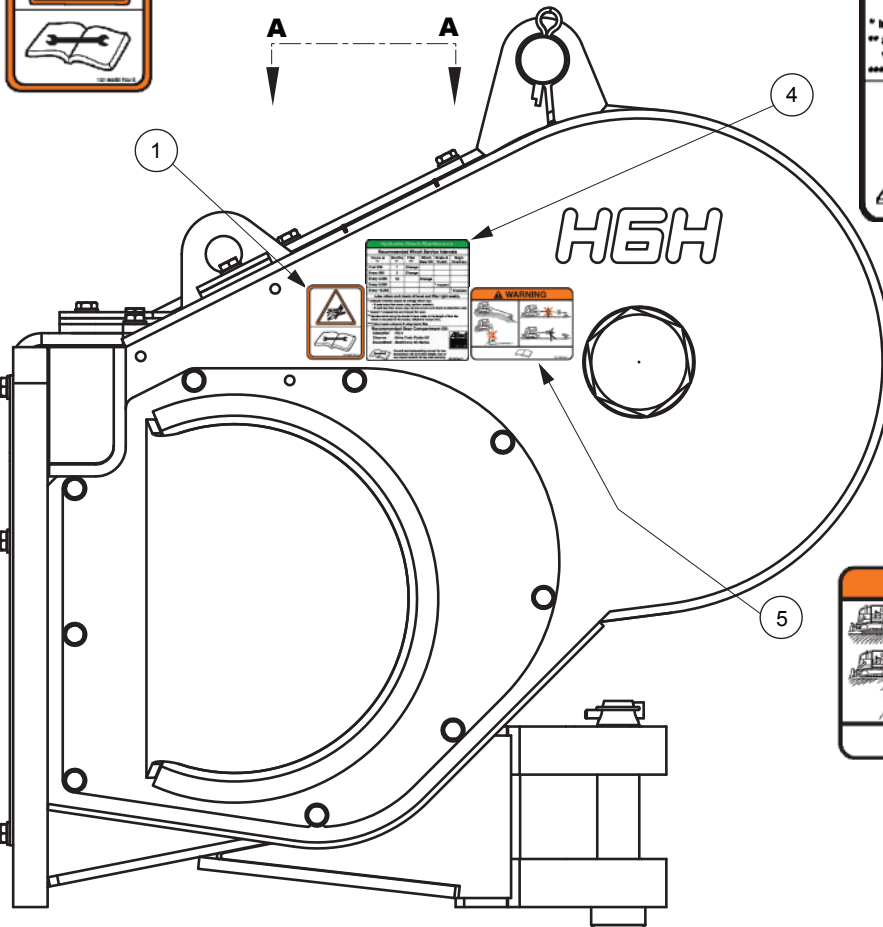
Lube rollers and check oil level and filter light weekly.

\* 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. 231076 Rev D



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	1321665W	2	Decal, Warning	5	2311330	1	Decal, Load & Wire
2	2315005	1	Nameplate	40	-----	AR	Label - CE Mark
3	16602W	4	Screw				
4	2310796	1	Decal, Maintenance				

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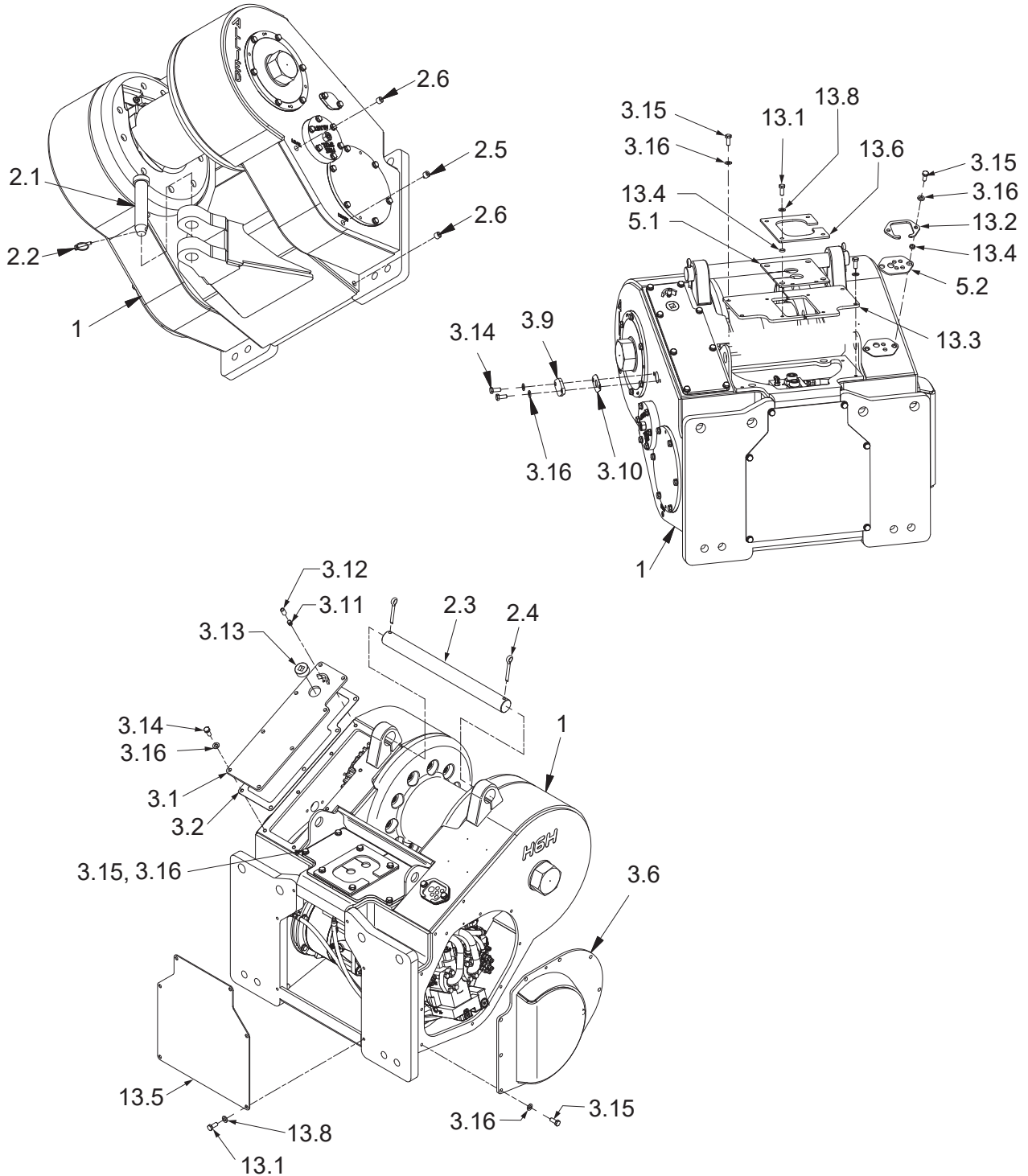


**Section 1**  
**Frames/Covers/Mounting Parts**

**Frame/Covers**

Caterpillar D6T (C71), D6/D6XE BUILD 20A (C712), D6N (C81/C811), D5 BUILD 17 A/B(C812)

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## Frame/Covers

Caterpillar D6T (C71), D6/D6XE BUILD 20A (C712), D6N (C81/C811), D5 BUILD 17 A/B(C812)

Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	-----	1	Frame, H6H	3.13	15319W	1	Fitting
2.1	95959W	1	Pin, Drawbar	3.14	2312486	10	Capscrew
2.2	2303221W	1	Pin, Retaining	3.15	293645W	15	Capscrew
2.3	2312580	1	Rod, Tie	3.16	296422W	25	Washer
2.4	15272W	2	Pin	5.1	2312009	1	Seal, Top
2.5	15290W	1	Fitting	5.2	*a 2312208	1	Gasket, Hose Seal
2.6	15315W	2	Fitting	5.2	*b 2313831	1	Gasket, Hose Seal
3.1	2312048	1	Cover, Top RH	13.1	293645W	10	Capscrew
3.2	2312045	1	Gasket, Top RH	13.2	2312117	1	Cover
3.6	2316162	1	Cover, LH	13.3	2313380	2	Cover, Top
3.9	151589W	1	Cover, Freespool	13.4	2312119	6	Spacer
3.10	151646W	1	Gasket, Freespool	13.5	2312046	1	Cover, Front
3.11	21420W	1	Plug, Breather	13.6	2312006	1	Clamp, Top
3.12	2300962W	1	Cap, Breather	13.8	296422W	10	Washer

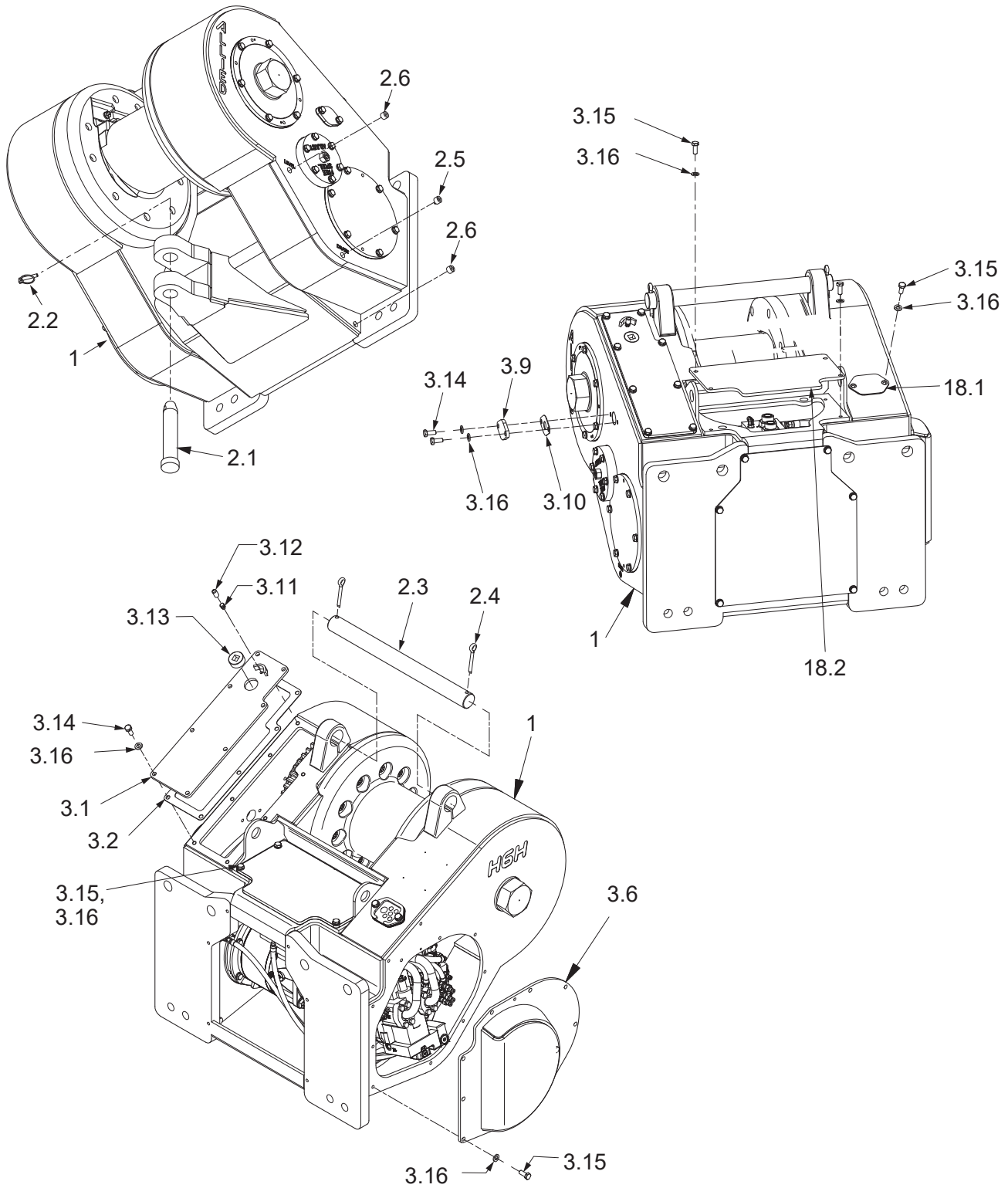
\*a Used on C71, C81, C811, C812

\*b Used on C712

### Frame/Covers

Caterpillar 963D Track Loader (C963), D6K2 T4f (C805)

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**Frame/Covers**

Caterpillar 963D Track Loader (C963), D6K2 T4f (C805)

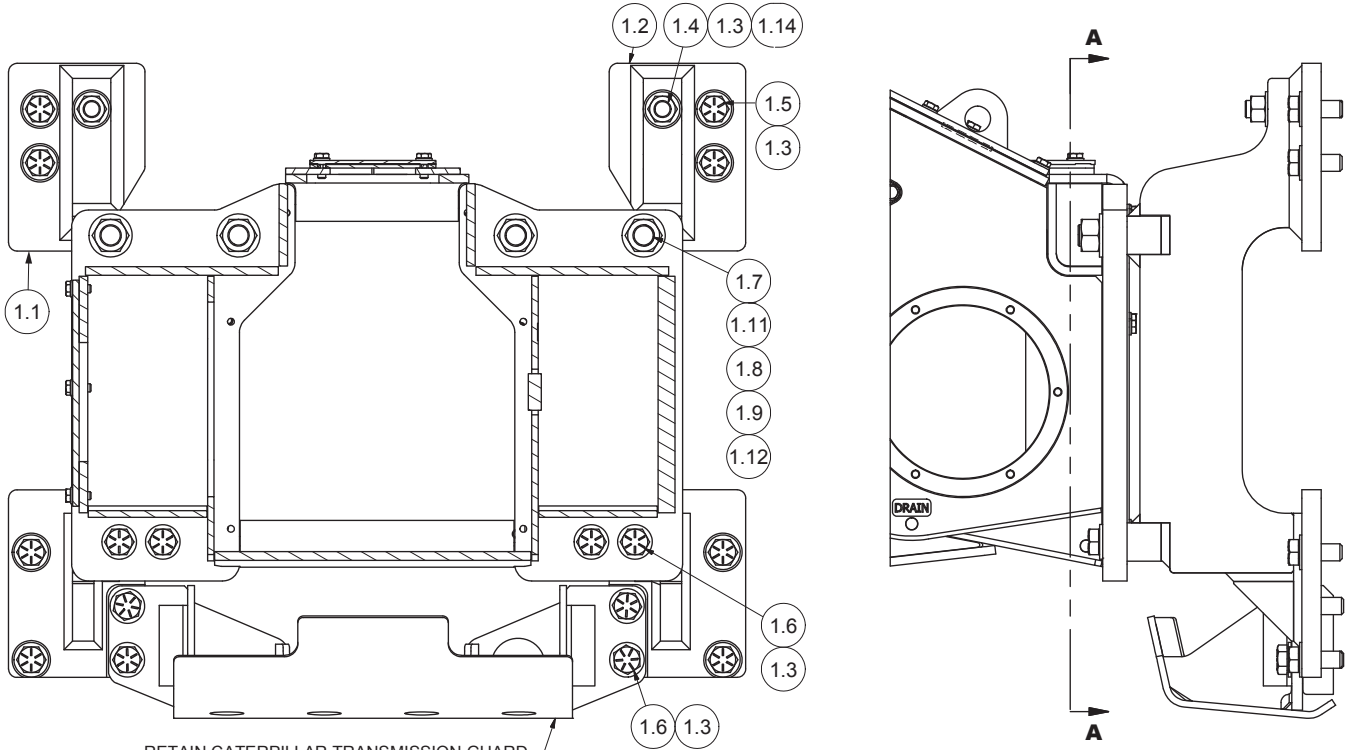
Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	-----	1	Frame, H6H	3.9	151589W	1	Cover, Freespool
2.1	95959W	1	Pin, Drawbar	3.10	151646W	1	Gasket, Freespool
2.2	2303221W	1	Pin, Retaining	3.11	21420W	1	Plug, Breather
2.3	2312580	1	Rod, Tie	3.12	2300962W	1	Cap, Breather
2.4	15272W	2	Pin	3.13	15319W	1	Fitting
2.5	15290W	1	Fitting	3.14	2312486	10	Capscrew
2.6	15315W	2	Fitting	3.15	293645W	15	Capscrew
3.1	2312048	1	Cover, Top RH	3.16	296422W	25	Washer
3.2	2312045	1	Gasket, Top RH	18.1	2312850	1	Cover, Top LH
3.6	2316162	1	Cover, LH	18.2	2312849	1	Cover, Top

# Mounting Parts

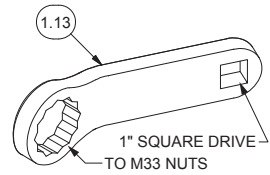
Caterpillar D6T (C71)

Page 1 of 2

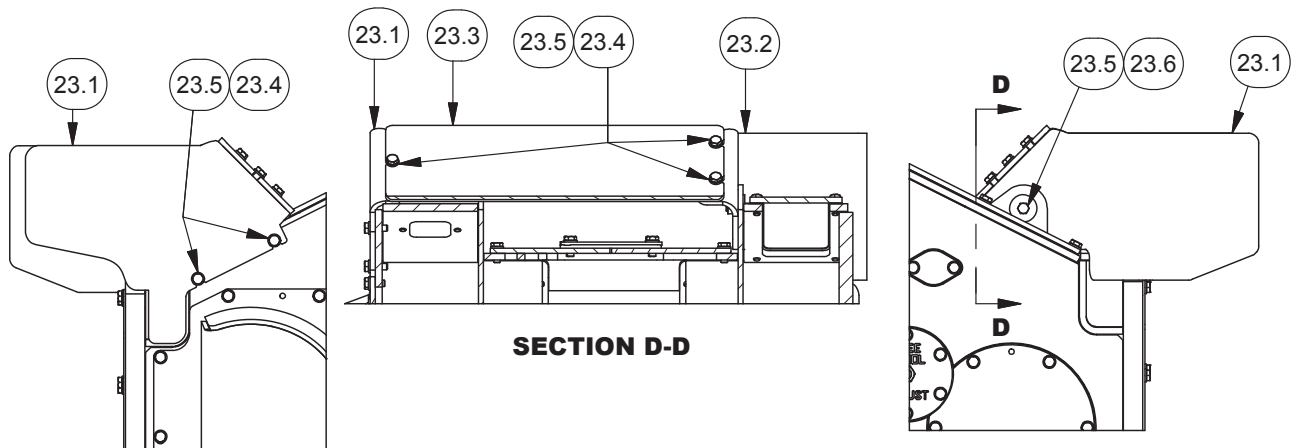


RETAIN CATERPILLAR TRANSMISSION GUARD  
REMOVE PRIOR TO MOUNTING BRACKET INSTALLATION  
REINSTALL AFTER MOUNTING BRACKETS  
HAVE BEEN ATTACHED

**SECTION A-A**



**TORQUE WRENCH  
EXTENDER**



**SECTION D-D**

**Mounting Parts**

Caterpillar D6T (C71)

Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	2314553	1	Bracket, LH Mounting	1.12	*b 318702W	10 ML	Thread Lock, Med. Strength
1.2	2314554	1	Bracket, RH Mounting	1.13	2310958	1	Wrench, Torque Extension
1.3	221780W	18	Hard Washer	1.14	221721W	2	Hex Nut
1.4	259543W	2	Stud	23.1	2314633	1	Guard, LH
1.5	221690W	8	Capscrew	23.2	2314635	1	Guard, RH
1.6	R13806324	8	Capscrew	23.3	2314636	1	Plate - Guard, Center
1.7	2306421W	4	Stud	23.4	296422W	5	Hard Washer
1.8	225851	4	Hard Washer	23.5	293646W	6	Capscrew
1.9	221725W	4	Hex Nut	23.6	2305715W	1	Washer
1.11	*a 230064W	1	Loctite Kit				

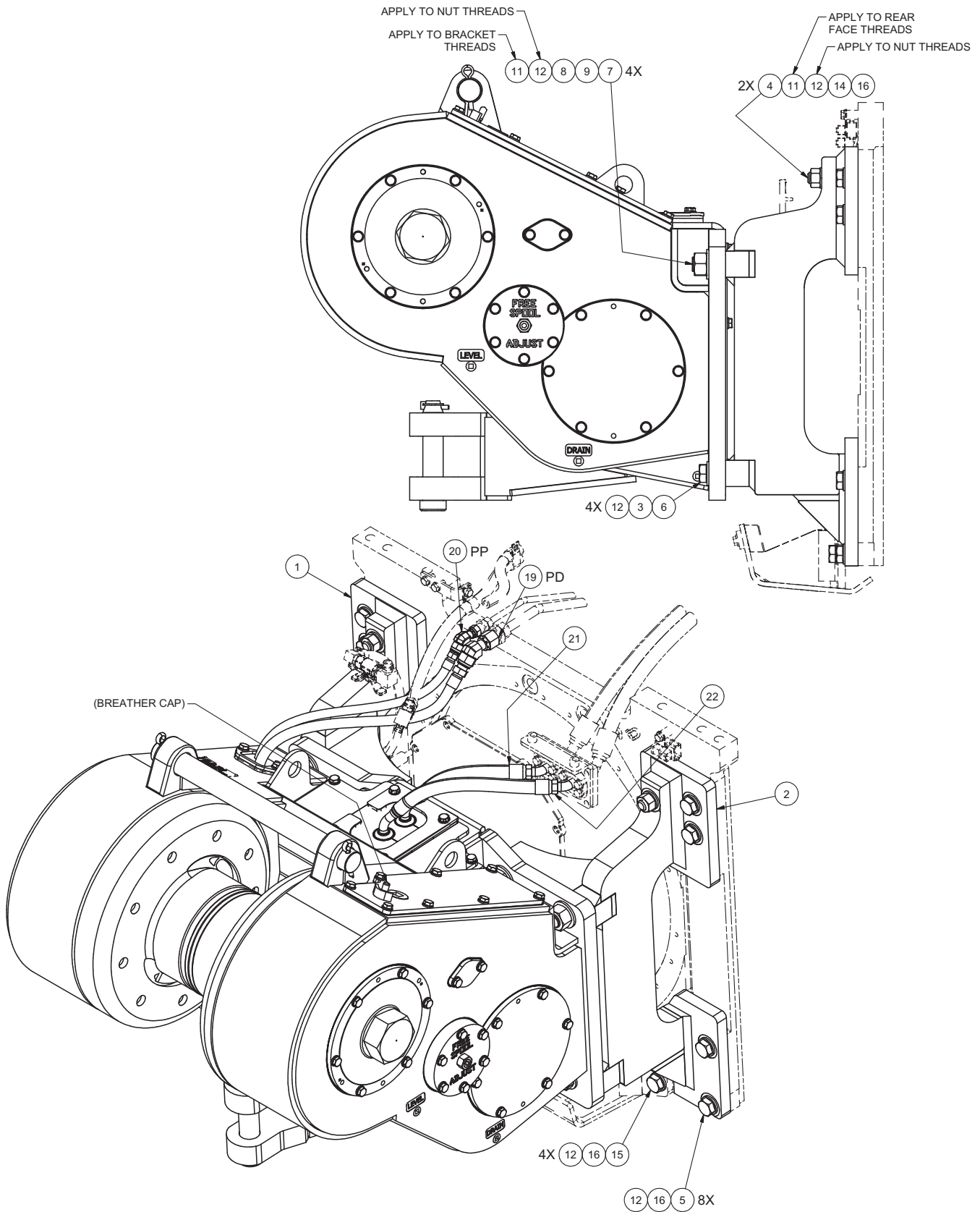
\*a Apply to coarse thread.

\*b Apply to fine thread.

### Mounting Parts

Caterpillar D6/D6XE BUILD 20A (C712)

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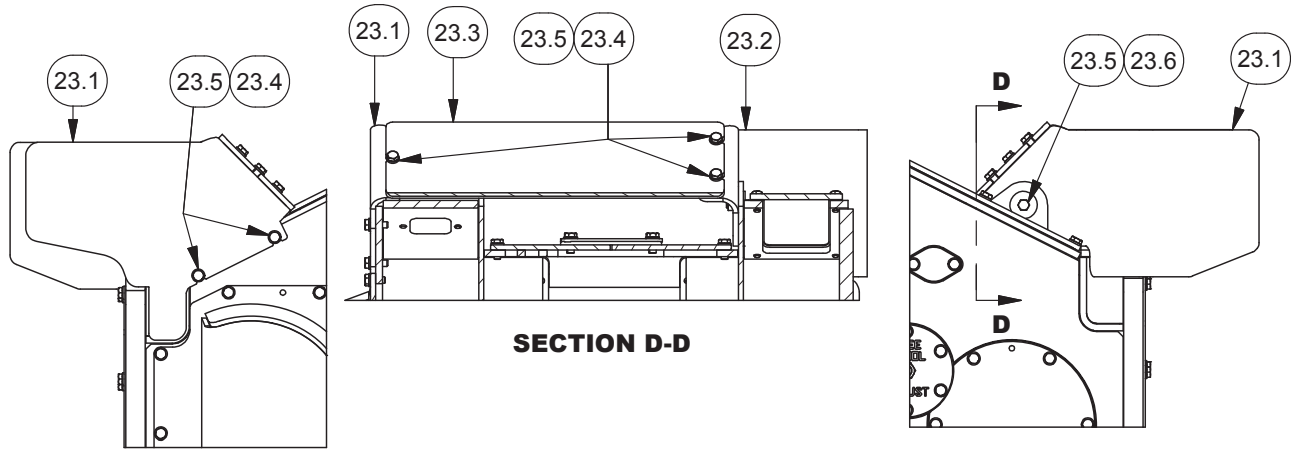




### Mounting Parts

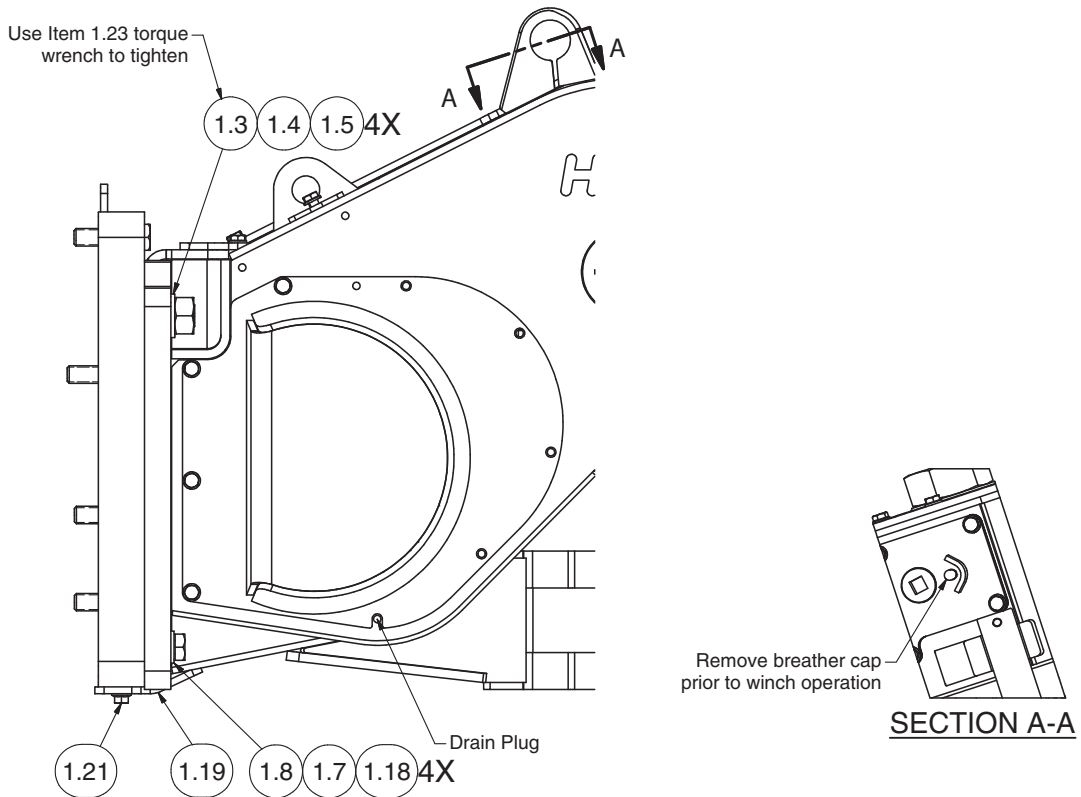
Caterpillar D6/D6XE BUILD 20A (C712)

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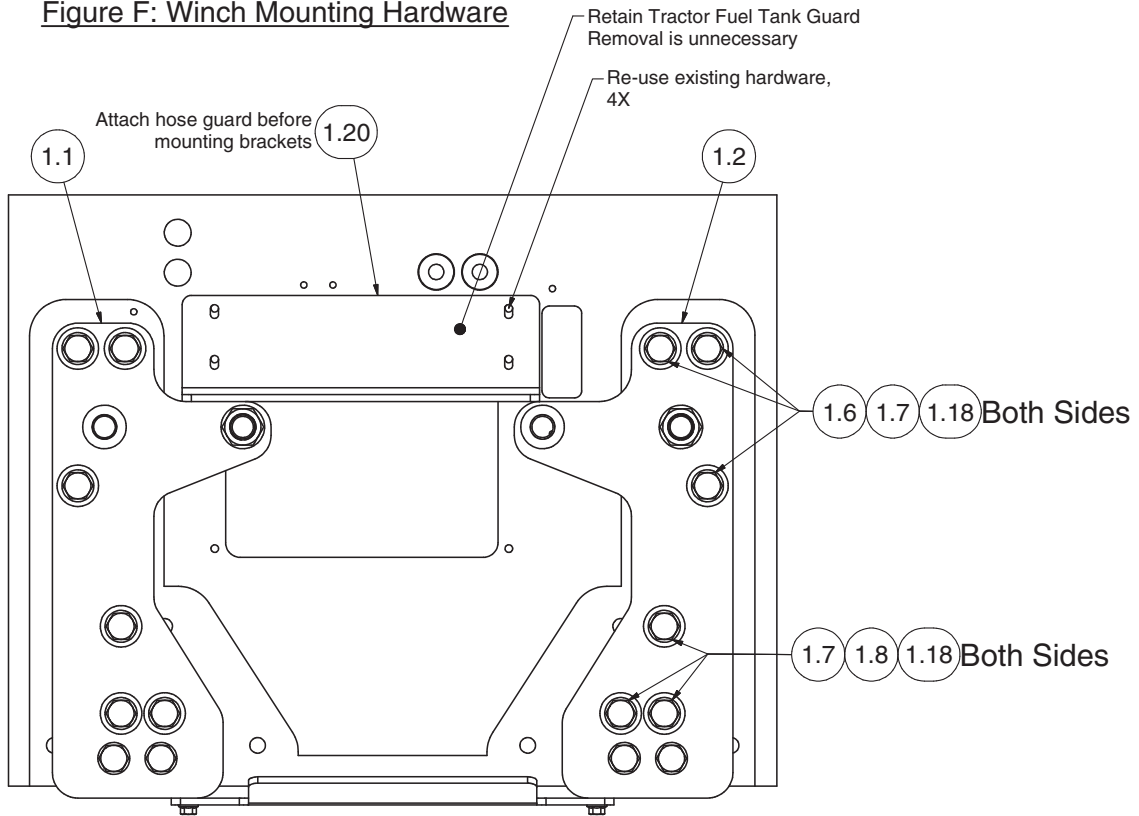


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2314553	1	Bracket, LH Mounting	16	296434W	14	Washer
2	2314554	1	Bracket, RH Mounting	19	2311485	1	Fitting
3	221780W	4	Washer	20	2315121	1	Fitting
4	2315880	2	Stud	21	*a 2316945	1	Hose Assy
5	225065W	8	Capscrew	22	*a 2316946	1	Hose Assy
6	R13806324	4	Capscrew	23.1	2314633	1	Guard, LH
7	2306421W	4	Stud	23.2	2314635	1	Guard, RH
8	225851	4	Washer	23.3	2314636	1	Plate - Guard, Center
9	221725W	4	Hex Nut	23.4	296422W	5	Hard Washer
11	230064W	1	Kit, Primer	23.5	293646W	6	Capscrew
12	318702W	10 ML	Thread Lock, Med.	23.6	2305715W	1	Washer
13	2310958	1	Wrench, Torque Extension				
14	292660W	2	Nut	*a	Included in Hose Kit 2317931		
15	293728W	4	Capscrew				

**Mounting Parts**  
 Caterpillar D6K2 T4f (C805)  
 Page 1 of 2



**Figure F: Winch Mounting Hardware**

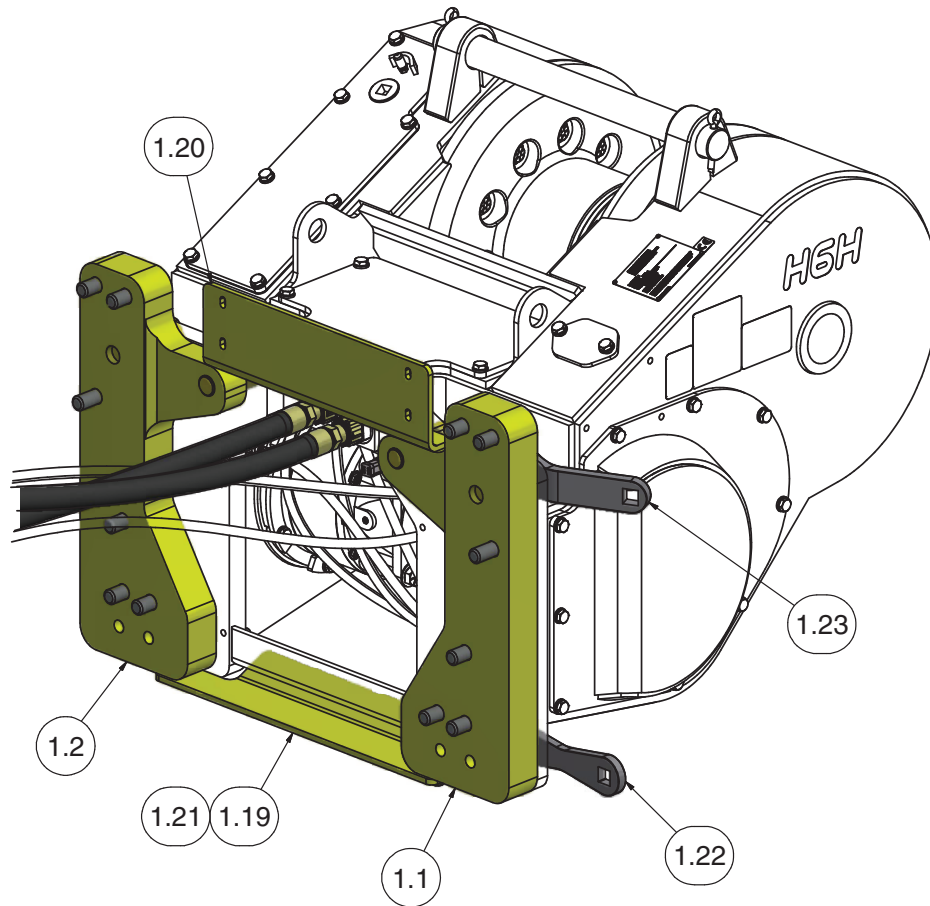


**Figure E: Tractor Rear Face**  
 Winch Not Mounted

## Mounting Parts

Caterpillar D6K2 T4f (C805)

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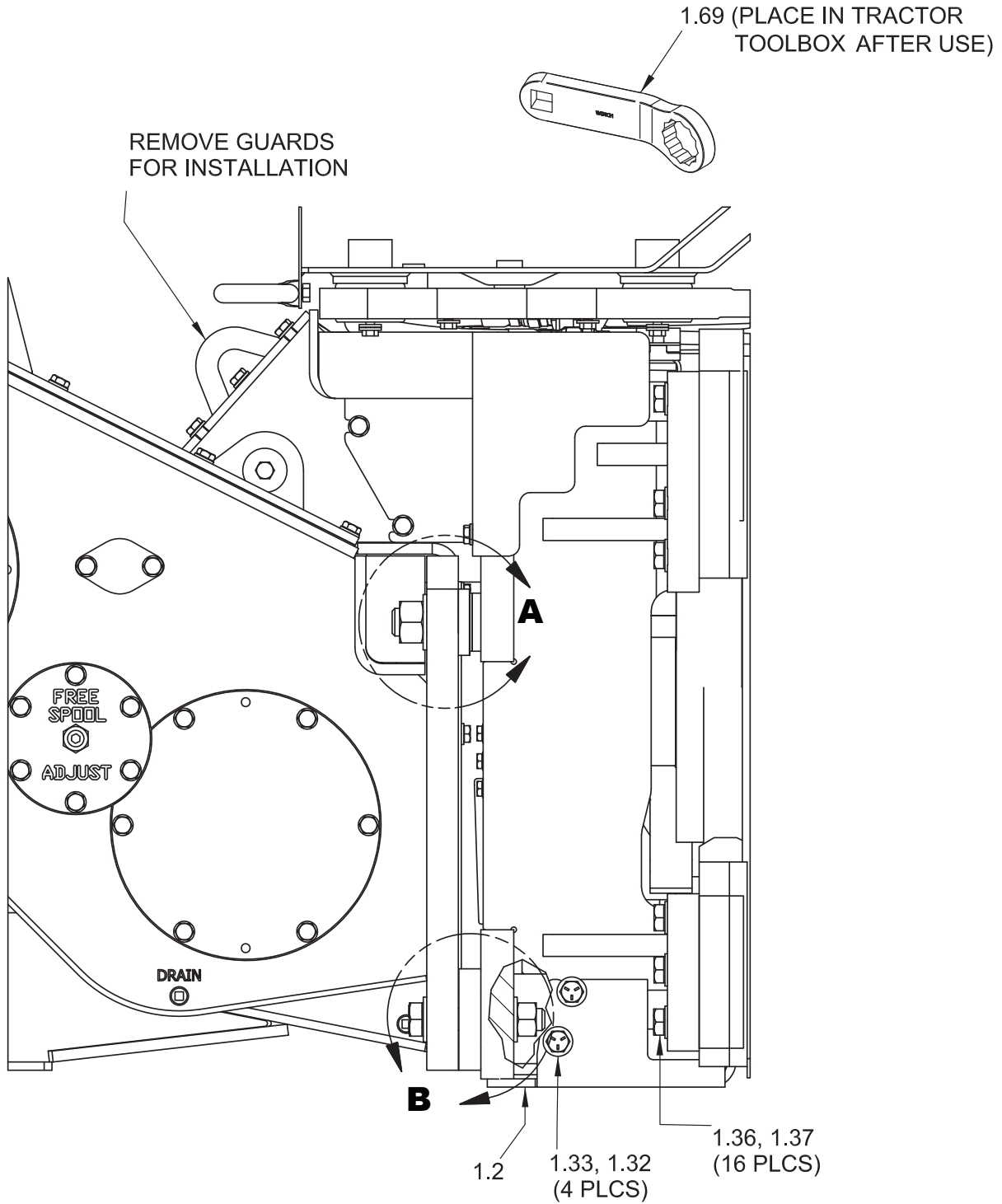


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	2317104	1	Bracket - Mounting, LH	1.8	296434W	16	Washer
1.2	2317105	1	Bracket - Mounting, RH	1.18	318702W	10 ML	Thread Lock, Med.
1.3	2312090	4	Stud	1.19	2317137	1	Guard - Hose, Lower
1.4	296440W	4	Washer	1.20	2317138	1	Guard - Hose, Upper
1.5	2312089	4	Nut	1.21	398817W	2	Screw, Flange
1.6	293729W	6	Capscrew	1.22	2314046	1	Wrench, Torque Extension
1.7	274044W	10	Capscrew	1.23	2312331	1	Wrench, Torque Extension

# Mounting Parts

Caterpillar D6N (C81)

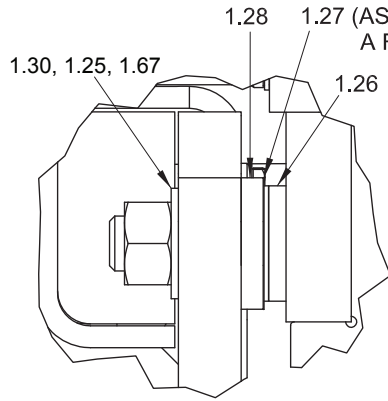
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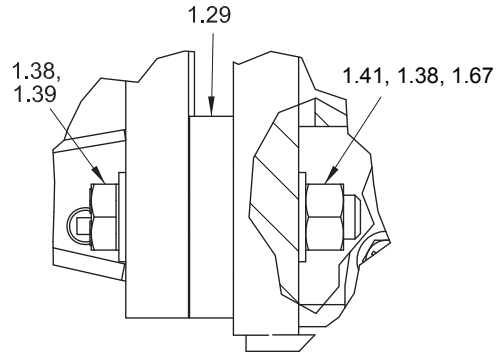
# Mounting Parts

Caterpillar D6N (C81)

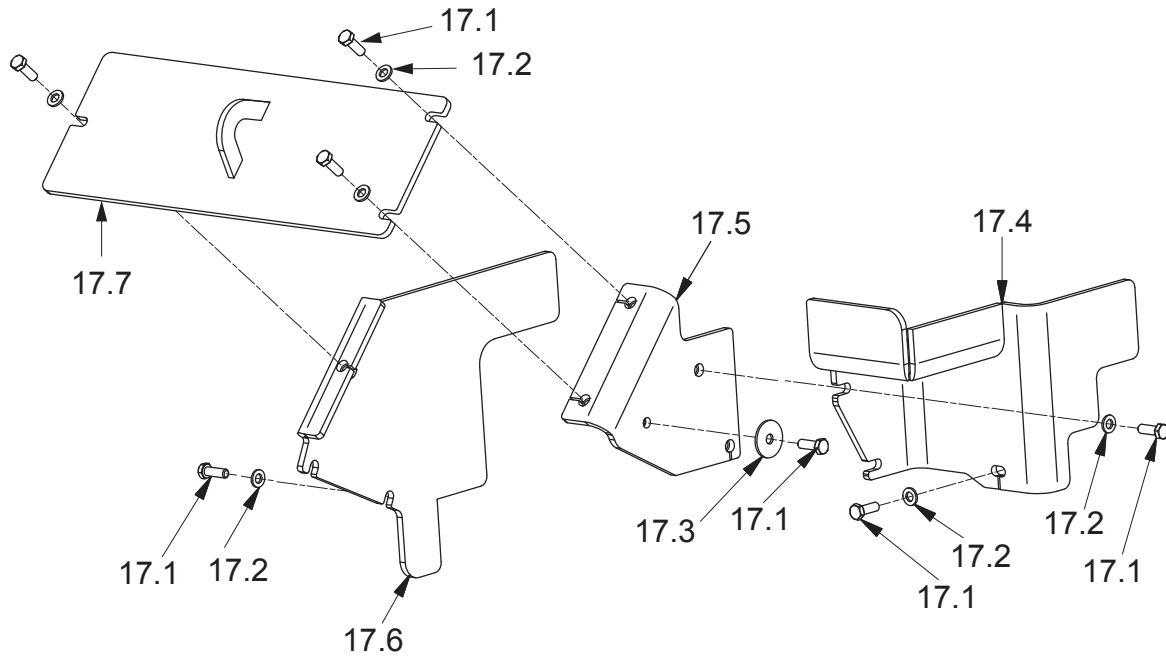
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**DETAIL A**  
UPPER WINCH MOUNTING



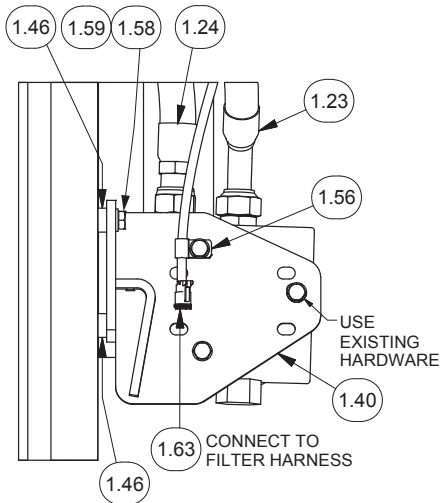
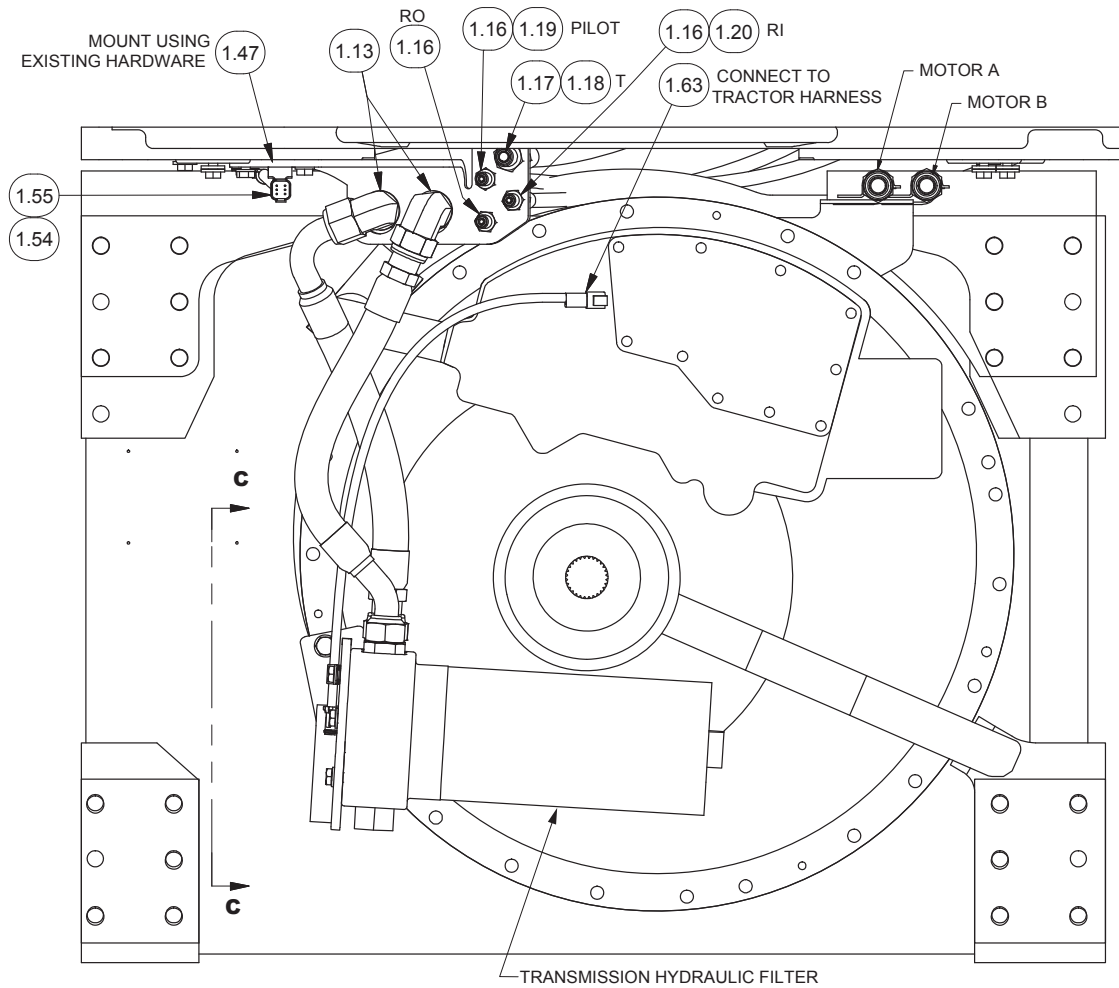
**DETAIL B**  
LOWER WINCH MOUNTING



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.2	2305541W	1	Guard, Bottom	1.39	R138019014	4	Capscrew
1.25	15128W	4	Washer	1.41	*a 221720W	4	Nut
1.26	2301529W	4	Washer, Spherical	1.69	2310958	1	Wrench, Extension Torque
1.27	223453W	AR	Shim .029	17.1	293646W	9	Capscrew
1.28	2312846	2	Pad, Top Mounting	17.2	296422W	8	Washer
1.29	2312847	2	Pad, Bottom Mounting	17.3	2305715W	1	Washer, Fender
1.30	221725W	4	Nut	17.4	2313122	1	Hose Guard, RH
1.32	16644W	4	Capscrew	17.5	2313120	1	Mount, Hose Guard
1.33	221775W	4	Washer	17.6	2313102	1	Hose Guard, LH
1.36	293710W	16	Capscrew	17.7	2313125	1	Center, Hose Guard
1.37	296430W	16	Washer				
1.38	221780W	8	Washer	*a	Uses 318702W Thread Lock		

## Rear Face Preparation and Filter Relocation

Caterpillar D6N (H6HT\*\*C81)



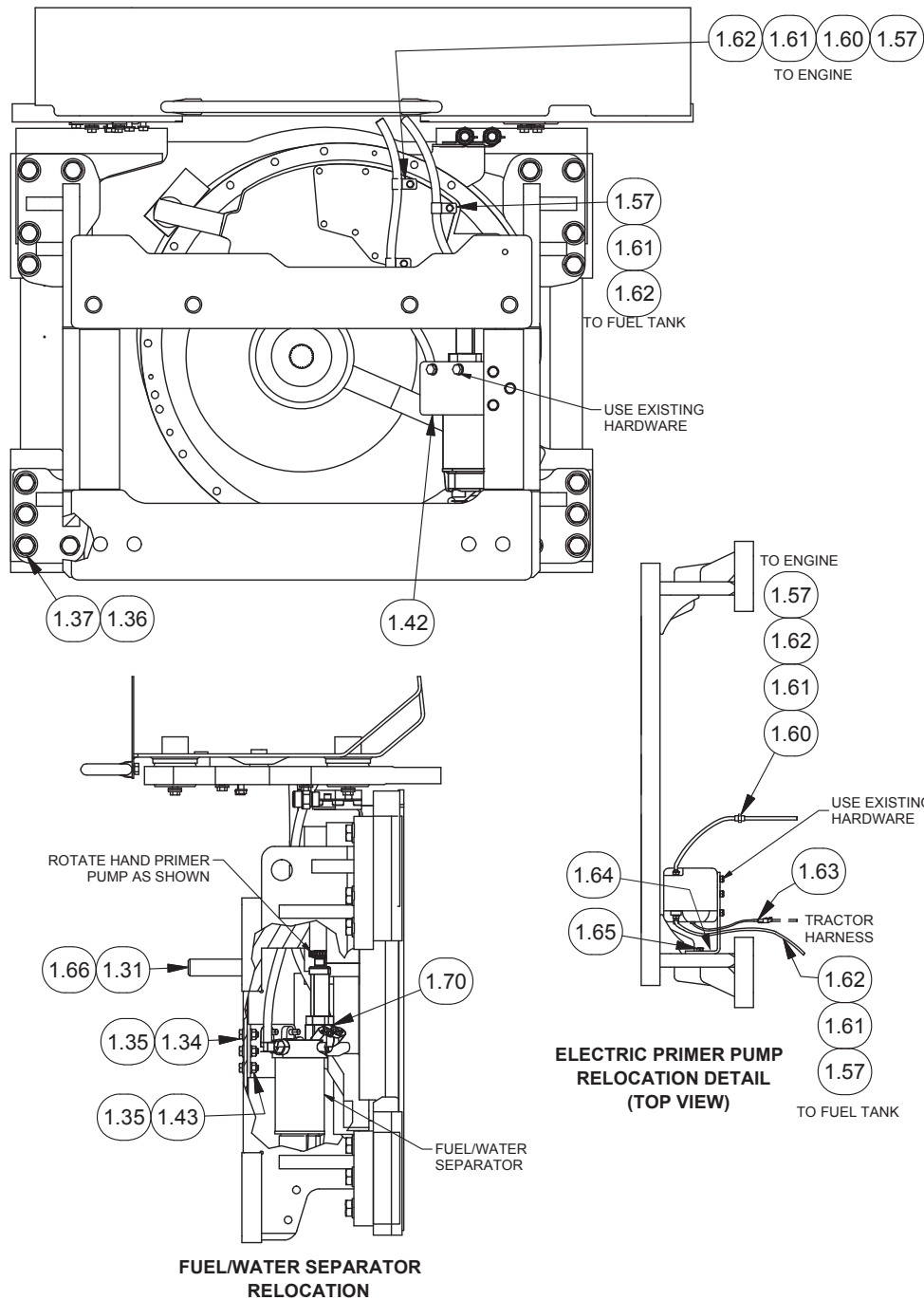
**SECTION C-C**

Item	Part No.	Qty	Description
1.13	2305620W	2	Fitting
1.16	R834100	3	Fitting
1.17	R834103	1	Fitting
1.18	*a 254680	1	Hose Assy
1.19	*a 249465	1	Hose Assy
1.20	*a 242358	2	Hose Assy
1.23	*a 2307896W	1	Hose Assy
1.24	*a 2307895W	1	Hose Assy
1.40	2307890W	1	Bracket - Filter
1.46	2307893W	2	Spacer
1.47	2313133	1	Bulkhead
1.54	2311550	1	Clip, Harness Mounting
1.55	2313138	1	Console, Wire Harness
1.56	243057	1	Clamp
1.58	293647W	2	Capscrew
1.59	296422W	2	Hard Washer
1.63	2305617W	1	Harness, Filter

\*a Included in Hose Kit 2314767

# Fuel/Water Separator Relocation

Hand Primer Pump and Electric Primer Pump  
Caterpillar D6N (H6HT\*\*C81)

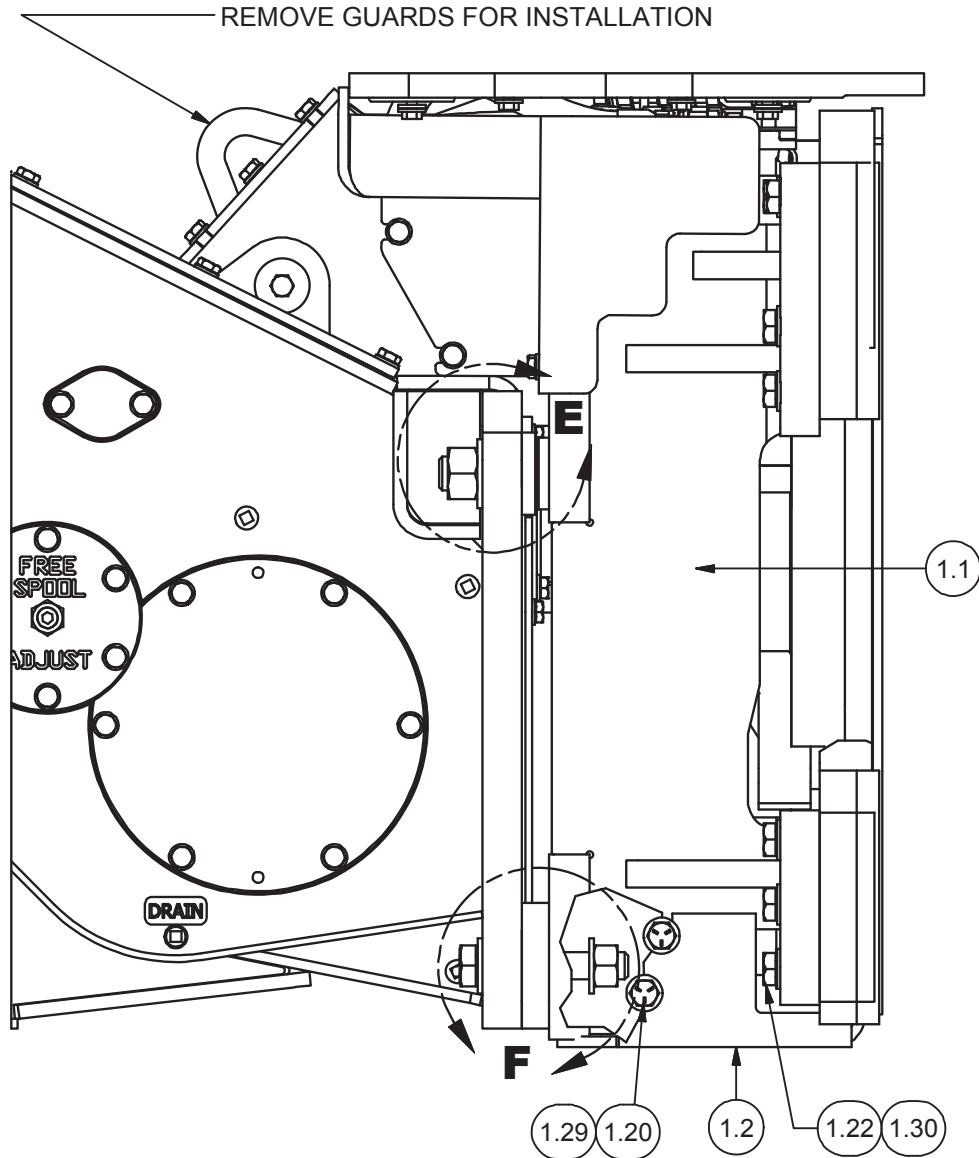


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.31	*a 2300783W	4	Stud	1.61	166857W	1	Clamp
1.34	Y09C-M1030	3	Capscrew	1.62	2306857W	2	Hose
1.35	296420W	6	Hard Washer	1.63	2305617W	1	Harness, Filter
1.36	293710W	16	Capscrew	1.64	2306836W	1	Bracket, Mounting
1.37	296430W	16	Hard Washer	1.65	18738W	2	Capscrew
1.42	2307894W	1	Mounting Plate	1.70	2307911W	1	Gasket
1.43	292655W	3	Nut				
1.57	387316W	3	Clamp	*a	Apply 230064W Loctite Kit		
1.60	2306858W	1	Fitting				

# Mounting Parts

Caterpillar D6N (C811)

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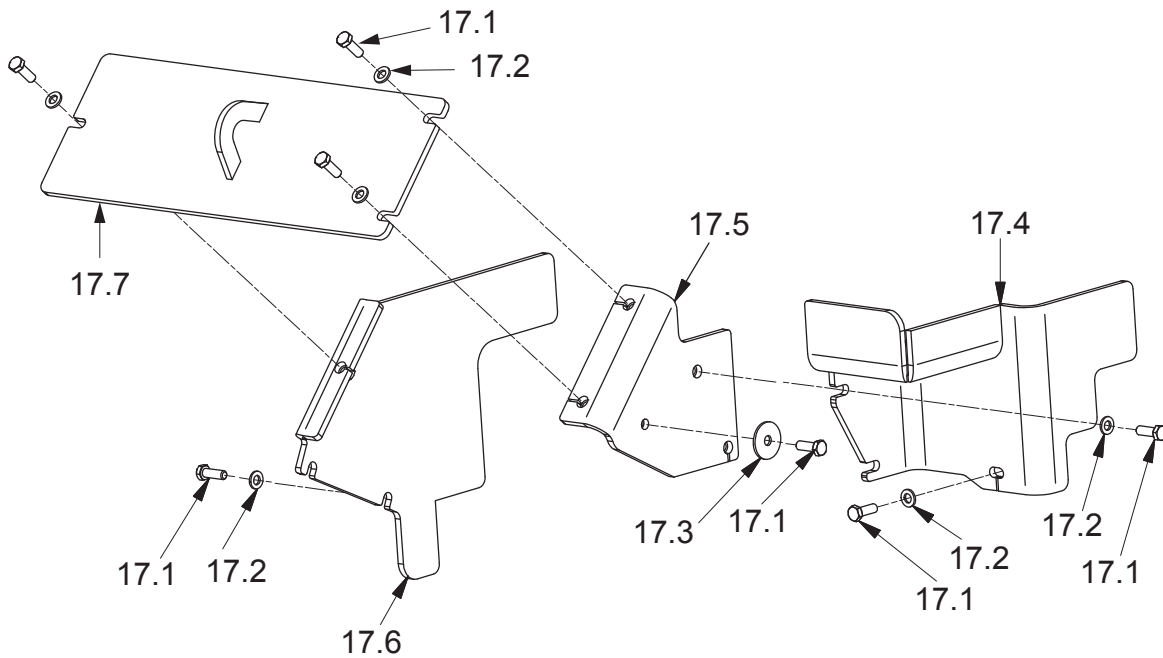
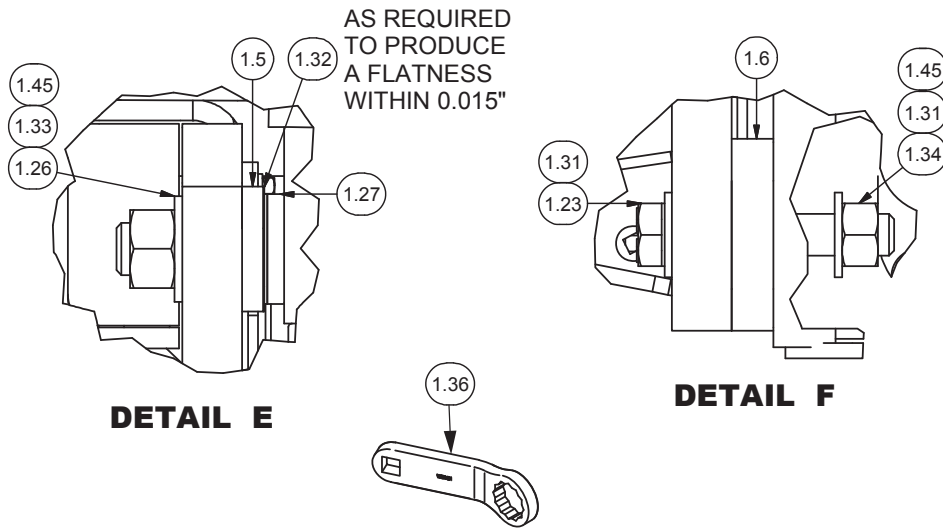




### Mounting Parts

Caterpillar D6N (C811)

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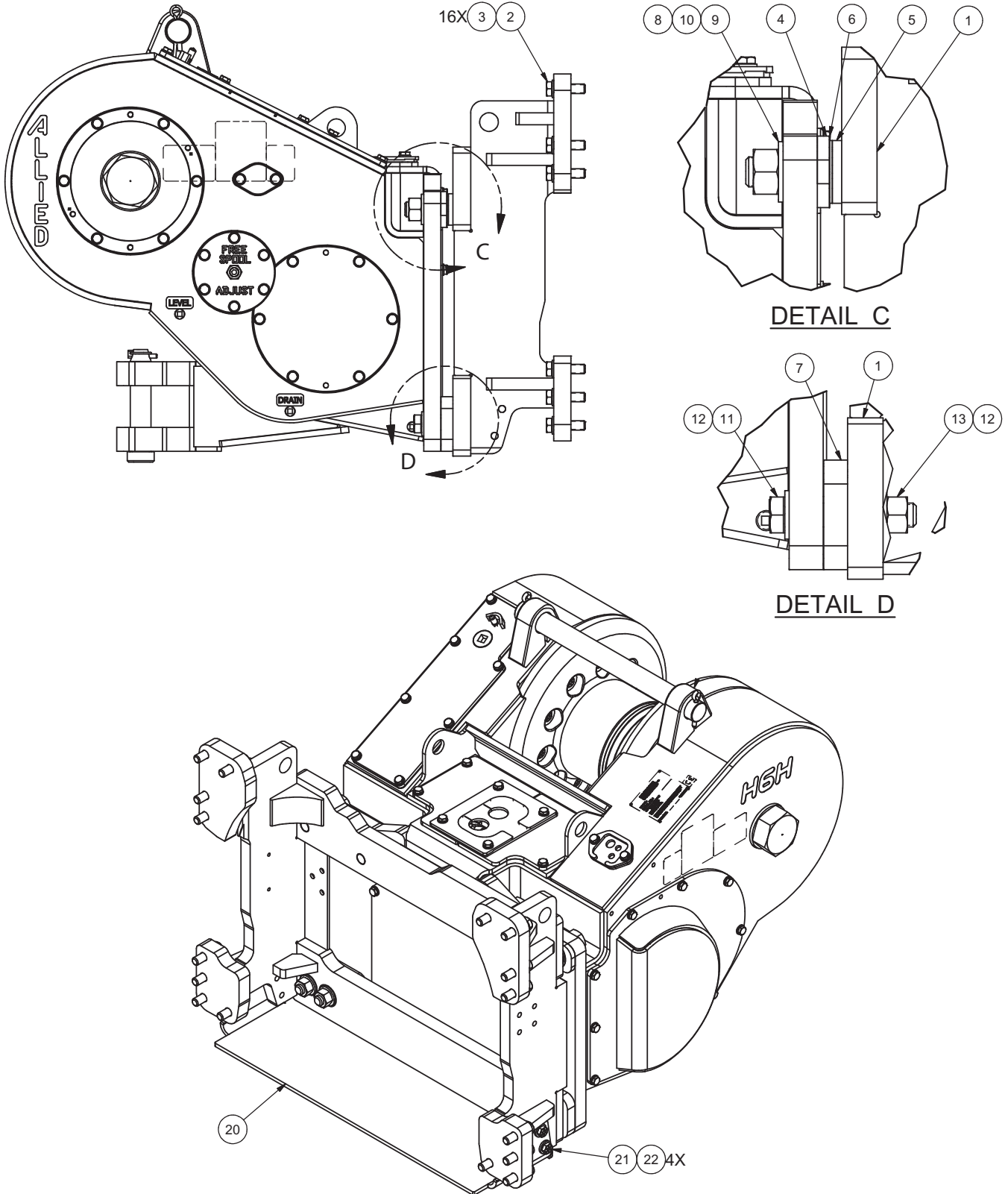


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	2307702W	1	Bracket	1.32	223453W	AR	Shim .020"
1.2	2305541W	1	Guard, Bottom	1.33	221725W	4	Nut
1.5	2312846	2	Pad, Top Mounting	1.34	221720W	4	Nut
1.6	2312847	2	Pad, Bottom Mounting	1.36	2310958	1	Wrench, Extension Torque
1.20	16644W	4	Capscrew	1.45	318702W	10 ML	Thread Lock, Med. Strength
1.22	293710W	16	Capscrew	1.71	293646W	9	Capscrew
1.23	R13801901	4	Capscrew	1.72	296422W	8	Washer
1.26	225851	4	Washer	1.73	2305715W	1	Washer, Fender
1.27	2301529W	4	Washer, Spherical	1.74	2313122	1	Hose Guard, RH
1.29	221775W	4	Washer	1.75	2313120	1	Mount, Hose Guard
1.30	296430W	16	Washer	1.76	2313102	1	Hose Guard, LH
1.31	221780W	8	Washer	1.77	2313125	1	Center, Hose Guard

### Mounting Parts

Caterpillar D5 BUILD 17 A/B (C812)

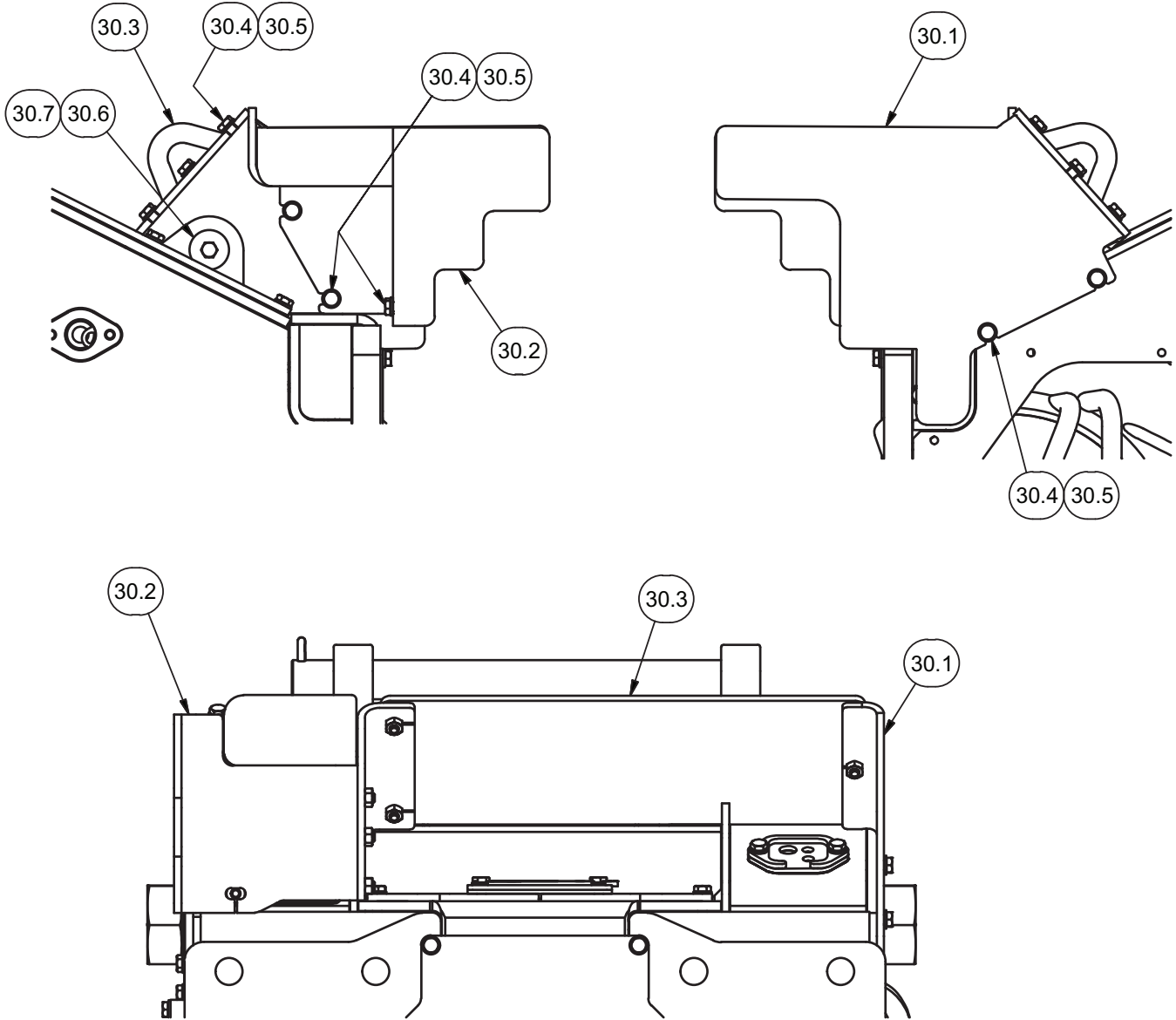
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### Mounting Parts

Caterpillar D5 BUILD 17 A/B (C812)

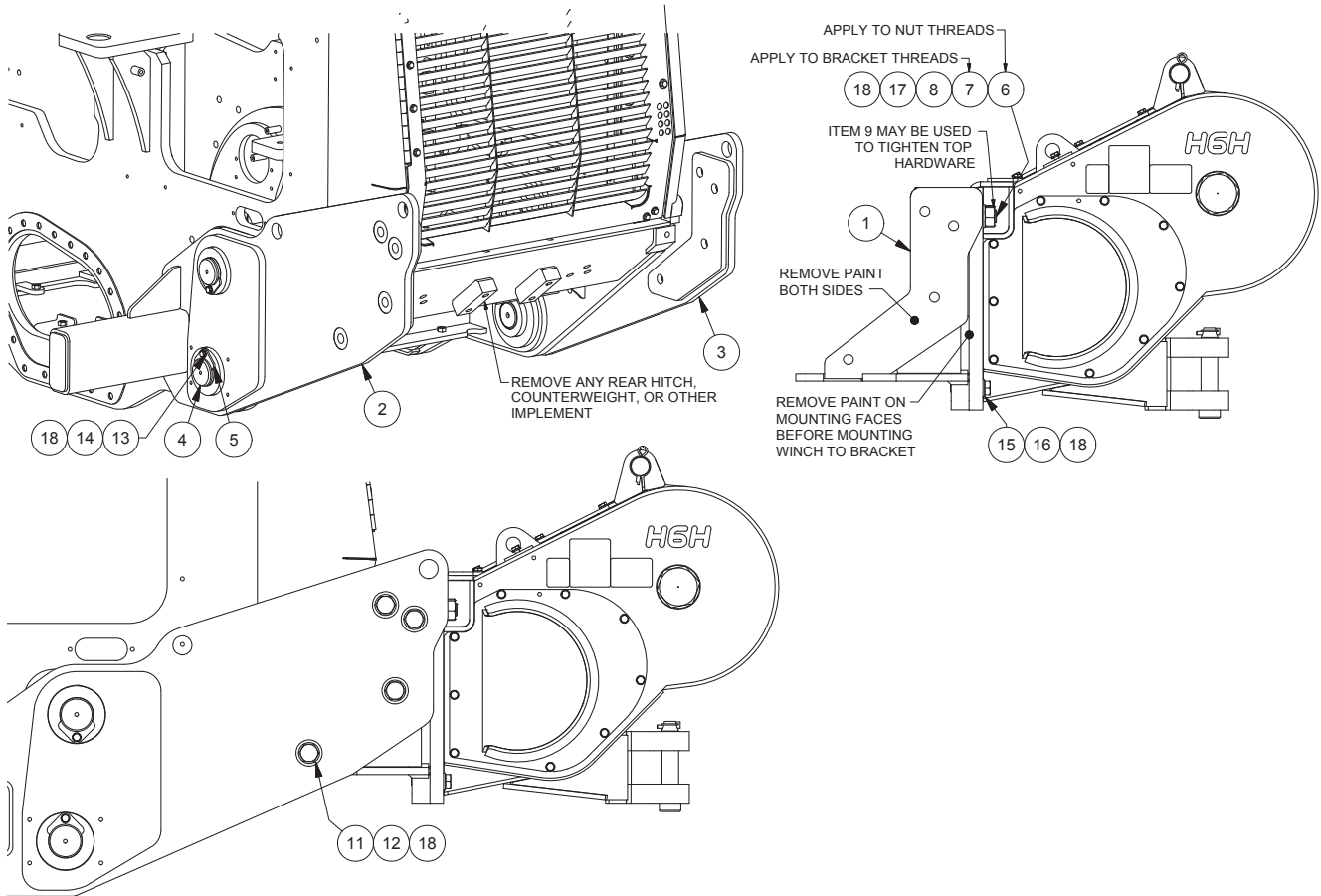
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Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2307702W	1	Bracket - Mounting, D5/6N	13	221720W	4	Hex Nut
2	293710W	16	Capscrew	20	2317842	1	Guard
3	296430W	16	Washer	21	Y17C-1024	4	Capscrew
4	2312846	2	Pad, Top Mounting	22	234271	4	Washer
5	2301529W	4	Washer Assembly	30.1	2317861	1	Guard, LH
6	223453W	4	Shim .020	30.2	2317859	1	Guard, RH
7	2312847	2	Pad, Bottom Mounting	30.3	2317863	1	Plate, Guard, Mid
8	2300783W	4	Stud	30.4	Y09C-M1235	6	Capscrew
9	225851	4	Washer	30.5	296422W	6	Washer
10	221725W	4	Hex Nut	30.6	2305715W	1	Washer
11	R13801901	4	Capscrew	30.7	293646W	1	Capscrew
12	221780W	8	Washer				

## Mounting Parts

Caterpillar 963D Track Loader (H6HT1BC963)\*



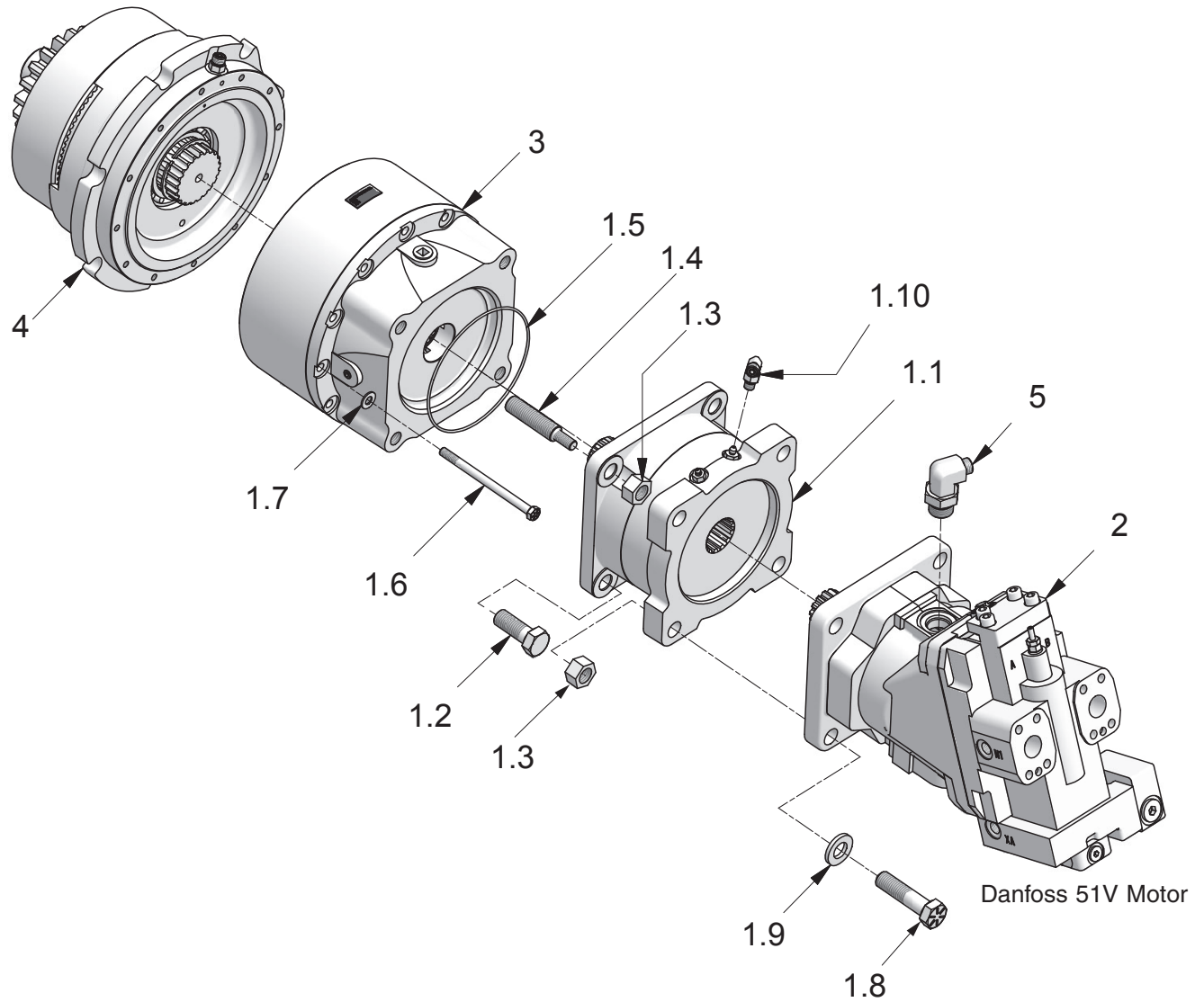
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2316040	1	Bracket - Center	12	Y19C-M3090	8	Capscrew
2	2316041	1	Bracket - LH	13	296422W	10	Washer
3	2316042	1	Bracket - RH	14	292527W	10	Capscrew
4	2316061	4	Pin, Mounting	15	296434W	4	Washer
5	2316062	4	Plate, Retainer	16	293729W	4	Capscrew
6	2312090	4	Stud	17	230064W	4	Kit, Primer
7	296440W	4	Washer	18	318702W	1BTL	Threadlock
8	2312089	4	Nut				
11	296438W	8	Washer				

\* Consult Factory For H6HT1DC963 Parts Information

**Section 2**  
**Gear/Shaft Train**

### Motor Shaft Assembly

Caterpillar (C71, C81, C811, C963) Last Used S/N 1713



Danfoss 51V Motor

## Motor Shaft Assembly

Caterpillar D6T (H6HT6B\*\*C71) Last Used S/N 1713

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313781</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2313780	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2313891	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2312554	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312928	1	. Assembly, Shaft (See p. 40)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew	5	R833260	1	. Fitting, Motor Case Drain
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew		*a		Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659
1.9	221777W	4	. Washer		*b		Not Shown

## Motor Shaft Assembly

Caterpillar D6N (H6HT1B\*\*C81/C811) Last Used S/N 1713

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313143</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2313144	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2313891	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2311883	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312928	1	. Assembly, Shaft (See p. 40)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew	5	R833260	1	. Fitting, Motor Case Drain
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew		*a		Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659
1.9	221777W	4	. Washer		*b		Not Shown

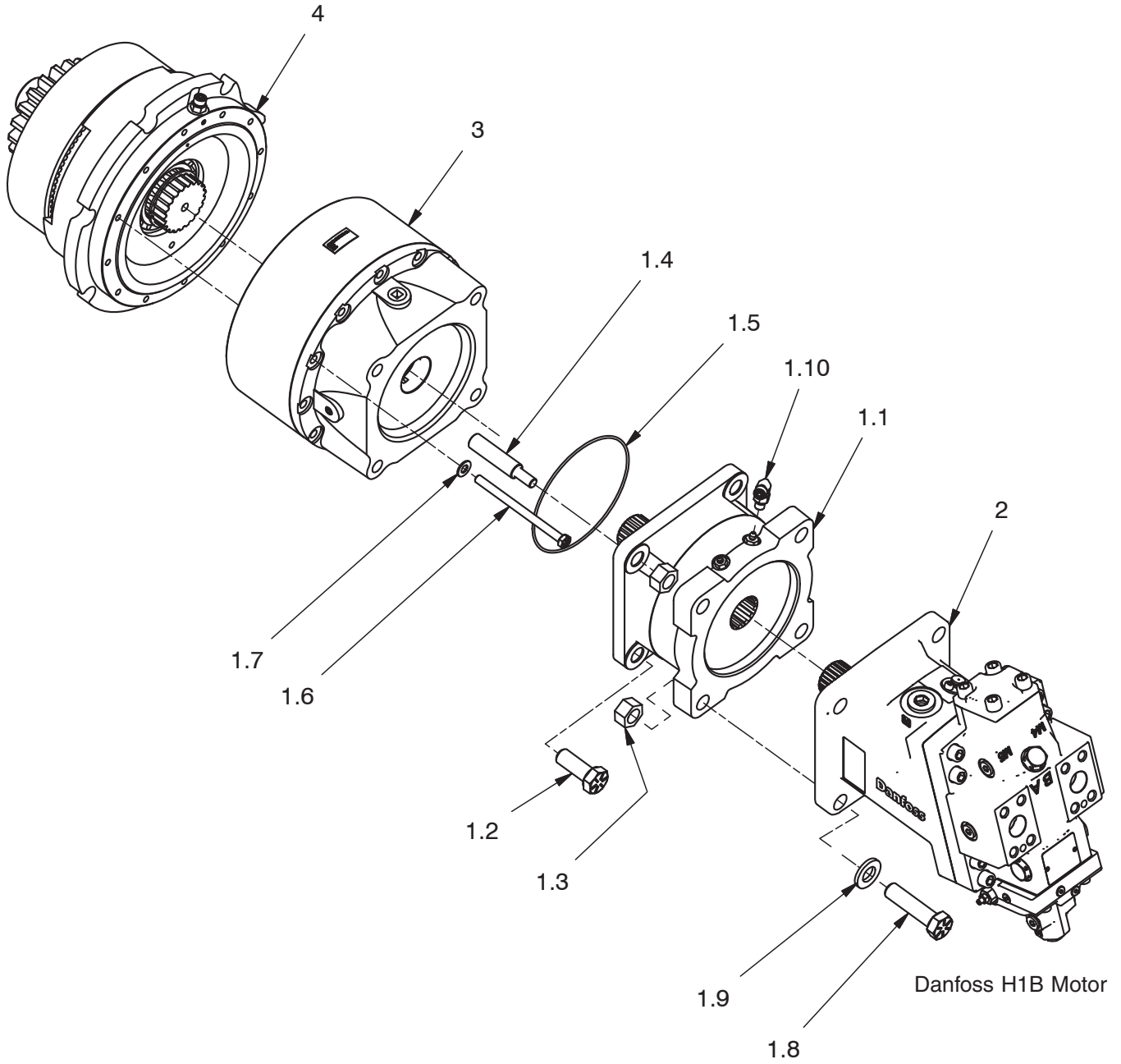
## Motor Shaft Assembly

Caterpillar 963D Trackloader (H6HT1BC963) Last Used S/N 1713

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316022</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p.43)	2	2311814	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2313891	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2311883	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312928	1	. Assembly, Shaft (See p. 40)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew	5	2313039	1	. Fitting, Motor Case Drain
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew		*a		Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659
1.9	221777W	4	. Washer		*b		Not Shown

### Motor Shaft Assembly

Caterpillar (C71, C81, C811, C963) First Used S/N 1714





## Motor Shaft Assembly

Caterpillar D6T (H6HT6B\*\*C71) First Used S/N 1714

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316151</b>		<b>Assembly, Motor Shaft</b>	1.9	221777W	4	. Washer
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	1.10	R833251	1	. Fitting
1.2	Y17C-1232	2	. Capscrew	2	2316125	1	. Motor, Hydraulic
1.3	221716W	6	. Nut	*a *b	2313890	1	. . O-Ring, Pilot Motor
1.4	2312041	2	. Stud	*a *b	2316156	1	. . Kit, Shaft Seal
1.5	*a 237349	1	. O-Ring	3	2312554	1	. Reducer, Planetary
1.6	R13801826	12	. Capscrew	4	2312928	1	. Assembly, Shaft (See p. 40)
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
				*b	Not Shown		

## Motor Shaft Assembly

Caterpillar D6N (H6HT1B\*\*C81/C811) First Used S/N 1714

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316147</b>		<b>Assembly, Motor Shaft</b>	1.9	221777W	4	. Washer
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	1.10	R833251	1	. Fitting
1.2	Y17C-1232	2	. Capscrew	2	2316121	1	. Motor, Hydraulic
1.3	221716W	6	. Nut	*a *b	2313890	1	. . O-Ring, Pilot Motor
1.4	2312041	2	. Stud	*a *b	2316156	1	. . Kit, Shaft Seal
1.5	*a 237349	1	. O-Ring	3	2311883	1	. Reducer, Planetary
1.6	R13801826	12	. Capscrew	4	2312928	1	. Assembly, Shaft (See p. 40)
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
				*b	Not Shown		

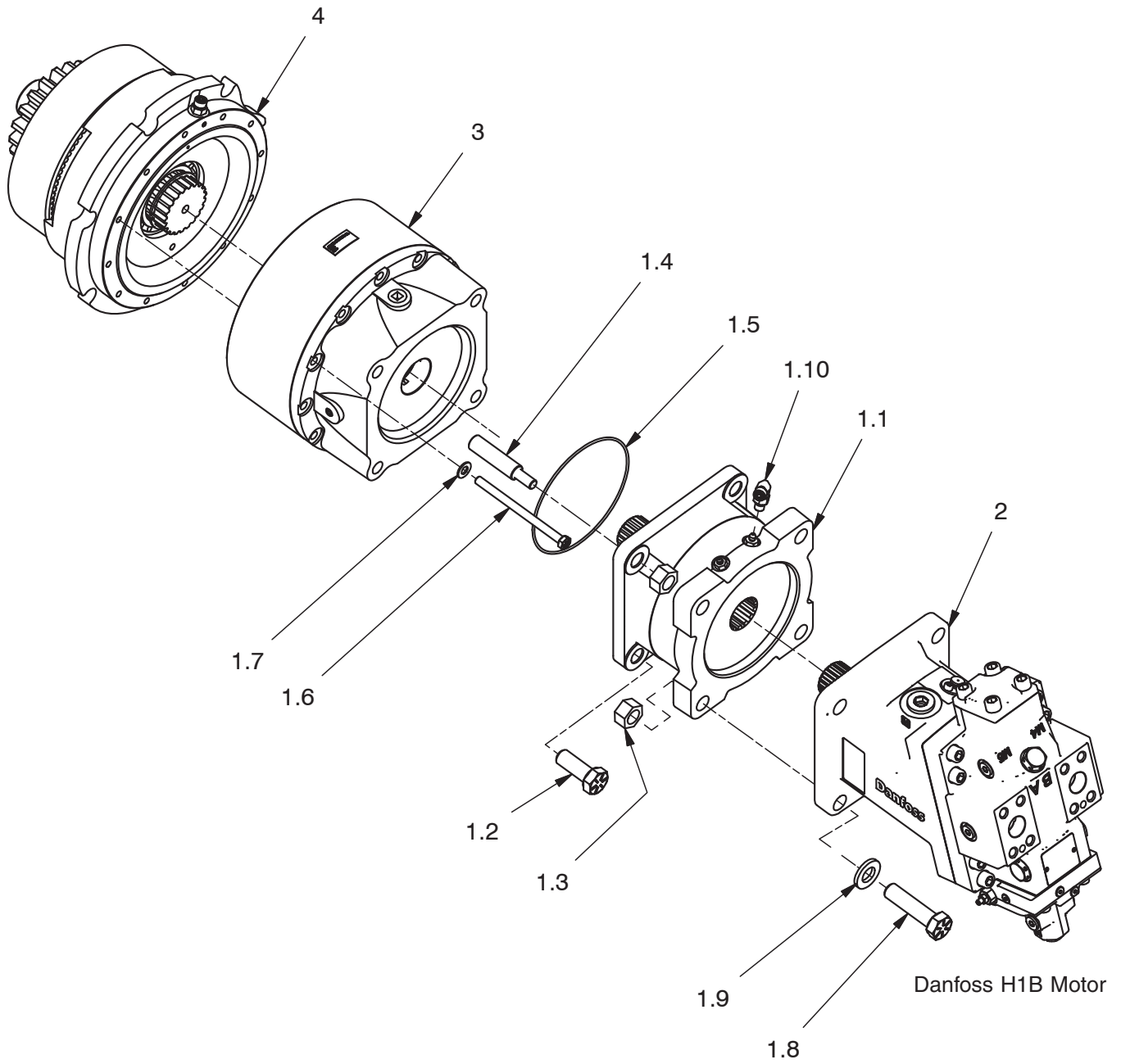
## Motor Shaft Assembly

Caterpillar 963D Trackloader (H6HT1B\*\*C963) First Used S/N 1714

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316163</b>		<b>Assembly, Motor Shaft</b>	1.9	221777W	4	. Washer
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	1.10	R833251	1	. Fitting
1.2	Y17C-1232	2	. Capscrew	2	2316118	1	. Motor, Hydraulic
1.3	221716W	6	. Nut	*a *b	2313890	1	. . O-Ring, Pilot Motor
1.4	2312041	2	. Stud	*a *b	2316156	1	. . Kit, Shaft Seal
1.5	*a 237349	1	. O-Ring	3	2311883	1	. Reducer, Planetary
1.6	R13801826	12	. Capscrew	4	2312928	1	. Assembly, Shaft (See p. 40)
1.7	221767W	12	. Washer				
1.8	177192W	4	. Capscrew	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
				*b	Not Shown		

# Motor Shaft Assembly

Caterpillar (C712, C805, C812)



**Motor Shaft Assembly**

Caterpillar D6/D6XE BUILD 20A (H6HT\*\*\*C712)

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316925</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2316926	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2316156	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2312554	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312928	1	. Assembly, Shaft (See p. 40)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew				
1.7	221767W	12	. Washer	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
1.8	177192W	4	. Capscrew				
1.9	221777W	4	. Washer	*b	Not Shown		

**Motor Shaft Assembly**

Caterpillar D6K2 T4f (H6HH\*\*\*C805)

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2317103</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2317119	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2316156	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2312965	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312966	1	. Assembly, Shaft (See p. 39)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew				
1.7	221767W	12	. Washer	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
1.8	177192W	4	. Capscrew				
1.9	221777W	4	. Washer	*b	Not Shown		

**Motor Shaft Assembly**

Caterpillar D6K2 T4f (H6HT\*\*\*C805)

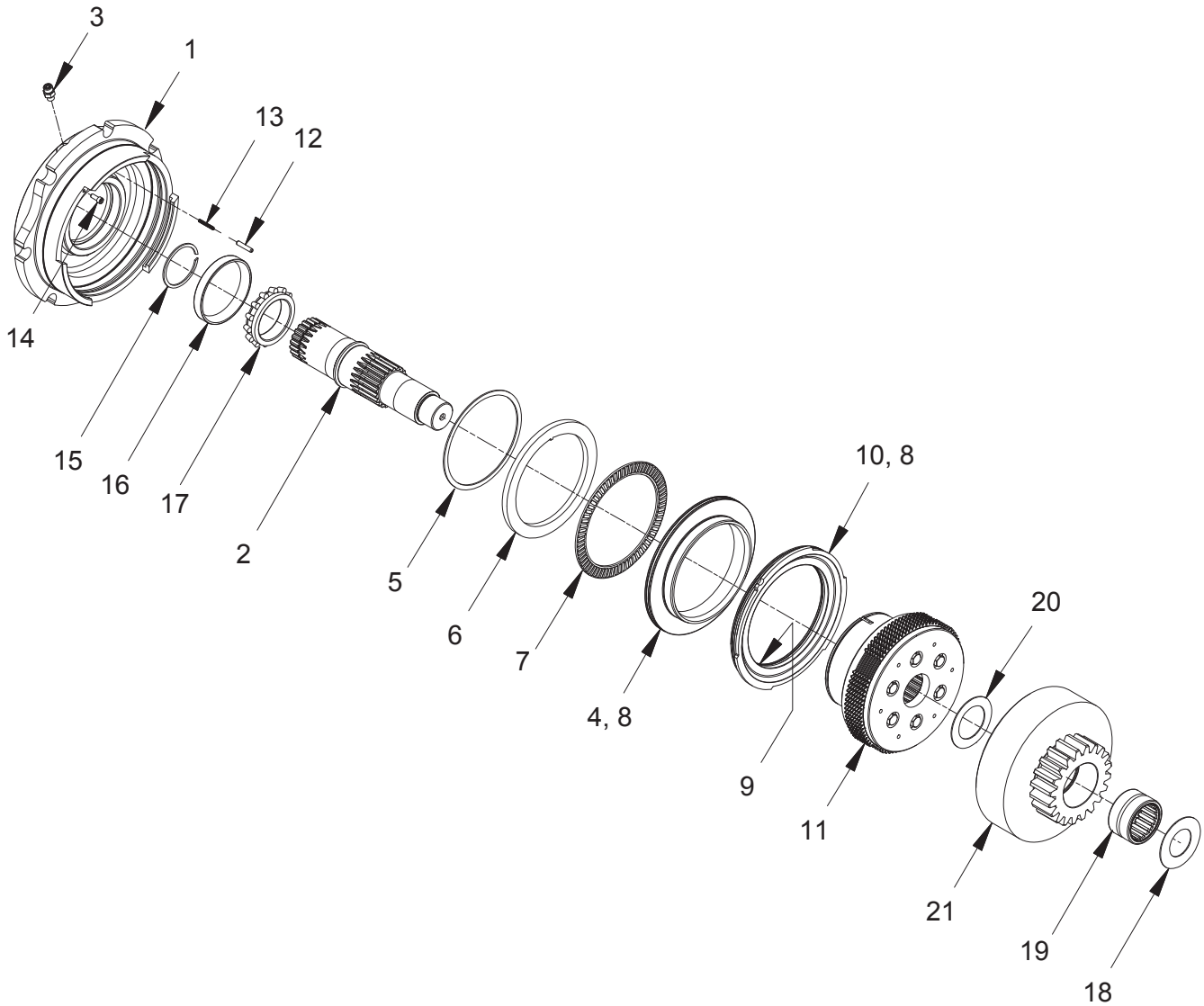
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2316146</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2316120	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2316156	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2311883	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2313026	1	. Assembly, Shaft (See p. 38)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew				
1.7	221767W	12	. Washer	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
1.8	177192W	4	. Capscrew				
1.9	221777W	4	. Washer	*b	Not Shown		

**Motor Shaft Assembly**

Caterpillar D6K2 T4f (H6HT\*\*\*C812)

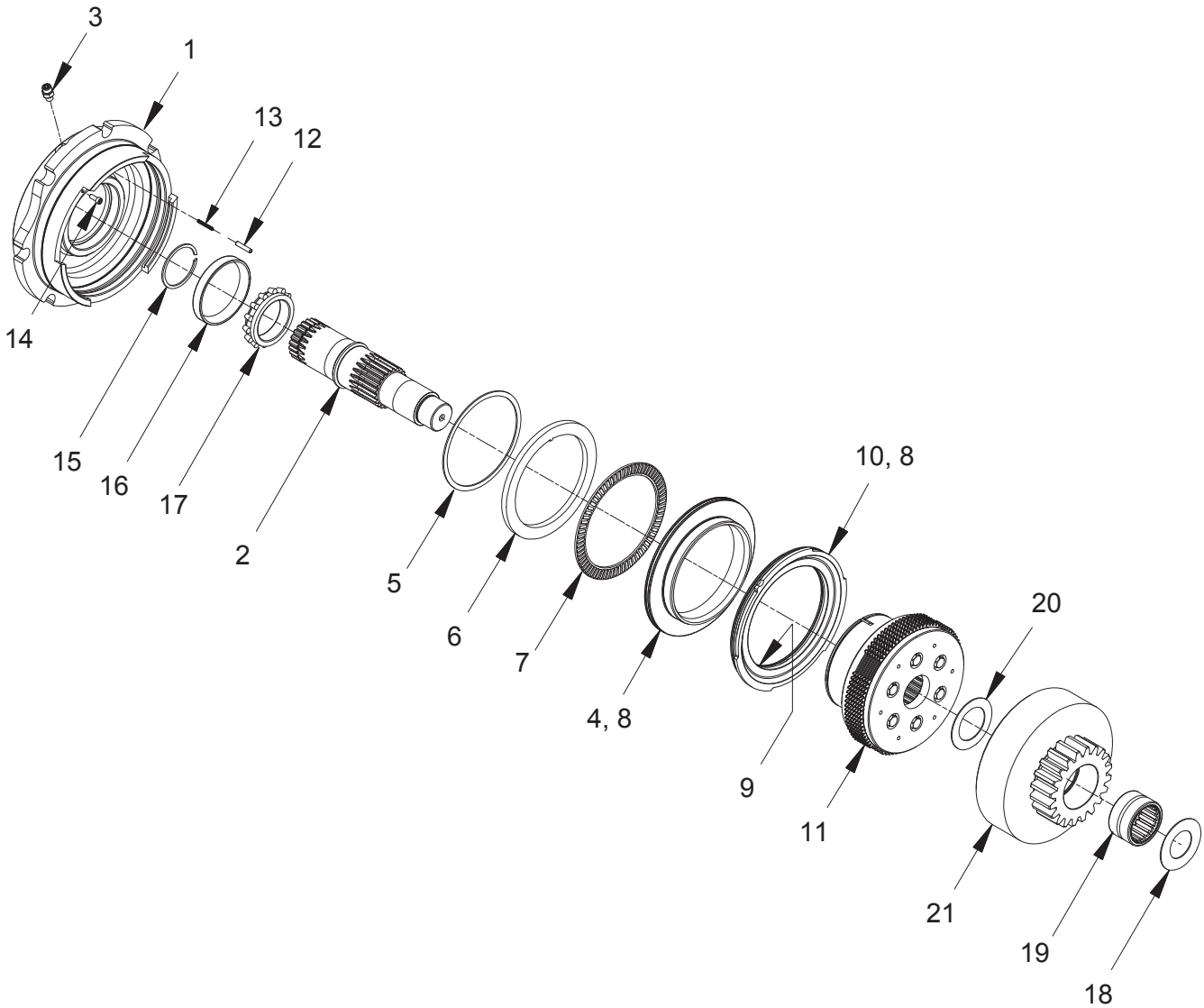
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2317873</b>		<b>Assembly, Motor Shaft</b>	1.10	R833251	1	. Fitting
1.1	2312155	1	. Brake, D Mount Dry Disk (See p. 43)	2	2317872	1	. Motor, Hydraulic
					*a *b 2313890	1	. . O-Ring, Pilot Motor
1.2	Y17C-1232	2	. Capscrew		*a *b 2316156	1	. . Kit, Shaft Seal
1.3	221716W	6	. Nut	3	2311883	1	. Reducer, Planetary
1.4	2312041	2	. Stud	4	2312928	1	. Assembly, Shaft (See p. 40)
1.5	*a 237349	1	. O-Ring				
1.6	R13801826	12	. Capscrew				
1.7	221767W	12	. Washer	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
1.8	177192W	4	. Capscrew				
1.9	221777W	4	. Washer	*b	Not Shown		

**Shaft Assembly**  
BRAKE-OFF (H6HT\*\*\*C805)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313026</b>		<b>Assy, BRAKE-OFF Shaft</b>				
1	2311855	1	. Housing, Clutch	12	239147W	1	. Pin
2	2311856	1	. Shaft, Clutch	13	2303992W	1	. Spring
3	231439	1	. Fitting	14	R13811617	1	. Capscrew
4	2312039	1	. Piston, Clutch	15	2311684	1	. Ring, Snap
5	2311683	1	. Ring, Snap	16	137153W	1	. Cup, Roller Bearing
6	2312442	1	. Ring, Thrust	17	137155W	1	. Cone, Roller Bearing
7	2311655	1	. Brg, Thrust Needle Roller	18	2311869	1	. Shim .062"
8	86585W	2	. O-Ring	19	230407W	1	. Bearing
9	87287W	1	. O-Ring	20	2311687	1	. Shim .062"
10	2311880	1	. Ring, Seal	21	2312977	1	. Gear, Spider
11	2311903	1	. Assy, Clutch (See p. 41)				

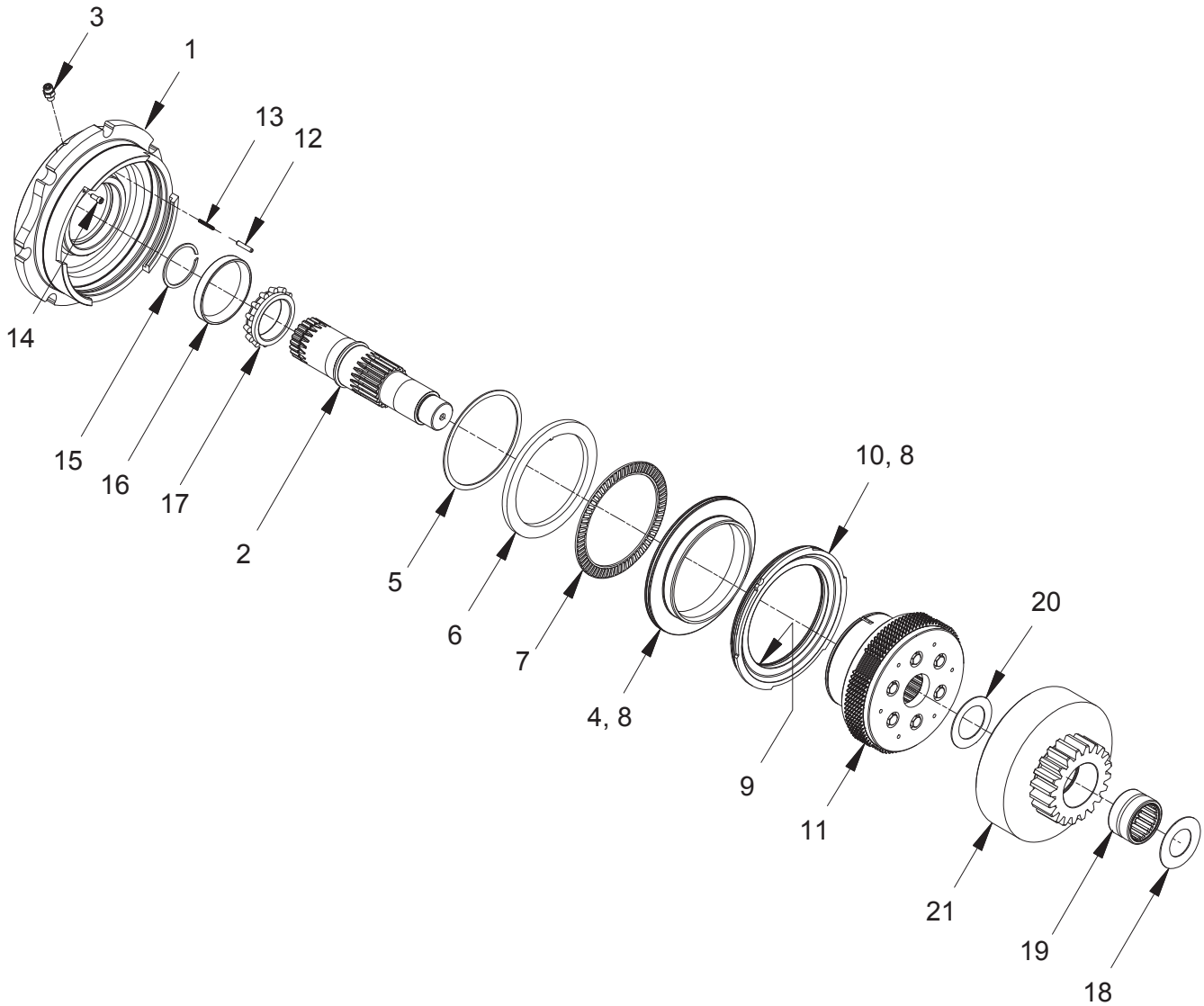
**Shaft Assembly**  
BRAKE-OFF (H6HH\*\*\*C805)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312966</b>		<b>Assy, BRAKE-OFF Shaft</b>				
1	2311855	1	. Housing, Clutch	12	239147W	1	. Pin
2	2311856	1	. Shaft, Clutch	13	2303992W	1	. Spring
3	231439	1	. Fitting	14	R13811617	1	. Capscrew
4	2312039	1	. Piston, Clutch	15	2311684	1	. Ring, Snap
5	2311683	1	. Ring, Snap	16	137153W	1	. Cup, Roller Bearing
6	2312442	1	. Ring, Thrust	17	137155W	1	. Cone, Roller Bearing
7	2311655	1	. Brg, Thrust Needle Roller	18	2311869	1	. Shim .062"
8	86585W	2	. O-Ring	19	230407W	1	. Bearing
9	87287W	1	. O-Ring	20	2311687	1	. Shim .062"
10	2311880	1	. Ring, Seal	21	2311905	1	. Gear, Spider
11	2311903	1	. Assy, Clutch (See p. 41)				

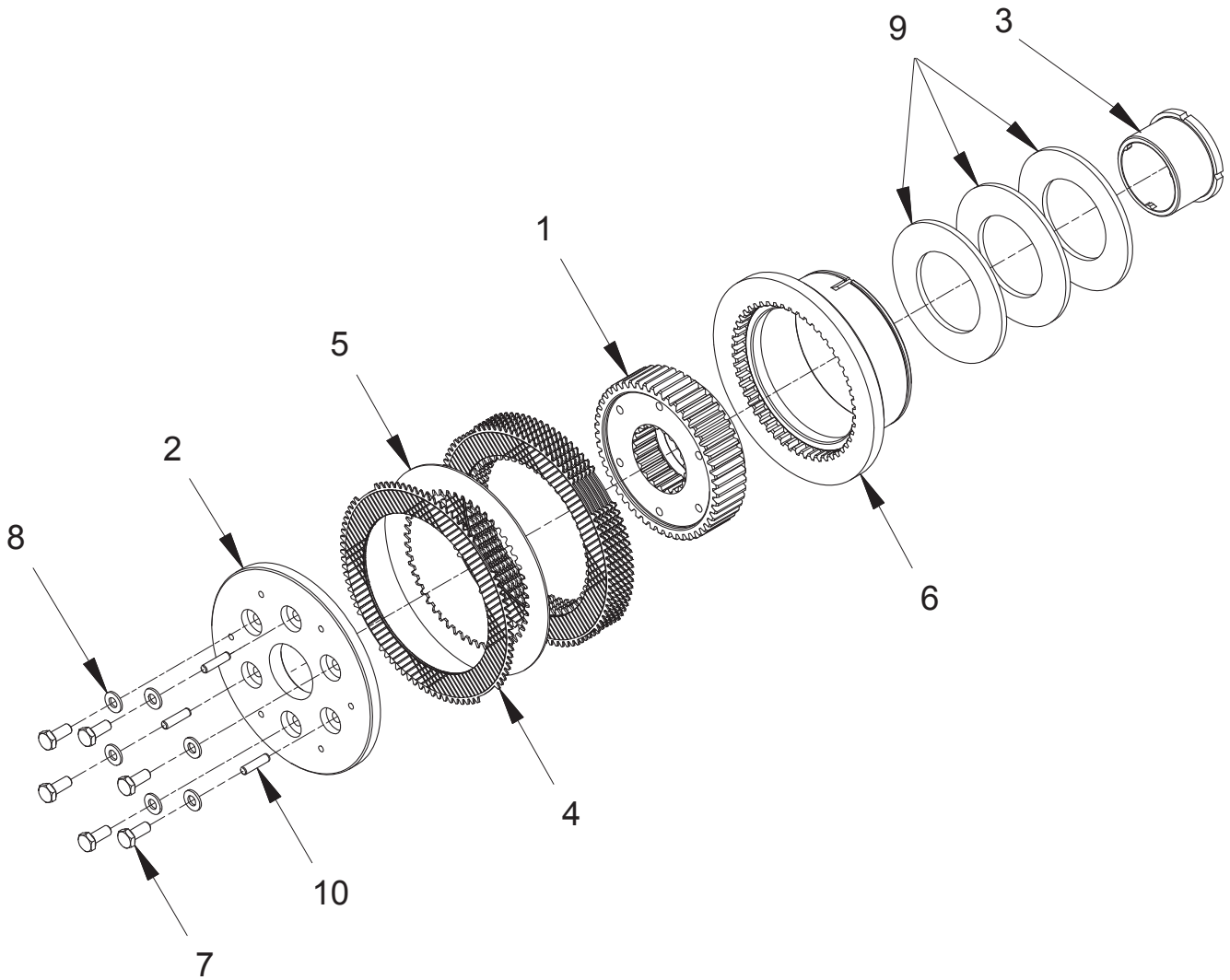
### Shaft Assembly

BRAKE-OFF (C71, C712, C81, C811, C812, C963)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312928</b>		<b>Assy, BRAKE-OFF Shaft</b>				
1	2311855	1	. Housing, Clutch	12	239147W	1	. Pin
2	2311856	1	. Shaft, Clutch	13	2303992W	1	. Spring
3	231439	1	. Fitting	14	R13811617	1	. Capscrew
4	2312039	1	. Piston, Clutch	15	2311684	1	. Ring, Snap
5	2311683	1	. Ring, Snap	16	137153W	1	. Cup, Roller Bearing
6	2312442	1	. Ring, Thrust	17	137155W	1	. Cone, Roller Bearing
7	2311655	1	. Ring, Thrust Needle Roller	18	2311869	1	. Shim .062"
8	86585W	2	. O-Ring	19	230407W	1	. Bearing
9	87287W	1	. O-Ring	20	2311687	1	. Shim .062"
10	2311880	1	. Ring, Seal	21	2311905	1	. Gear, Spider
11	2311903	1	. Assy, Clutch (See p. 41)				

Clutch Assembly

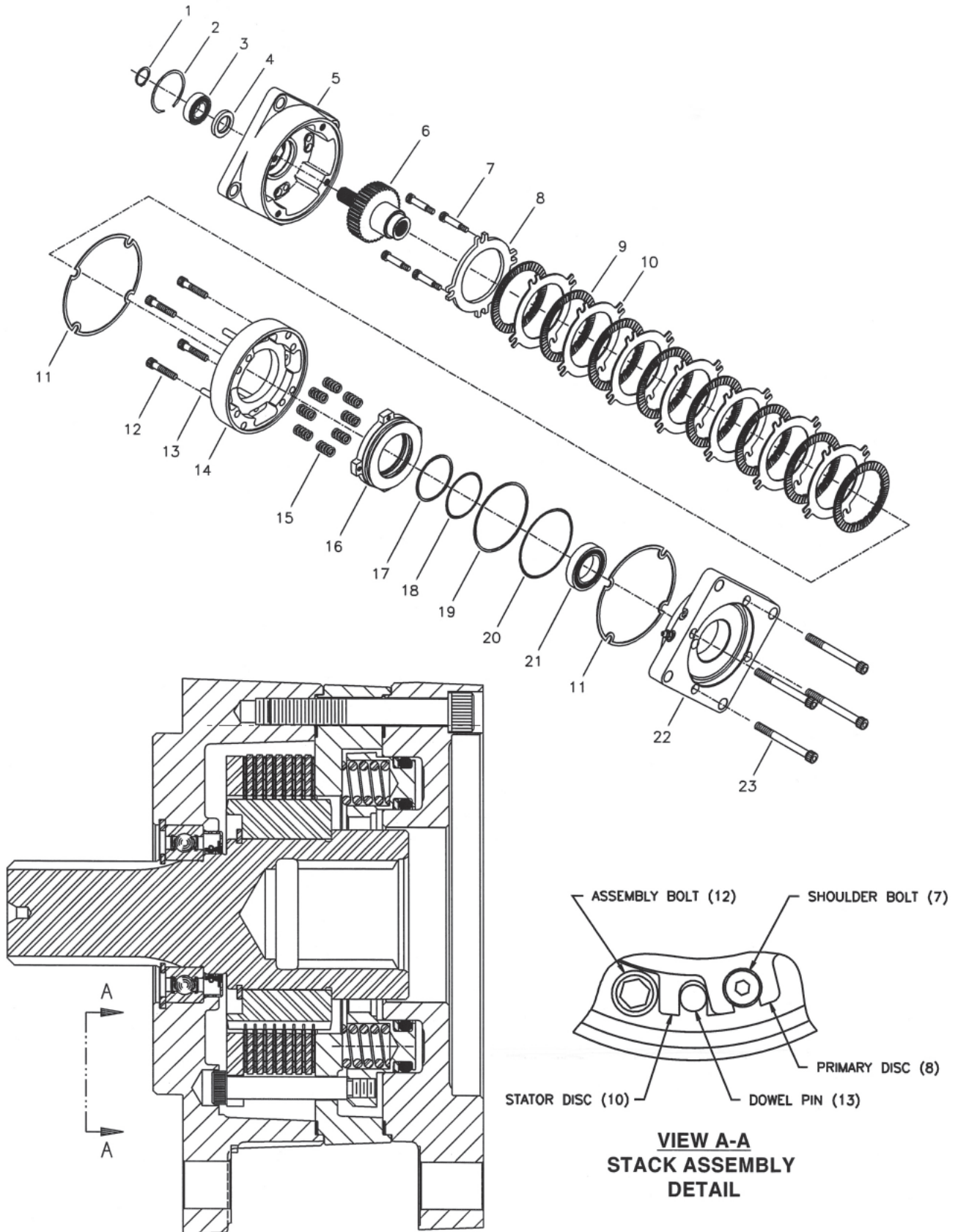


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2311903</b>		<b>Assembly, Clutch</b>				
1	2311904	1	. Hub, Clutch	6	2311906	1	. Plate, Pressure
2	2311907	1	. Plate, Clutch	7	296420W	6	. Washer
3	2312029	1	. Retainer, Spring	8	293628W	6	. Capscrew
4	328715W	7	. Disc, Friction	9	2311251	3	. Spring, Belleville
5	261542W	6	. Plate, Separator	10	222713W	3	. Pin



# Dry Disc Brake

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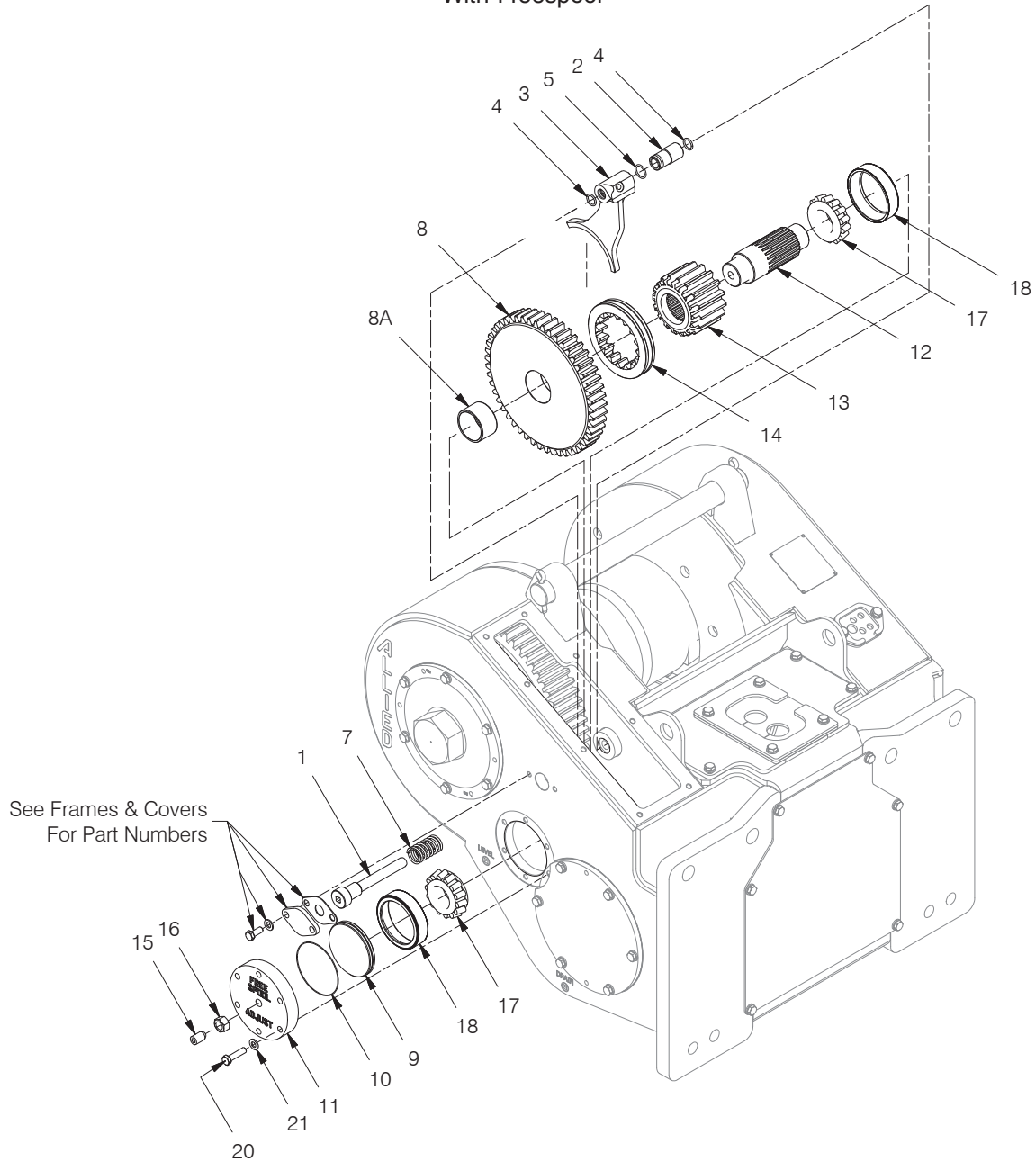


## Dry Disc Brake

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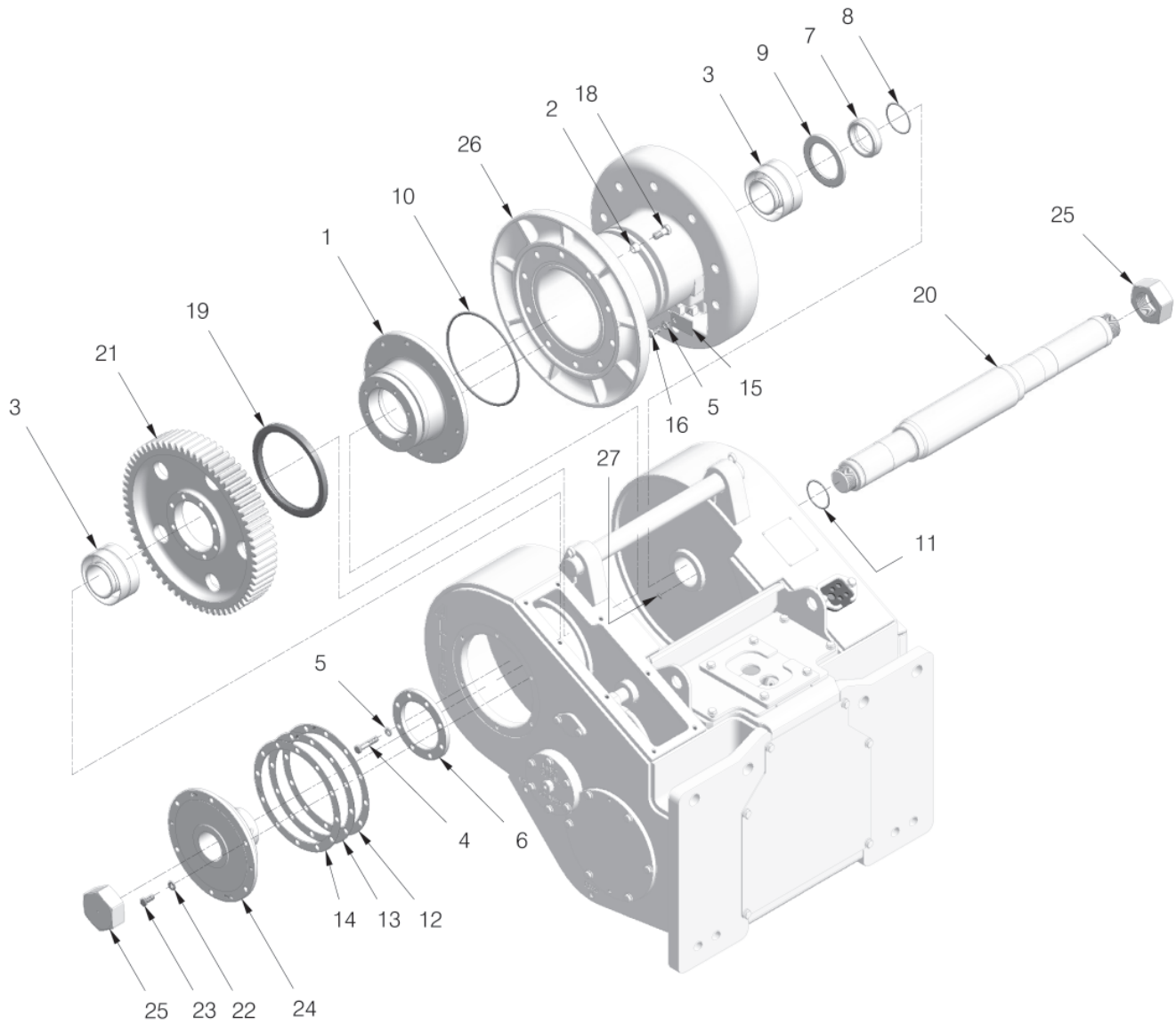
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312155</b>		<b>Brake, D Mount Dry Disc</b>				
1	NSS	1	. Retaining Ring	21	*b NSS	1	. Bearing
2	NSS	1	. Retaining Ring	22	NSS	1	. Pressure Plate
3	*b NSS	1	. Bearing	23	NSS	4	. Capscrew
4	*a,*b NSS	1	. Oil Seal				
5	NSS	1	. Cover Plate		*a		Included in O-Ring Repair Kit 2312302
6	NSS	1	. Spline Shaft Assembly				O-Ring Repair Kit 2312302 is included in
7	NSS	4	. Bolt				Motor, Reducer & Brake Assembly Rebuild Kit
8	*d NSS	1	. Primary Disc				2314659
9	*d NSS	8	. Rotor Disc		*b		Included in Bearing Repair Kit 2312303
10	*d NSS	7	. Stator Disc				Bearing Repair Kit 2312303 is included in
11	*a,*b,*c,*d NSS	2	. Case Gasket				Intermediate/Drum Shaft & Brake Assembly
12	NSS	4	. Capscrew				Rebuild Kit 2314660
13	NSS	4	. Dowel Pins		*c		Included in Spring Repair Kit 250850
14	NSS	1	. Spring Plate				Spring Repair Kit 250850 is included in
15	*c NSS	10	. Spring, Red				Intermediate/Drum Shaft & Brake Assembly
16	NSS	1	. Piston				Rebuild Kit 2314660
17	*a NSS	1	. Backup Ring		*d		Included in Lining Repair Kit 250847
18	*a NSS	1	. O-Ring				Lining Repair Kit 250847 is Included in
19	*a NSS	1	. Backup Ring				Intermediate/Drum Shaft & Brake Assembly
20	*a NSS	1	. O-Ring				Rebuild Kit 2314660
					NSS		Not Sold Separately

## Intermediate Gear Shaft With Freespool



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	*a 2311894	1	Shaft, Freespool	13	2312280	1	Gear, Pinion
2	2305097W	1	Piston, Freespool	14	2312269	1	Clutch, Dental
3	2305099W	1	Shifter Fork, Freespool	15	2304803W	1	Screw
4	*b 15862W	2	O-Ring	16	221717W	1	Nut, Hex
5	*b 212380	1	O-Ring	17	*b 2302311W	2	Cone, Bearing
7	2305096W	1	Spring	18	*b 30059W	2	Cup, Bearing
8	*c 283434W	1	Assy, Intermediate Gear	20	2312488	6	Capscrew
8A	283432W	1	. Bushing	21	296422W	6	Washer, Hard
8	*d 2313036	1	Assy, Intermediate Gear				
8A	283432W	1	. Bushing	*a	Apply Thread Lock 318702W to Threads		
9	2302624W	1	Piston, Freespool Adjust	*b	Included in Intermediate/Drum Shaft & Brake Assembly Rebuild Kit 2314660		
10	*b 159940W	1	O-Ring	*c	Gear ratios 1 & 6		
11	2302625W	1	Housing, Freespool Adjust	*d	Gear ratios 2 & 5		
12	2305956W	1	Shaft, Intermediate				

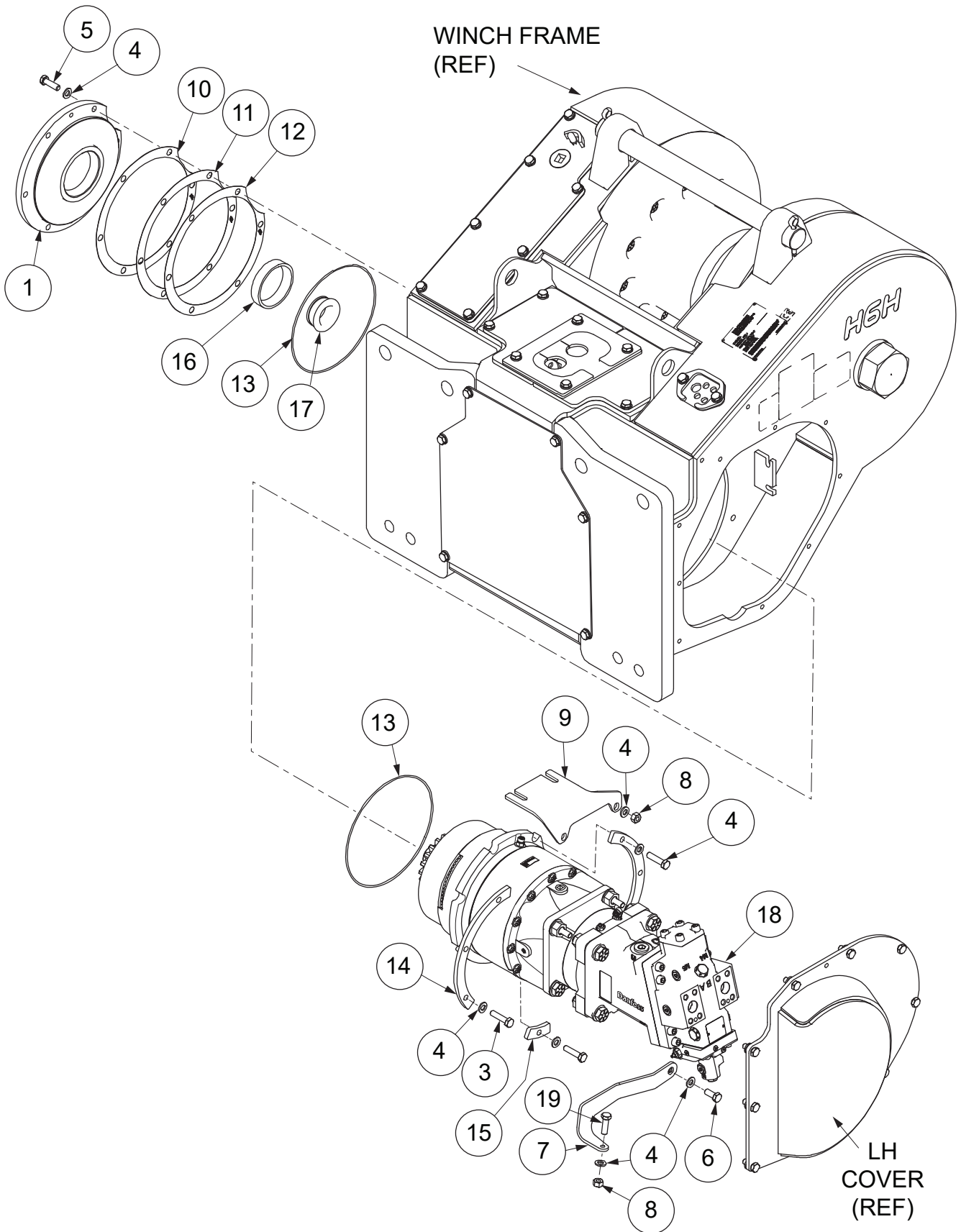
Drum Shaft



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	141674W	1	Adapter	18	2310891	10	Capscrew
2	53559W	10	Thimble, Tapered	19	141671W	1	Seal, Oil
3	*b 230406W	2	Bearing, Roller	20	2312064	1	Shaft, Drum
4	221577W	8	Capscrew	21	95977W	1	Gear, Drum
5	15158W	9	Washer	22	296422W	6	Washer
6	95978W	1	Retainer	23	2312486	6	Capscrew
7	*a 172808W	1	Spacer	24	172810W	1	Retainer
8	*b 15881W	1	O-Ring	25	*a 2312099	2	Nut
9	*b 44547W	1	Seal, Oil	26	2312100	1	Drum, H6H
10	*b 133927W	1	Ring, Piston Seal	27	Y433070.45	1	Fitting
11	*b 90263W	1	O-Ring				
12	175648W	AR	Shim, .020"				
13	175647W	AR	Shim, .007"	*a	Requires Sealant 358674W		
14	175646W	AR	Shim, .005"	*b	Included in Intermediate/Drum Shaft & Brake Assembly Rebuild Kit 2314660		
15	2301783W	1	Keeper, Ferrule				
16	16829W	1	Capscrew				

# Motor Shaft Group

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## Motor Shaft Group

Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2311819</b>		<b>Motor Shaft Group</b>				
1	2311857	1	. Cover, Bearing	14	2311917	2	. Plate, Clamp
3	2312488	7	. Capscrew	15	2311918	1	. Plate, Clamp
4	296422W	19	. Washer	16	*b 2300668W	1	. Cup, Bearing
5	2312487	6	. Capscrew	17	*b 2300669W	1	. Cone, Bearing
6	293645W	1	. Capscrew	18	----	1	. Assy, Motor Shaft (See p. 60-63)
7	*c 2312036	1	. Bracket, Motor Support				
	*d 2316491	1	. Bracket, Motor Support	19	293647W	1	. Capscrew
8	292656W	3	. Nut				
9	2312018	1	. Plate, Manifold Bracket				
10	2312061	AR	. Shim .020"	*a	Included in Motor, Reducer & Brake Assembly Rebuild Kit 2314659		
11	2312059	AR	. Shim .005"	*b	Included in Intermediate/Drum Shaft & Brake Assembly Rebuild Kit 2314660		
12	2312060	AR	. Shim .007"	*c	Last Used S/N 1713		
13	*a 203564	2	. O-Ring	*d	First Used S/N 1714		

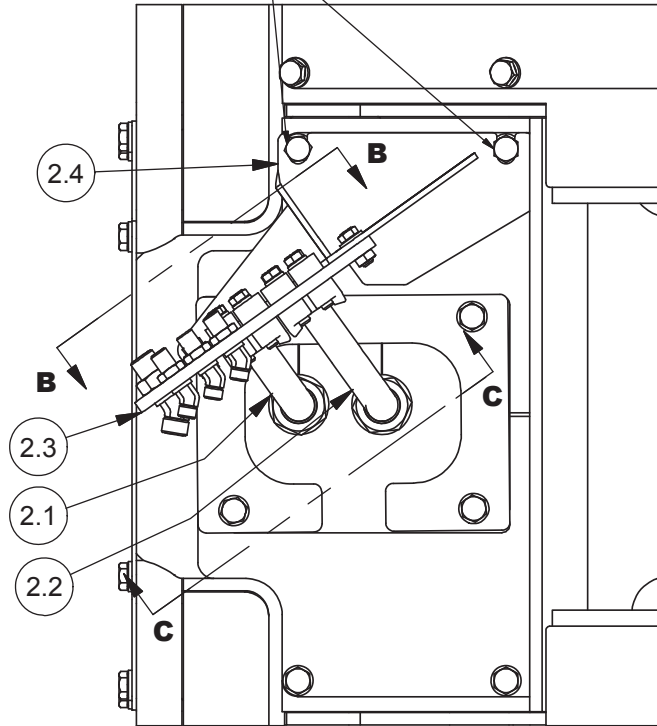
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**Section 3**  
**Hydraulics/Electrical/Controls**

## Hydraulic Installation

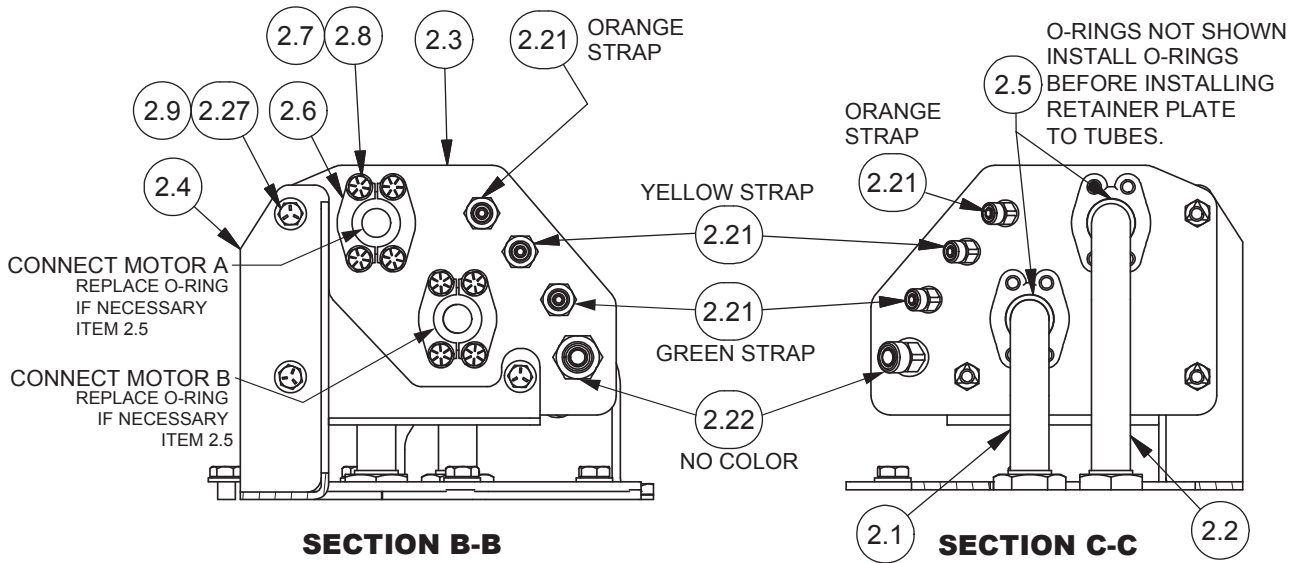
Caterpillar D6T (H6HT\*\*C71)

LOOSEN M12 BOLTS TO  
ATTACH TUBE SUPPORT



### WINCH CONNECTIONS - TOP VIEW

HOSES NOT SHOWN FOR CLARITY



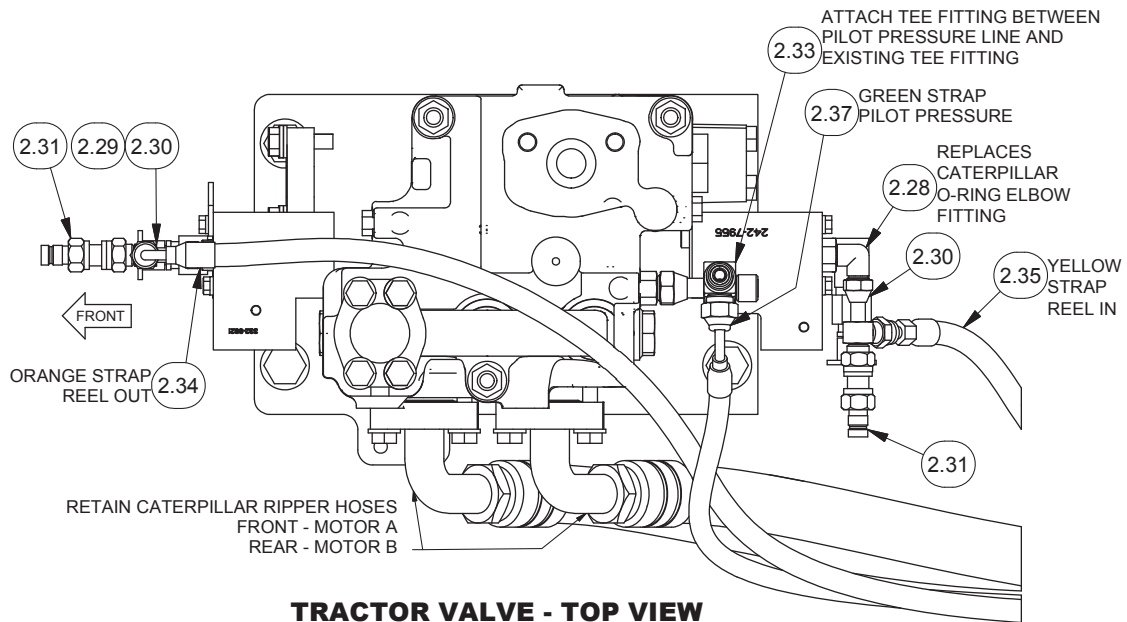
CONNECT HOSES AS SHOWN

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.1	2314753	1	Tube Assy	2.7	R13812514	8	Washer, Lock
2.2	2314754	1	Tube Assy	2.8	R13801813	8	Capscrew
2.3	2314628	1	Tube Retainer Weldment	2.9	221767W	3	Hard Washer
2.4	2314627	1	Bracket Weldment, Tube	2.21	272-0348	3	Fitting
2.5	Y098629-214	4	O-Ring	2.22	272-0350	1	Fitting
2.6	215064	4	Clamp Half	2.27	16805W	3	Capscrew



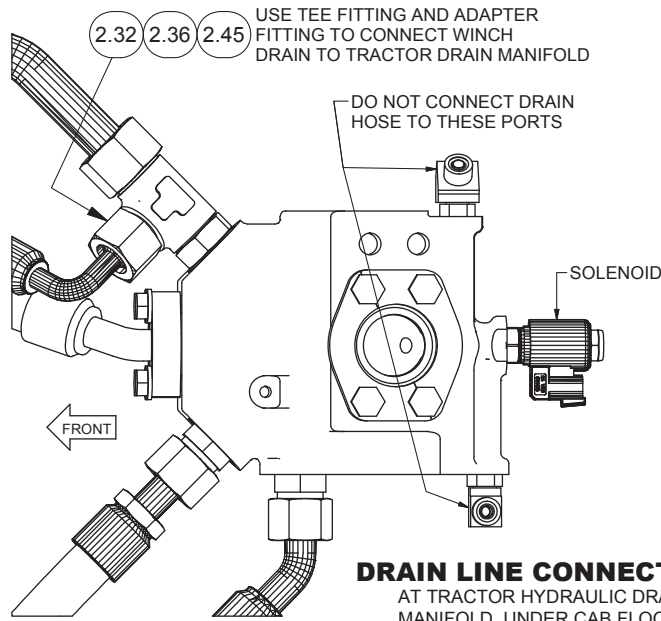
# Hydraulic Installation

Caterpillar D6T (H6HT\*\*C71)



## TRACTOR VALVE - TOP VIEW

CONNECTIONS FOR: PILOT HOSE - GREEN; RO HOSE - ORANGE; RI HOSE - YELLOW



## DRAIN LINE CONNECTION

AT TRACTOR HYDRAULIC DRAIN MANIFOLD, UNDER CAB FLOOR

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.28	R833253	1	Fitting	2.34	*a 249072	1	Hose Assy
2.29	R833103	1	Fitting	2.35	*a 2312350	1	Hose Assy
2.30	236855	2	Fitting	2.36	*a 235536	1	Hose Assy
2.31	2307625W	2	Coupler	2.37	*a 2314696	1	Hose Assy
2.32	R834055	1	Fitting	2.45	2307958W	1	Fitting
2.33	231955	1	Fitting				

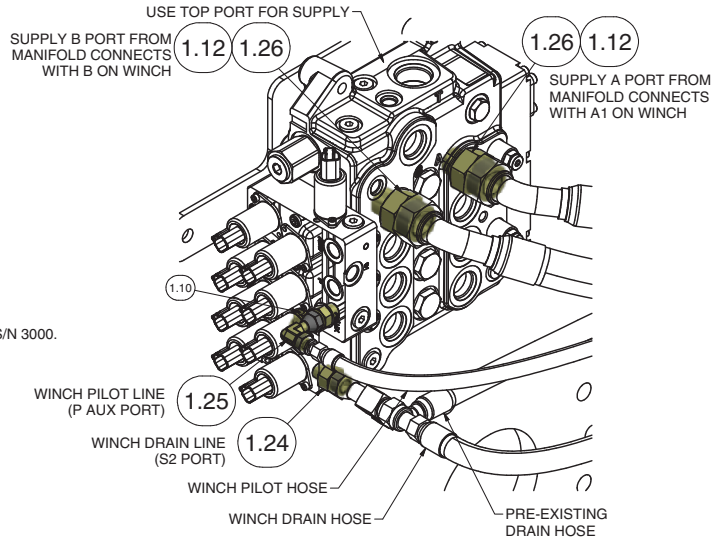
\*a Included in Hose Kit 2314769

# Hydraulic Installation

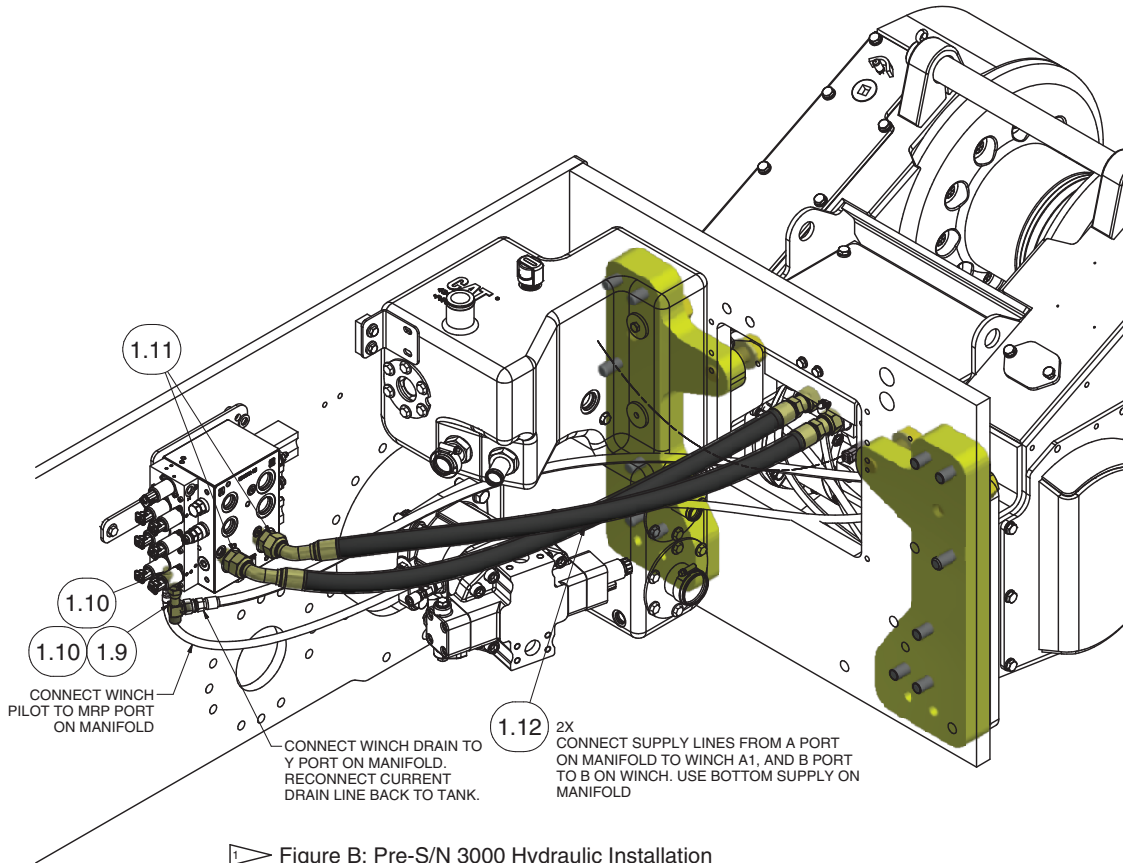
## Caterpillar D6K2 T4f (C805)

HYDRAULIC MANIFOLD TO DOZER CHART		
MACHINE MODEL	ENGRG MODEL	SERIAL NUMBER
D6K LGP	T7719H	JTR03000-UP
D6K XL	T7720H	DRF03000-UP
D6K LGP	T7719G	EL703000-UP
D6K XL	T7720G	MGM03000-UP
D6K LGP	T7797H	7P602000-UP
D6K XL	T7796H	6S602000-UP
D6K LGP	T7797G	ZLJ02000-UP
D6K XL	T7796G	MP702000-UP
D4 LGP	TA096H	FRP00350-UP
D4 XL	TA095H	AX900300-UP
D4 LGP	TA096G	JPH00350-UP
D4 XL	TA095G	RKR00300-UP
D4 LGP	TA094H	MTT00300-UP
D4 XL	TA093H	STT00350-UP
D4 LGP	TA094G	H3C00300-UP
D4 XL	TA093G	K3G00350-UP

**HYDRAULIC INSTALLATION NOTE**  
 1 USE FIGURE B FOR TRACTOR MODELS UP TO S/N 3000.  
 2 USE FIGURE C FOR S/N'S AFTER 3000.



**Figure C:**  
 Items 1.24 - 1.26 only used for  
 Post - S/N 3000 installations



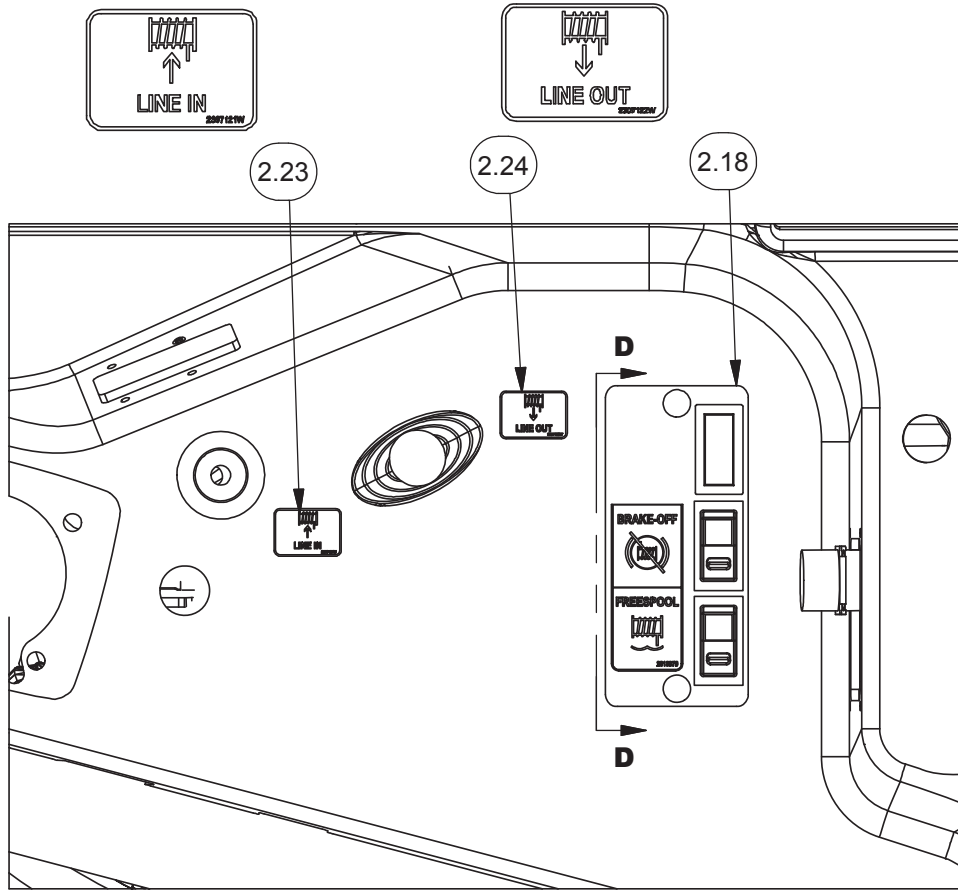
**Figure B: Pre-S/N 3000 Hydraulic Installation**

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.9	R834052	1	Fitting	1.24	R833112	1	Fitting
1.10	R833103	2	Fitting	1.25	R833800	1	Fitting
1.11	231444	2	Fitting	1.26	231450	2	Fitting
1.12	*a 2317550	2	Hose Assembly				

\*a Included in Hose Kit 2317932

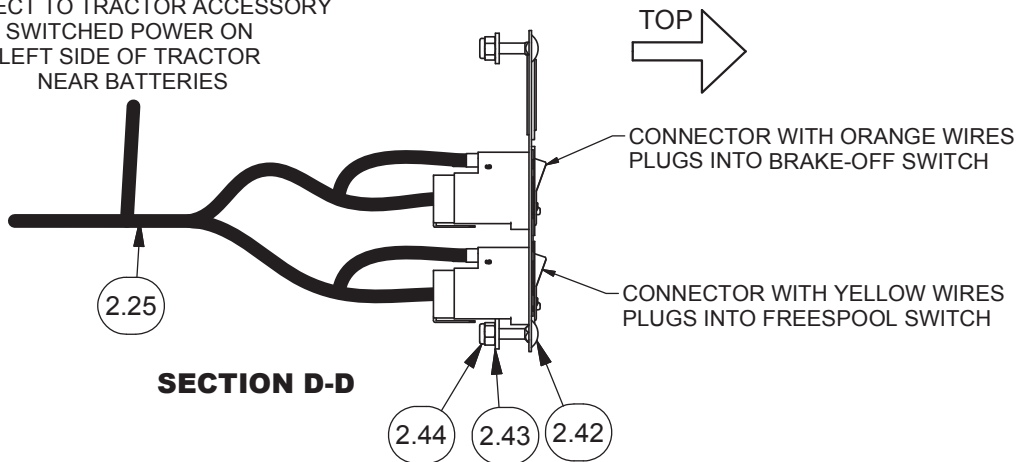
## Winch Controls

Caterpillar D6T (H6HT\*\*C71)



**WINCH CONTROLS**

CONNECT TO TRACTOR ACCESSORY SWITCHED POWER ON LEFT SIDE OF TRACTOR NEAR BATTERIES



**SECTION D-D**

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.18	2314655	1	Switch Panel Assy (57)	2.42	220000W	2	Bolt
2.23	2307121W	1	Decal	2.43	221763W	2	Hard Washer
2.24	2307122W	1	Decal	2.44	R13811189	2	Locknut
2.25	2314654	1	Wire Harness				

# Winch Controls

Caterpillar D6K2 T4f (C805)  
Page 1 of 2

PLUG WIRE HARNESS  
POWER PLUG INTO  
TRACTOR POWER PLUG  
WITH THE ORANGE WIRE.

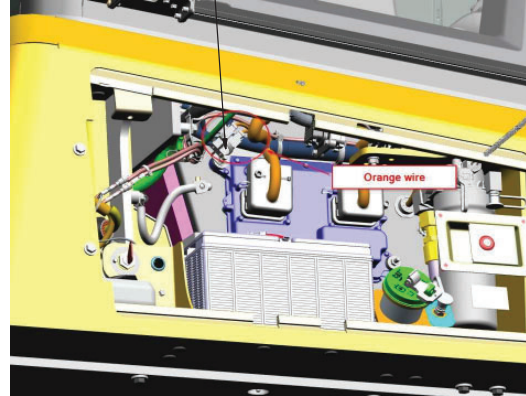
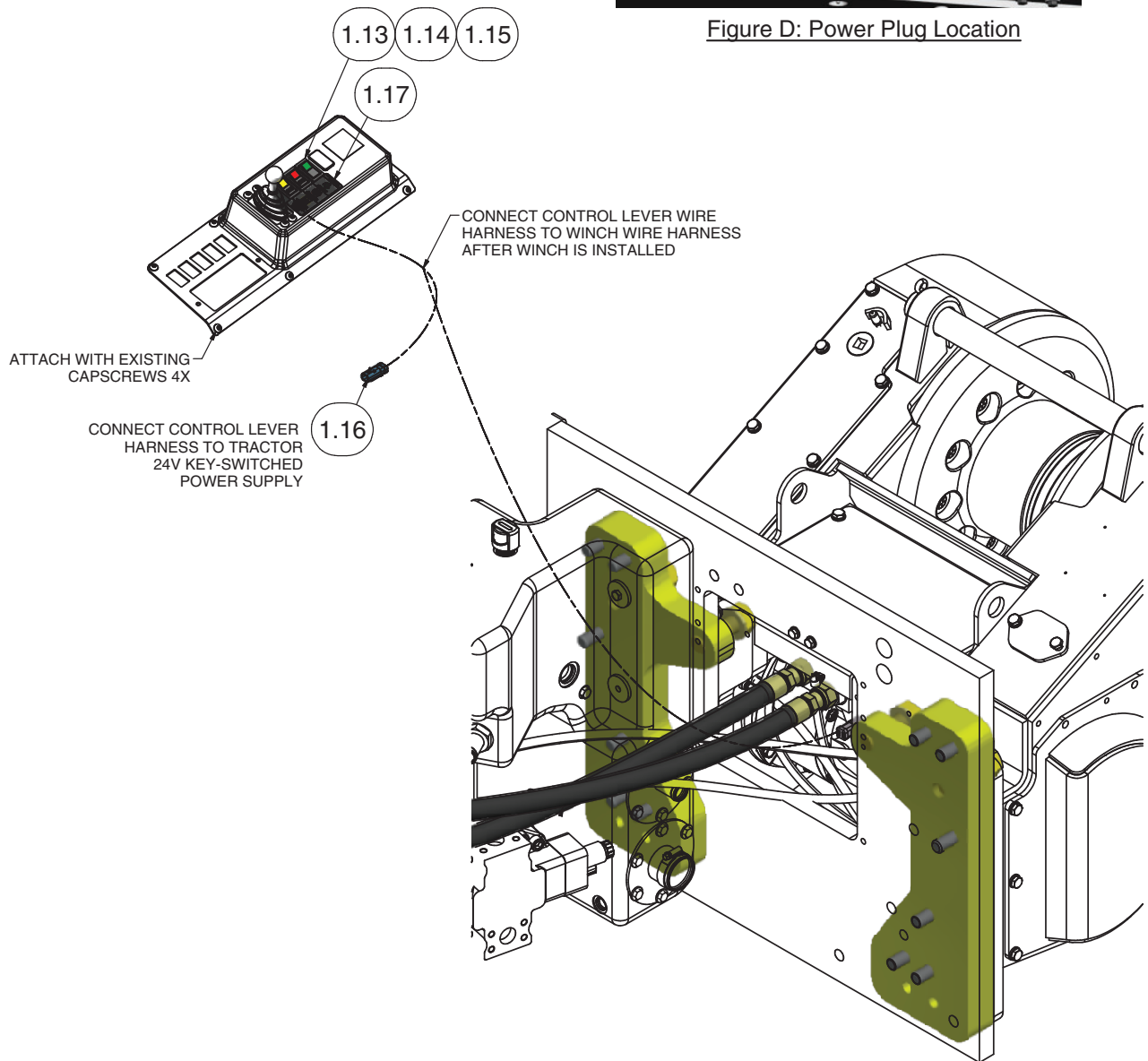
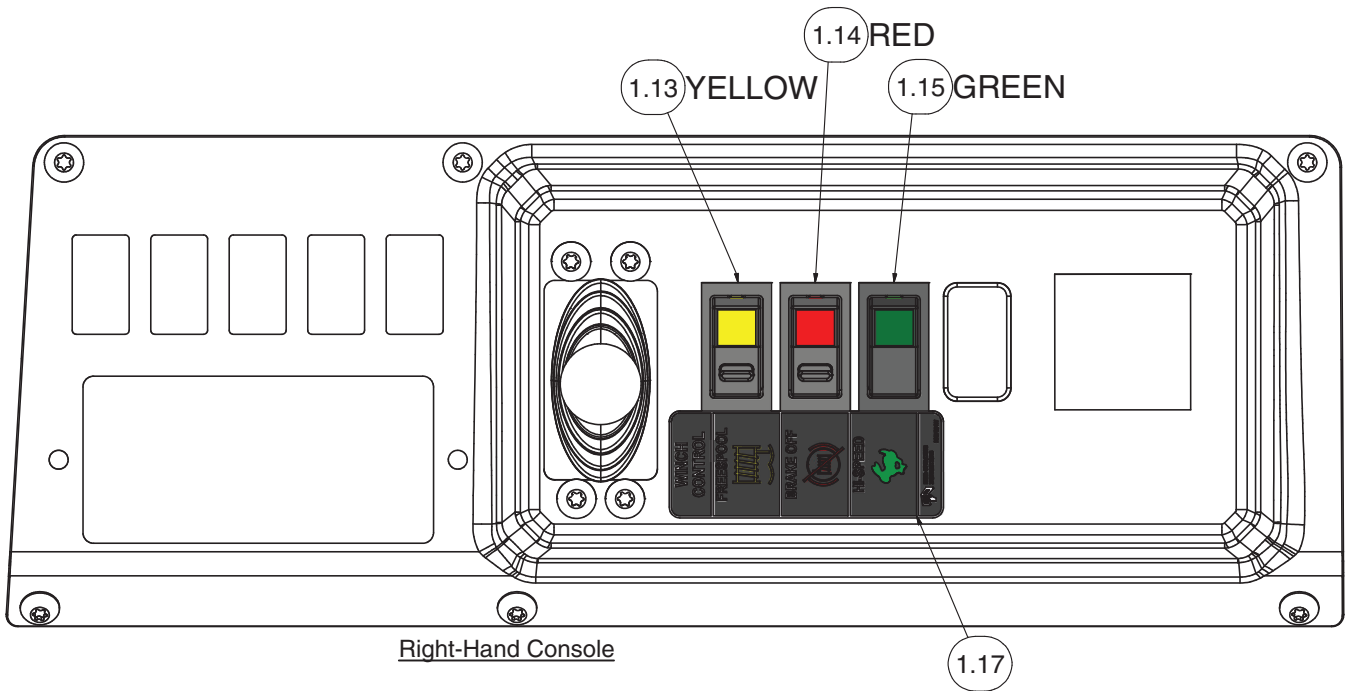


Figure D: Power Plug Location



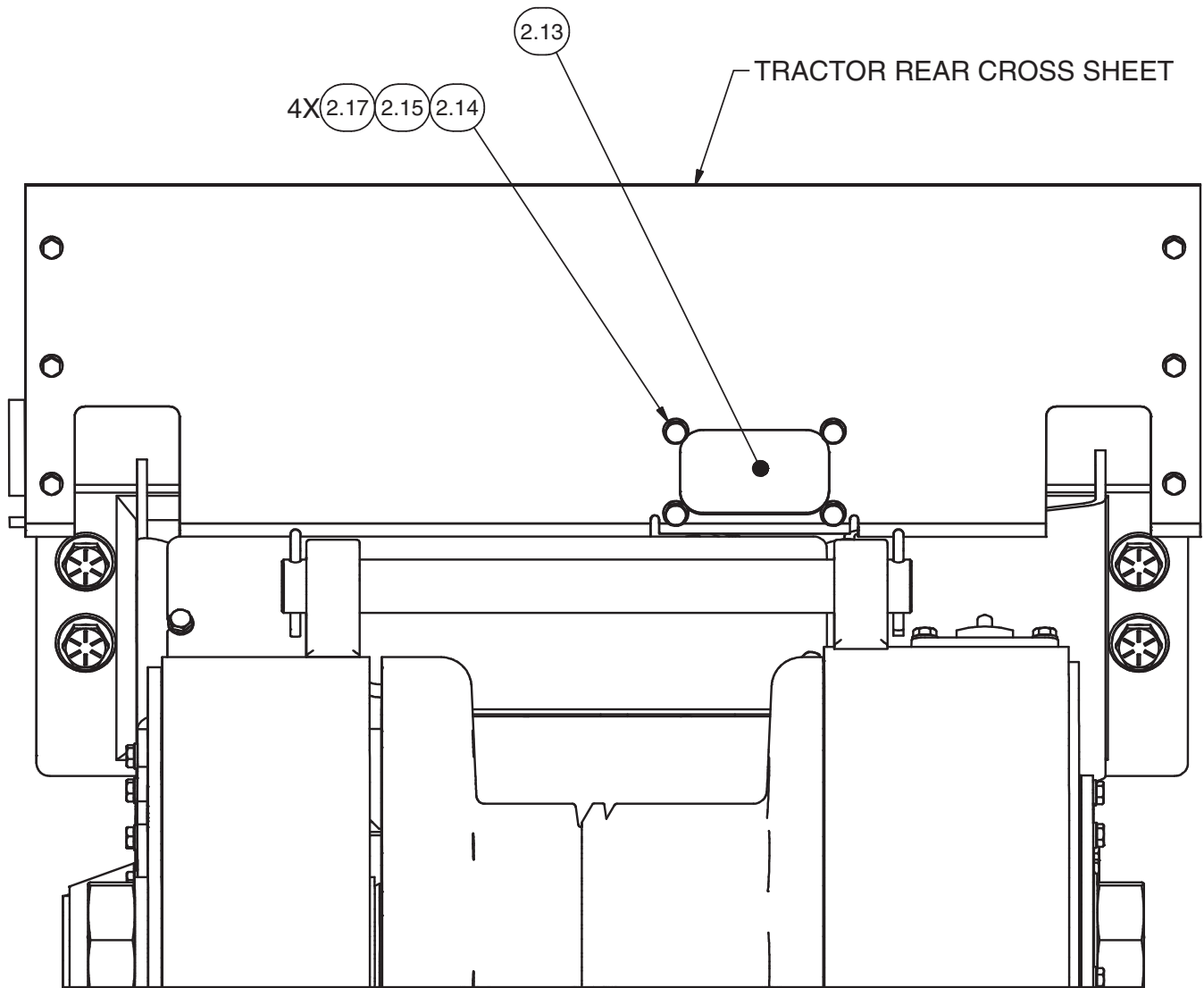
**Winch Controls**  
 Caterpillar D6K2 T4f (C805)  
 Page 2 of 2



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.13	2310013	1	Switch Assembly (Yellow)	1.16	2317691	1	Harness - Wire, Console
1.14	2310504	1	Switch Assembly (Red)	1.17	2307054W	1	Decal, Switch Panel
1.15	2311072	1	Switch Assembly (Green)				

## Rear Cover Plate Installation

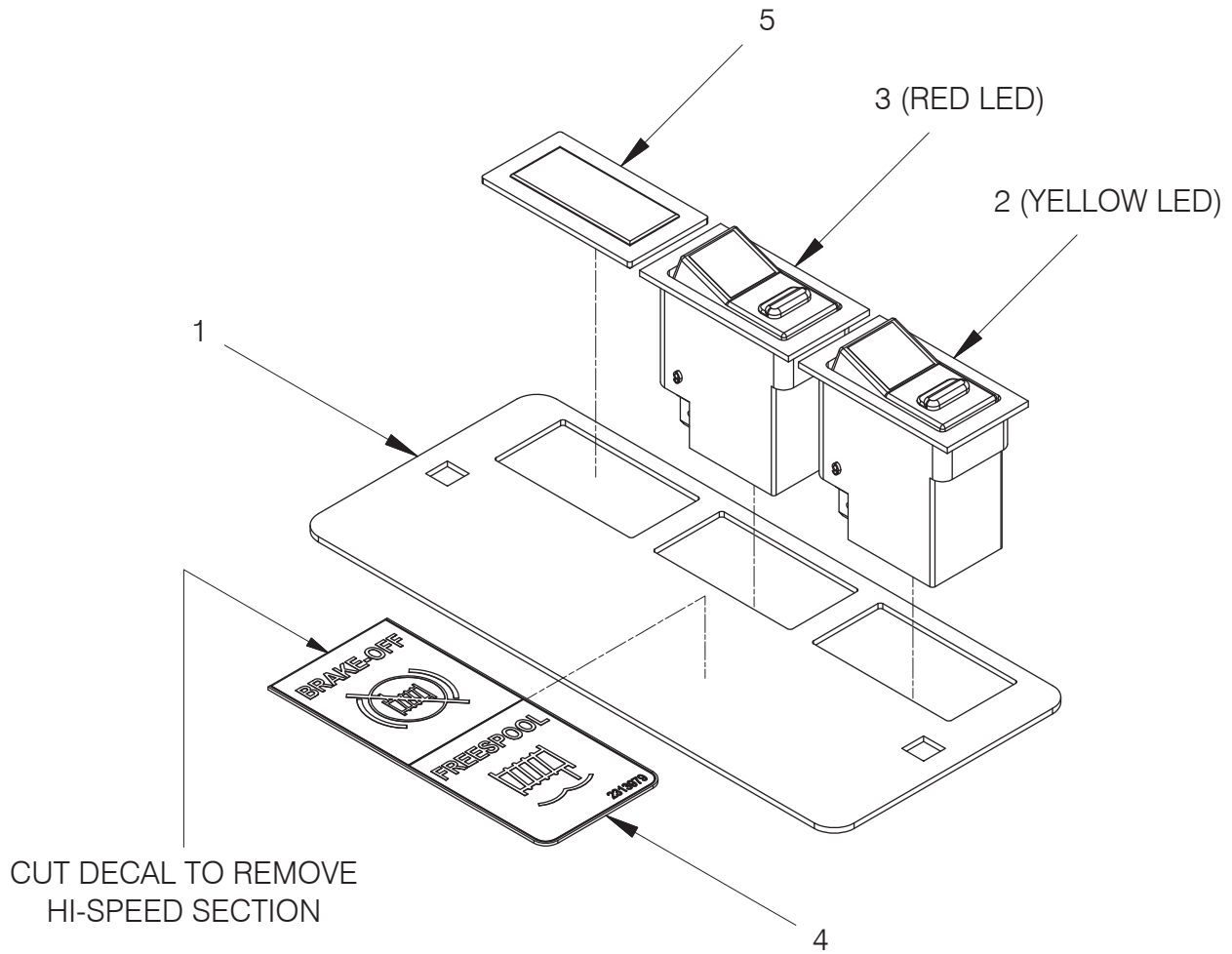
Caterpillar D6T (H6HT\*\*C71)



REAR COVER PLATE

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.13	2314637	1	Plate - Cover	2.15	293646W	4	Capscrew
2.14	296422W	8	Washer	2.17	292656W	4	Nut

**Switch Panel Assy**  
**FREESPOOL & BRAKE-OFF**  
 Caterpillar D6T (C71)



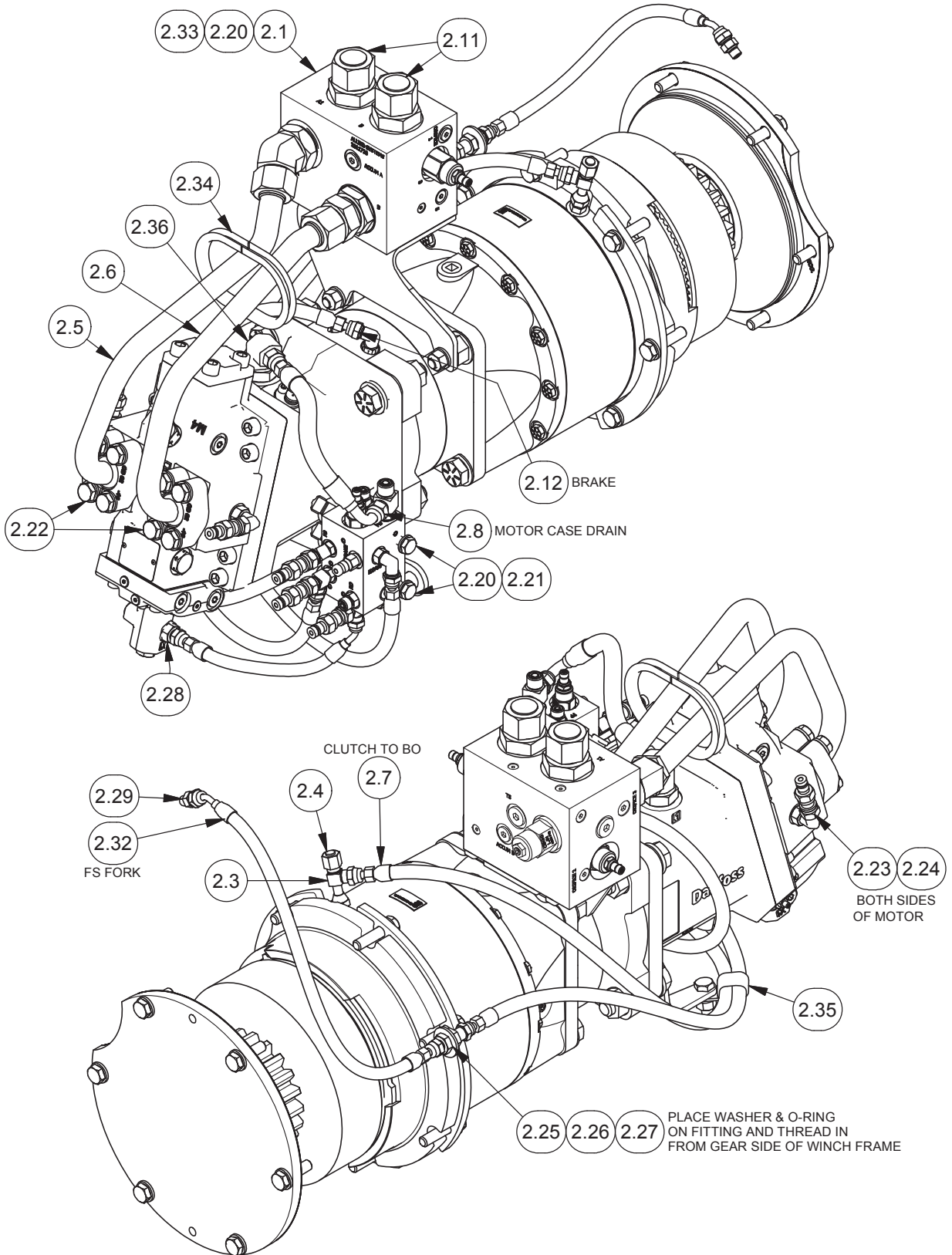
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314655</b>	<b>1</b>	<b>Assy, Switch Panel; FREESPOOL &amp; BRAKE-OFF</b>				
1	2313136	1	. Plate, Switch Mounting	4	2313979	1	. Decal, Switch Panel; FREE SPOOL, BRAKE-OFF & HI- SPEED
2	2310013	1	. Assy, Switch; 24V, Yellow LED	5	234509	1	. Cover, Blank
3	2310504	1	. Assy, Switch; 24V, Red LED				



# Internal Hydraulic Group

Caterpillar D6T (H6HT\*\*C71)

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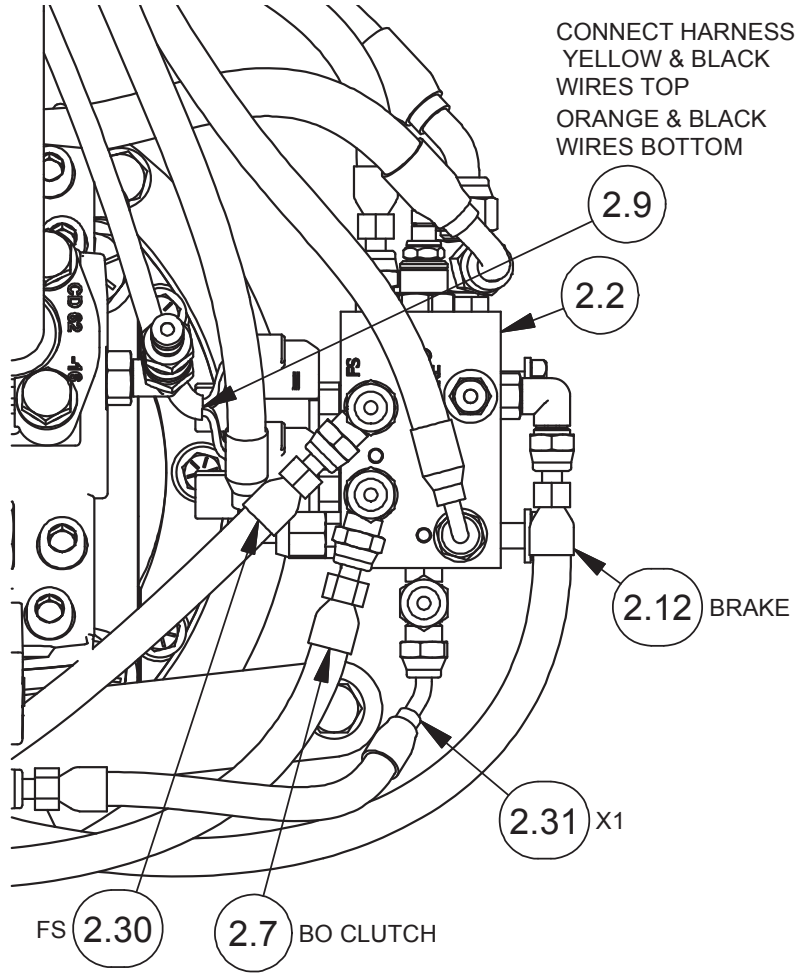




### Internal Hydraulic Group

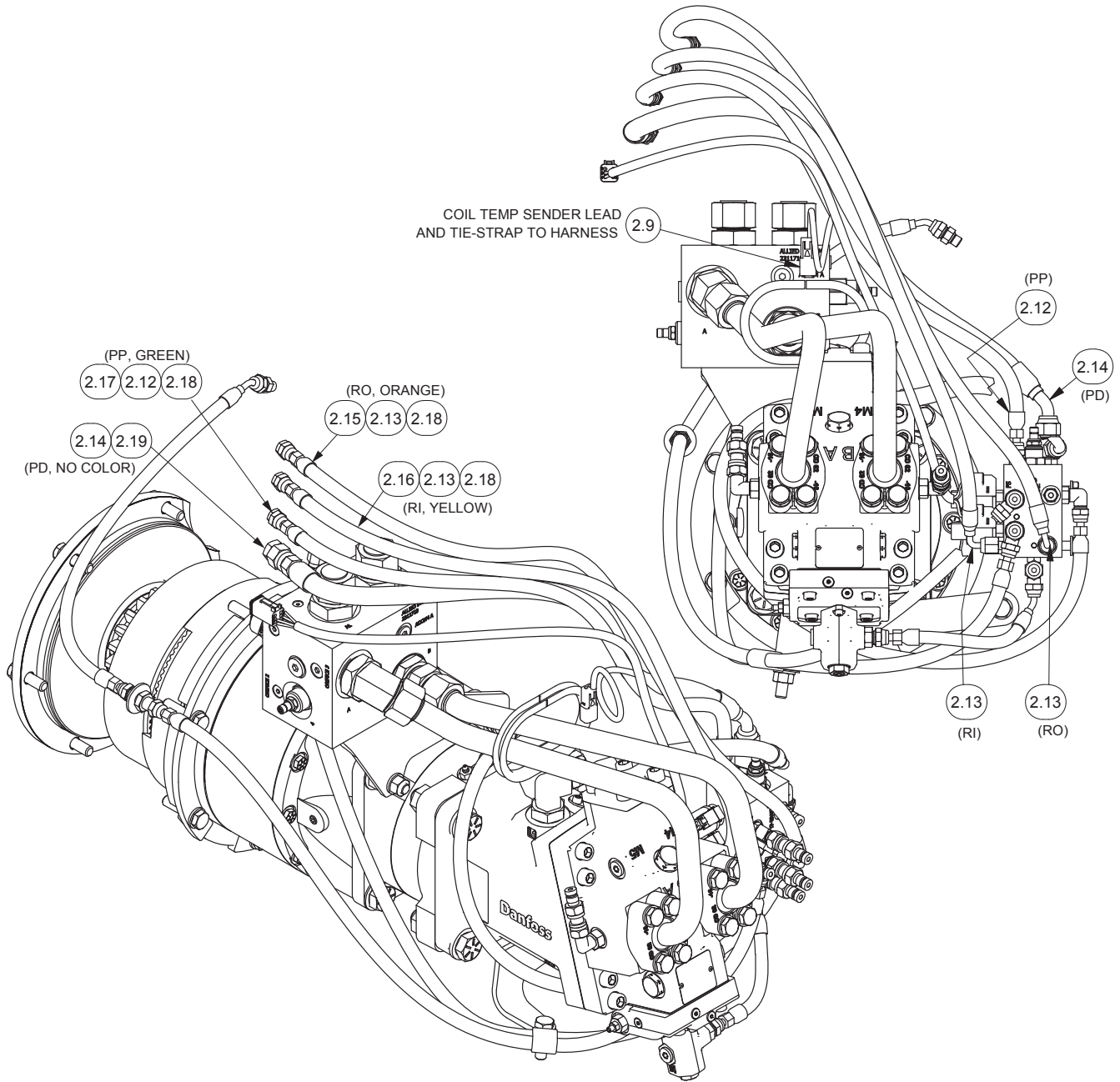
Caterpillar D6T (H6HT\*\*C71)

Page 2 of 2



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.1	2314691	1	Manifold Assy (See p. 115)	2.23	2307625W	2	Fitting
2.2	2313617	1	Manifold Assy (See p. 110)	2.24	R833253	2	Fitting
2.3	236855	1	Fitting	2.25	R834100	1	Fitting
2.4	232984	1	Fitting	2.26	15178W	1	Flat Washer
2.5	*a 2314690	1	Tube Assy - Motor A	2.27	211564	1	O-Ring
	*b 2316108	1	Tube Assy - Motor A	2.28	R833103	1	Fitting
2.6	*a 2314162	1	Tube Assy - Motor B	2.29	231439	1	Fitting
	*b 2316109	1	Tube Assy - Motor B	2.30	*c 2312350	1	Hose Assy
2.7	*c 2312351	1	Hose Assy	2.31	*a*c 2312878	1	Hose Assy
2.8	*c R12104	1	Hose Assy		*b*c 2313639	1	Hose Assy
2.9	2314664	1	Wire Harness	2.32	*c 2312212	1	Hose Assy
2.11	231820	2	Fitting	2.33	15176W	2	Flat Washer
	232383	1	. O-Ring	2.34	24257	1'	Trim, Edge
2.12	*c 2312353	2	Hose Assy	2.35	2312628	1	Clamp
2.20	Y09C-M1025	4	Capscrew	2.36	R833260	1	Fitting
2.21	296420W	2	Hard Washer				
2.22	*a 229448	2	Kit, Split Flange	*a	Last Used S/N 1713		
	*b 592255	2	Kit, Split Flange	*b	First Used S/N 1714		
				*c	Included in Hose Kit 2314769		

## Attaching Hydraulics Caterpillar D6T (H6HT\*\*C71)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.9	2314664	1	Wire Harness	2.16	242597	1	Cable Tie
2.12	*a 2312353	2	Hose Assy	2.17	242598	1	Cable Tie
2.13	*a 2314739	2	Hose Assy	2.18	R834200	3	Fitting
2.14	*a 2314743	1	Hose Assy	2.19	232960	1	Fitting
2.15	242596	1	Cable Tie				

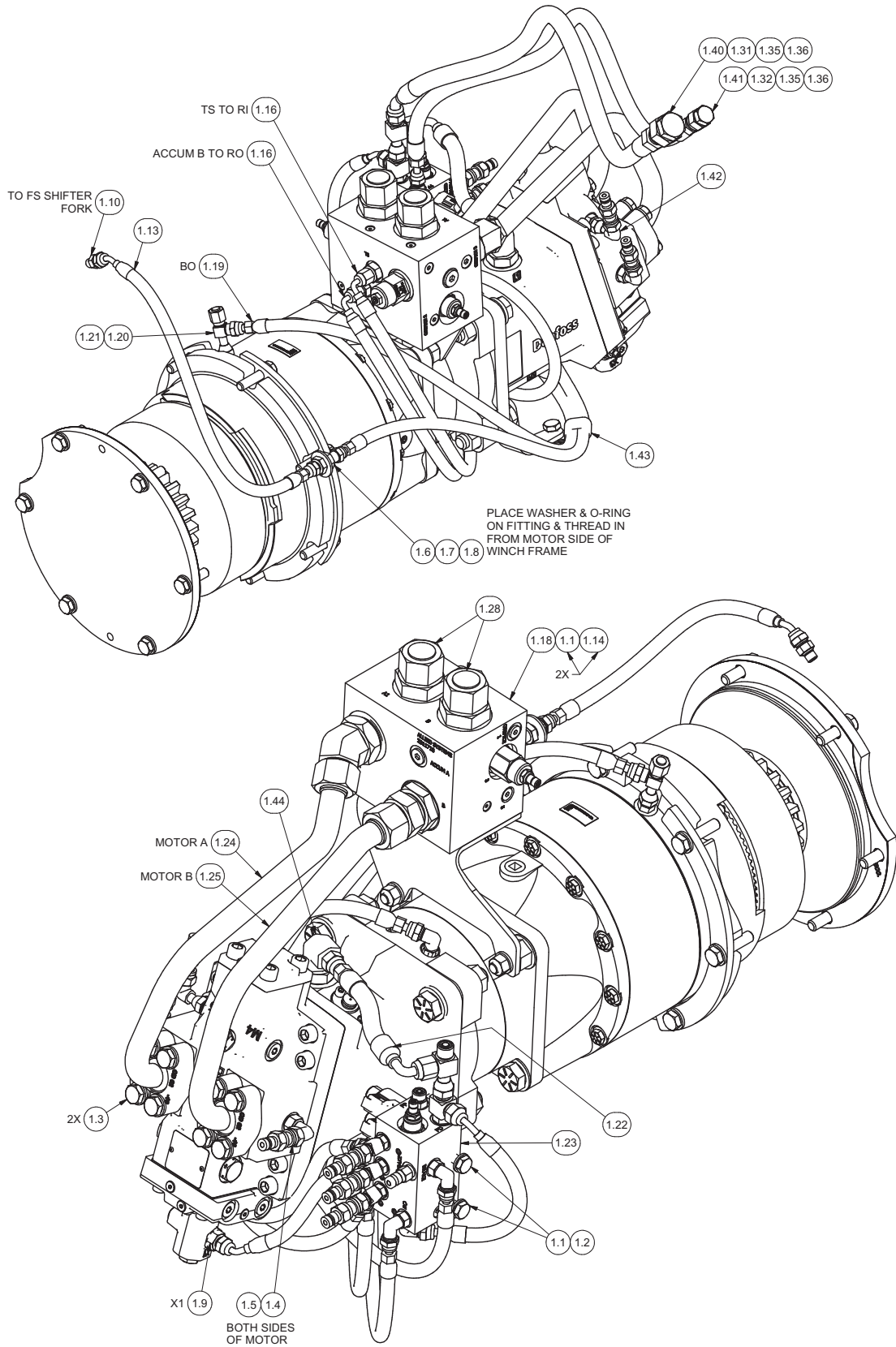
\*a Included in Hose Kit 2314769

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# Internal Hydraulic Group

Caterpillar D6T (H6HT\*\*\*C712\*)

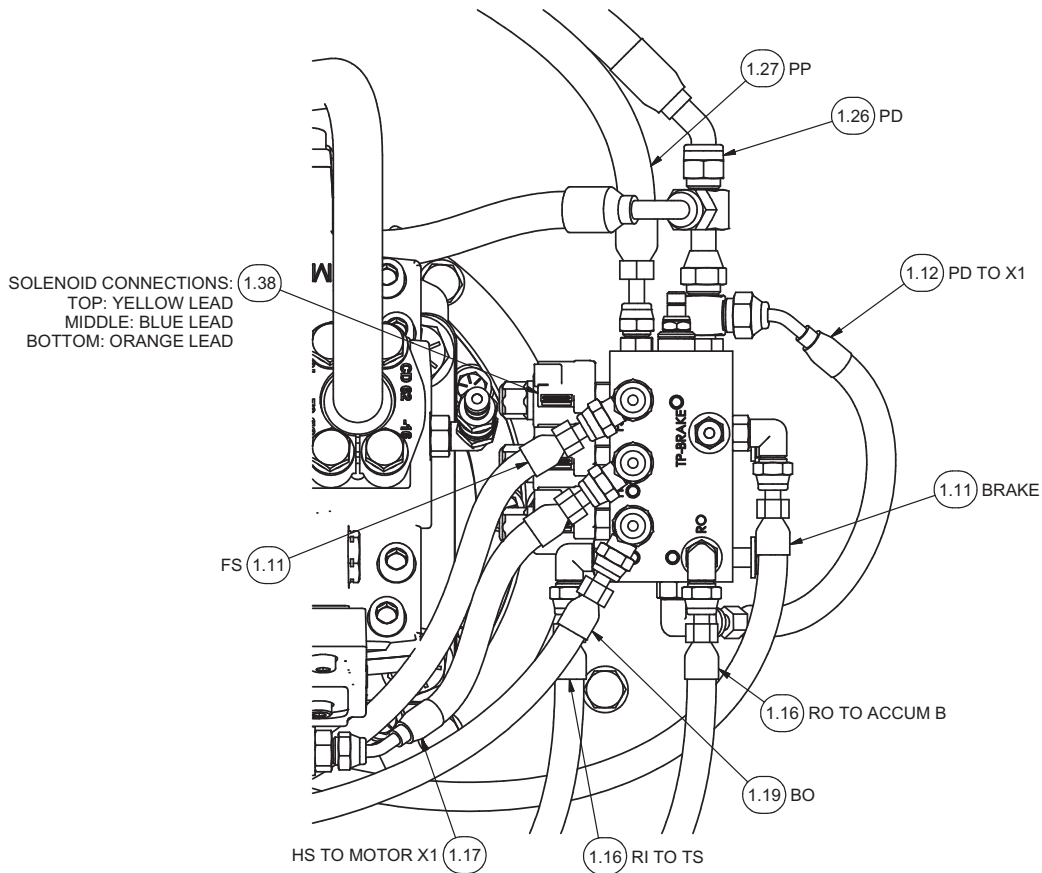
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## Internal Hydraulic Group

Caterpillar D6T (H6HT\*\*\*C712\*)

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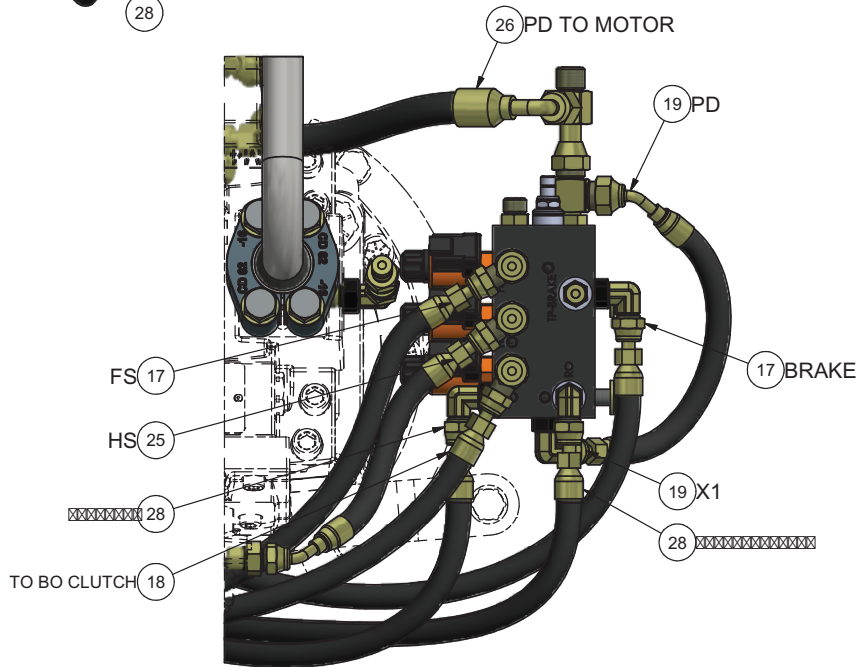
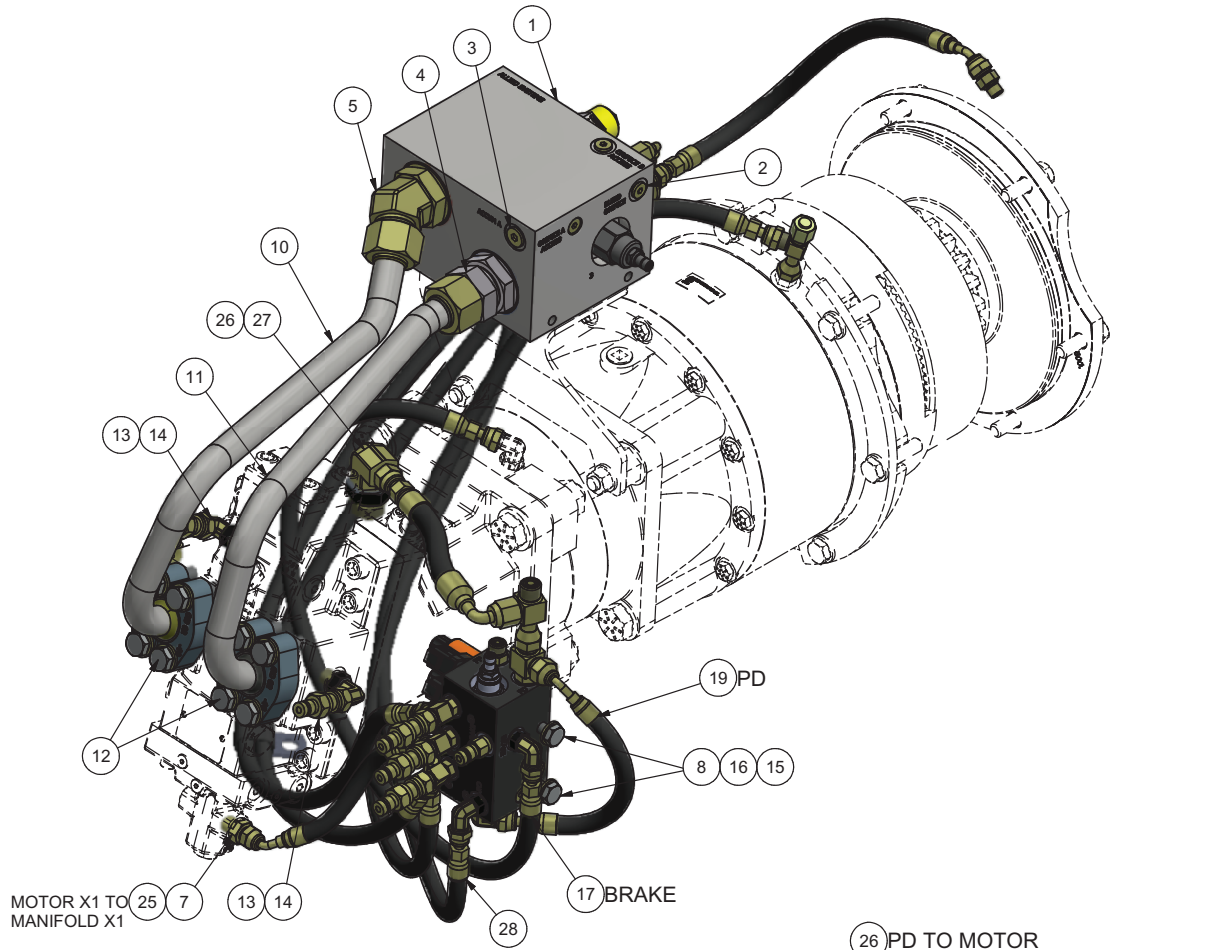
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	1.22	*a 2312358	1	Hose Assembly
1.2	296420W	2	Washer	1.23	2313960	1	Manifold Assy, Control (See p. 113)
1.3	592255	2	Kit, Split Flange	1.24	2316108	1	Tube Assembly
1.4	2307625W	3	Fitting	1.25	2316109	1	Tube Assembly
1.5	R833253	2	Fitting	1.26	*a 2316736	1	Hose Assembly
1.6	R834100	1	Fitting	1.27	*a 2316737	1	Hose Assembly
1.7	15178W	1	Washer	1.28	231820	2	Fitting
1.8	211564	1	O-Ring		232383	1	O-Ring
1.9	R833103	2	Fitting	1.31	2306151W	1	Label - T
1.10	231439	1	Fitting	1.32	2307241W	1	Label - Pilot
1.11	*a 2312350	2	Hose Assembly	1.35	R12577880	3'	Sleeve, Cordura
1.12	*a 2313844	1	Hose Assembly	1.36	129563W	8	Cable Tie
1.13	*a 2312212	1	Hose Assembly	1.38	2317048	1	Harness - Wire
1.14	221767W	2	Washer	1.40	R834204	1	Fitting
1.16	*a 2315641	2	Hose Assembly	1.41	232960	1	Fitting
1.17	*a 2313639	1	Hose Assembly	1.42	R833800	1	Fitting
1.18	2314727	1	Assembly - Manifold (See p. 114)	1.43	2312628	1	Clamp
1.19	*a 2312351	1	Hose Assembly	1.44	R833260	1	Fitting
1.20	236855	1	Fitting				
1.21	232984	1	Fitting				

\*a Included in Hose Kit 2317931

# Internal Hydraulic Group

Caterpillar D6K2 T4f (H6HT\*DC805)

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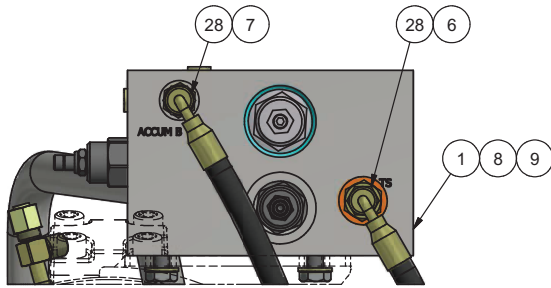
CONTROL MANIFOLD DETAIL



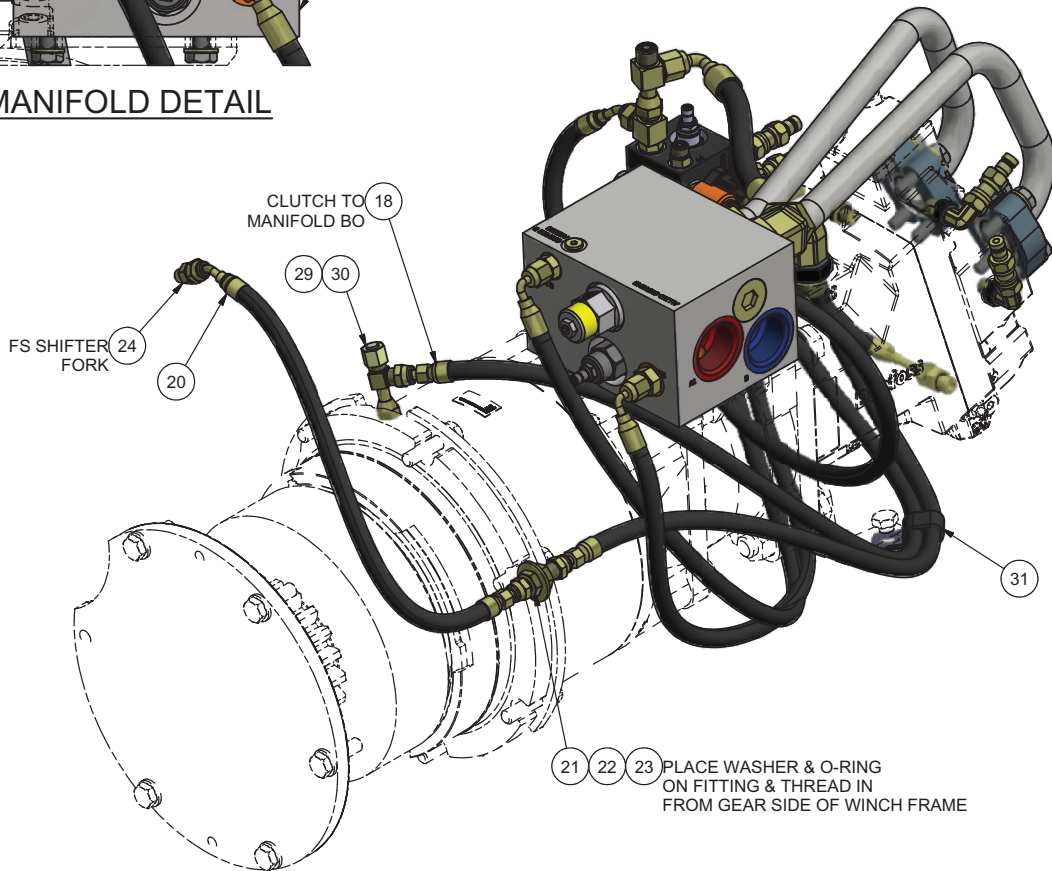
# Internal Hydraulic Group

Caterpillar D6K2 T4f (H6HT\*DC805)

Page 2 of 2



**MANIFOLD DETAIL**

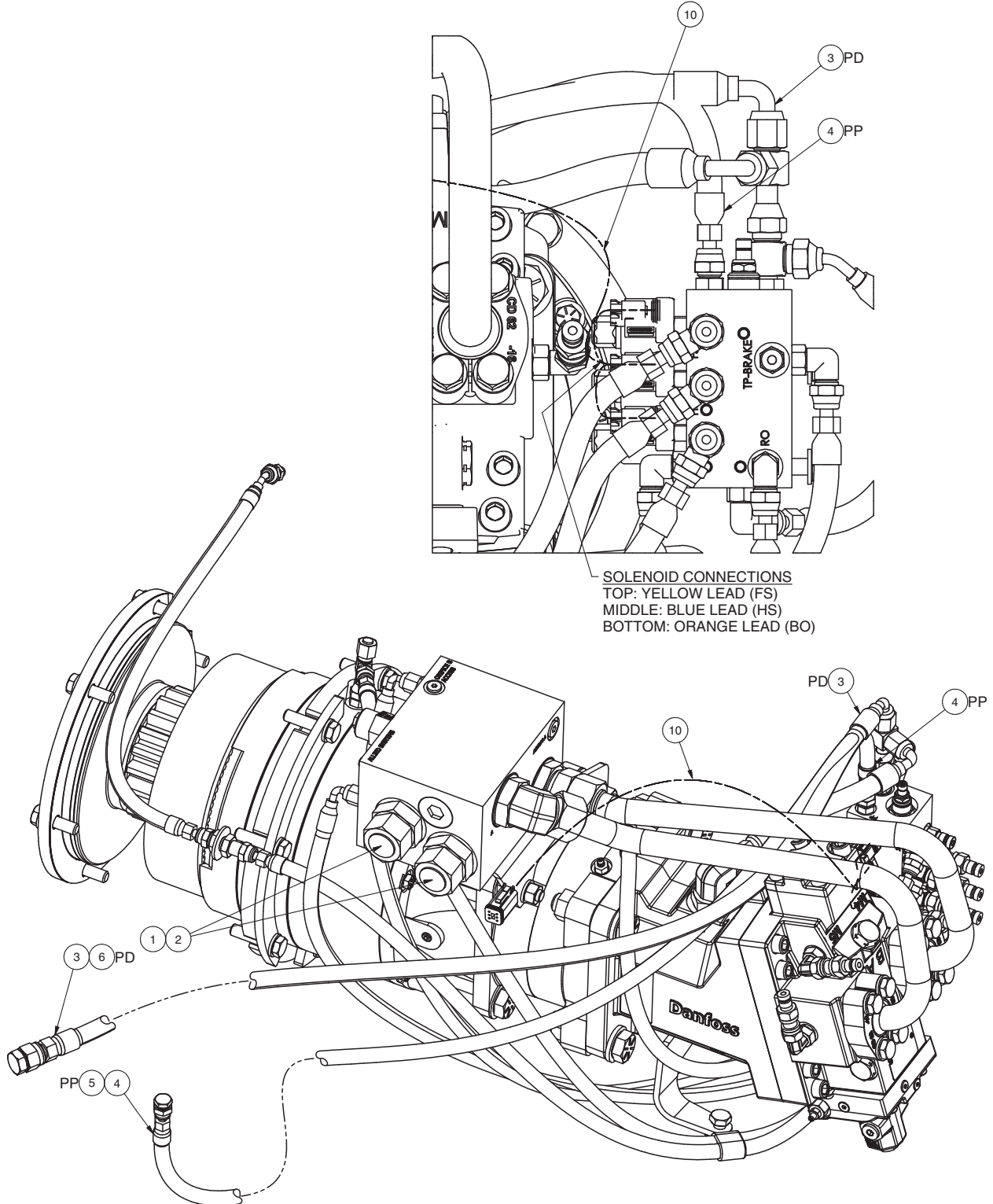


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2312941	1	Manifold Assy, CBR(See p. 117)	18	*a 2312351	1	Hose Assembly
2	235387	1	Fitting	19	*a 2313844	1	Hose Assembly
3	229383	1	Fitting	20	*a 2312212	1	Hose Assembly
4	2313948	1	Fitting	21	R834100	1	Fitting
5	R833218	1	Fitting	22	15178W	1	Washer
6	R833104	1	Fitting	23	211564	1	O-Ring
7	R833103	2	Fitting	24	231439	1	Fitting
8	Y09C-M1025	4	Capscrew	25	*a 2313639	1	Hose Assembly
9	221767W	2	Washer	26	*a 2312358	1	Hose Assembly
10	2316108	1	Tube Assembly	27	R833260	1	Fitting
11	2316109	1	Tube Assembly	28	*a 2315641	2	Hose Assembly
12	592255	2	Kit, Split Flange	29	236855	1	Fitting
13	R833253	3	Fitting	30	232984	1	Fitting
14	2307625W	3	Fitting	31	2312628	1	Clamp
15	2313960	1	Control Manifold Assy (See p. 113)				
16	296420W	2	Washer				
17	*a 2312350	2	Hose Assembly				

\*a Included in Hose Kit 2317932

# Attaching Hydraulic Group

Caterpillar D6K2 T4f (H6HT\*DC805)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	R833133	2	Fitting	7	2306151W	1	Label - T
2	231820	2	Fitting	8	2307241W	1	Label - Pilot
	232383	1	O-Ring	9	129563W	5	Cable Tie
3	*a 2317676	1	Hose Assembly	10	2315725	1	Harness - Wire, Winch
4	*a 592575	1	Hose Assembly				
5	R834200	1	Fitting				
6	232960	1	Fitting				

\*a Included in Hose Kit 2317932



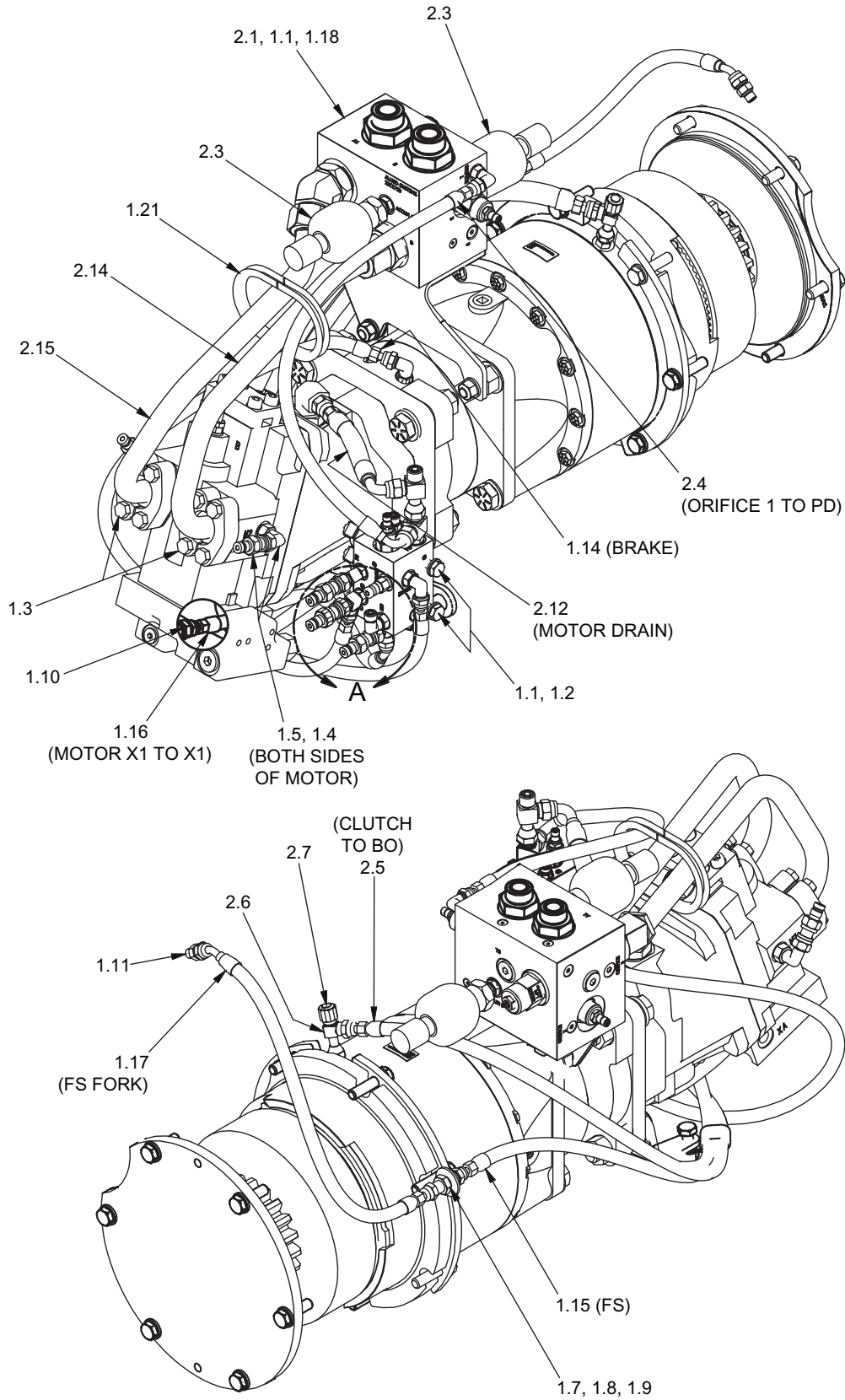
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### Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

Last Used on S/N 1496

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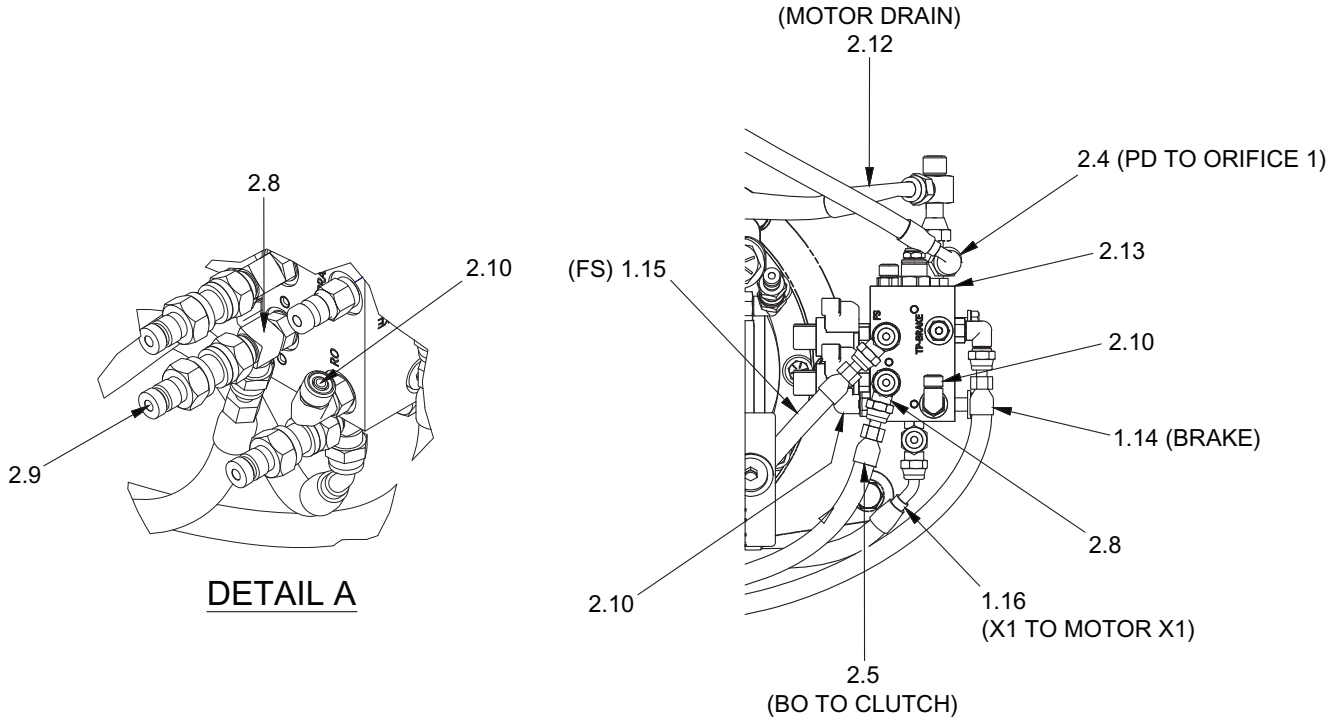


## Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

Last Used on S/N 1496

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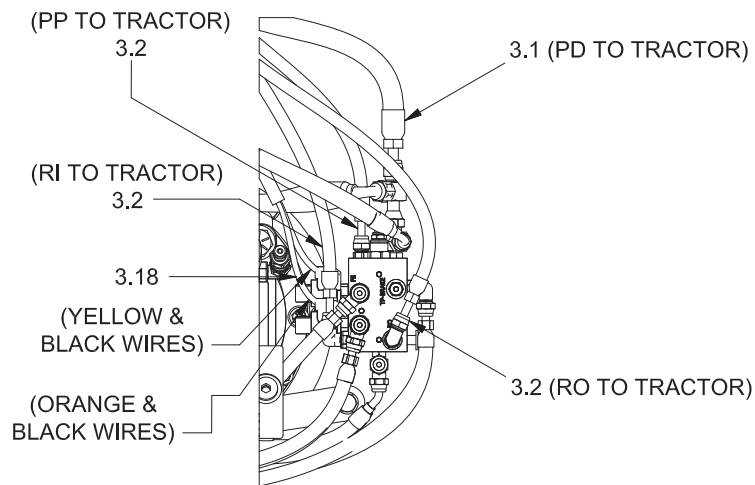
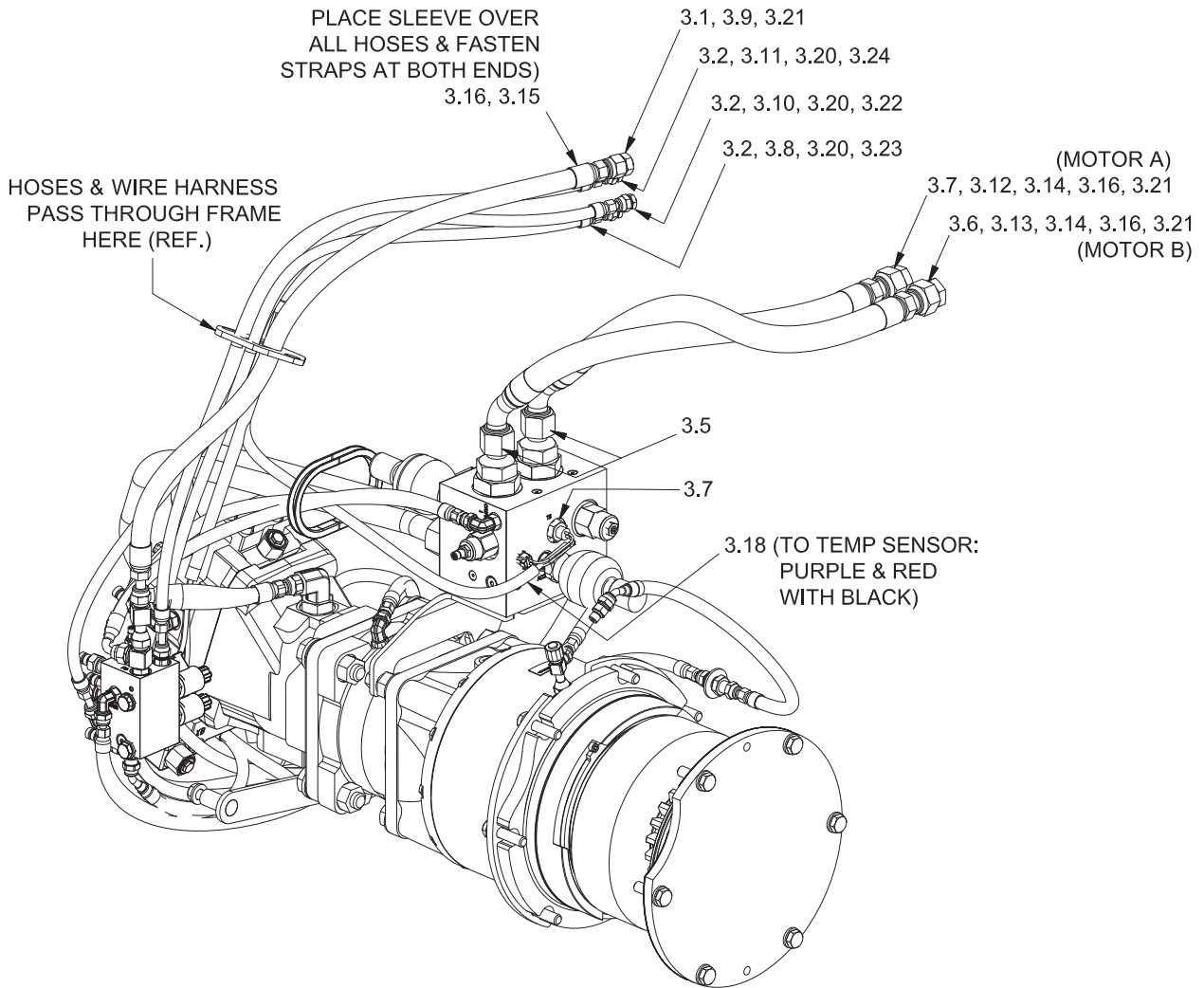
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	2.1	2312816	1	Assy, Counterbalance Relief Manifold (See p. 107)
1.2	296420W	2	Washer	2.3	2312268	2	Accumulator
1.3	229448	2	Kit, Split Flange	2.4	*a 2312357	1	Assy, Hose
1.4	2307625W	2	Coupler, Quick Male	2.5	*a 2312351	1	Assy, Hose
1.5	R833253	2	Fitting	2.6	236855	1	Fitting
1.7	R834100	1	Fitting	2.7	232984	1	Fitting
1.8	15178W	1	Washer	2.8	R833400	1	Fitting
1.9	211564	1	O-Ring	2.9	2307625W	1	Coupler, Quick Male
1.10	R833103	1	Fitting	2.10	R833251	2	Fitting
1.11	231439	1	Fitting	2.12	*a 2312358	1	Assy, Hose
1.14	*a 2312353	1	Assy, Hose	2.13	2312908	1	Assy, Control Manifold (See p. 108)
1.15	*a 2312350	1	Assy, Hose	2.14	2312095	1	Assy, Tube - Motor B
1.16	*a 2312878	1	Assy, Hose	2.15	2312069	1	Assy, Tube - Motor A
1.17	*a 2312212	1	Assy, Hose				
1.18	15176W	2	Washer				
1.19	2312628	1	Clamp, Insulation				
1.21	24257	13 in.	Trim, Edge	*a	Included in Hose Kit 2314767		

### External Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

Last Used on S/N 1496

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## External Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

Last Used on S/N 1496

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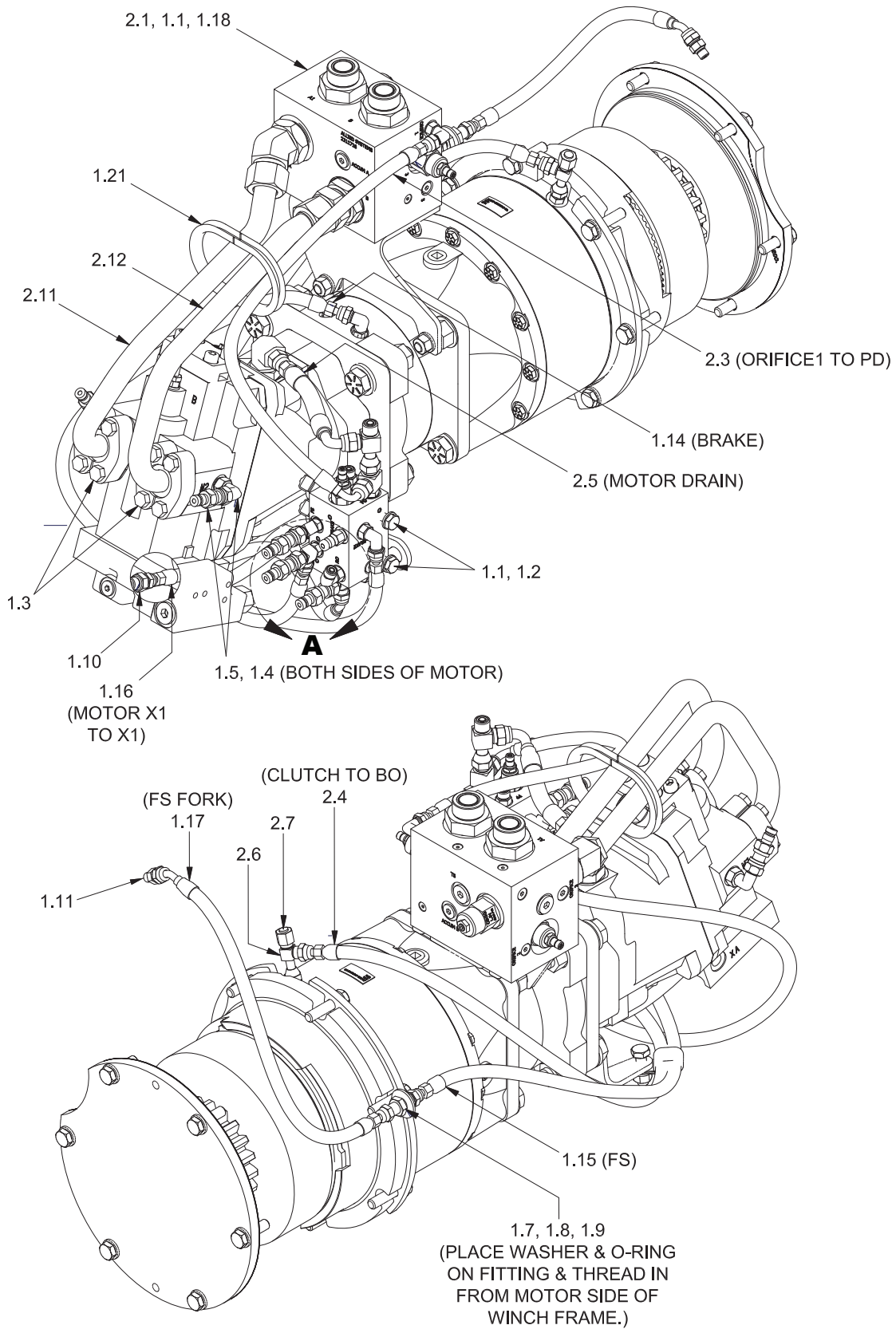
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
3.1	*a 2315574	1	Assy, Hose	3.15	R12577882	1	Sleeve, Cordura
3.2	*a 2311572	3	Assy, Hose	3.16	129563W	1	Clamp, Strap
3.5	234191	2	Fitting	3.17	2307904W	1	Switch, Temperature
3.6	*a 2314423	1	Assy, Hose	3.18	2313137	1	Harness, Winch Wire
3.7	*a 2314422	1	Assy, Hose	3.20	R834200	3	Fitting
3.8	2307239W	1	Label, RI	3.21	232960	3	Fitting
3.9	2306151W	2	Label, T	3.22	242596	1	Tie, Cable (Orange)
3.10	2307238W	1	Label, RO	3.23	242597	1	Tie, Cable (Yellow)
3.11	2307241W	2	Label, Pilot	3.24	242598	1	Tie, Cable (Green)
3.12	2310919	1	Label, Motor A				
3.13	2310920	1	Label, Motor B	*a	Included in Hose Kit 2314767		
3.14	R12577880	1	Sleeve, Cordura				

### Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

First Used on S/N 1497

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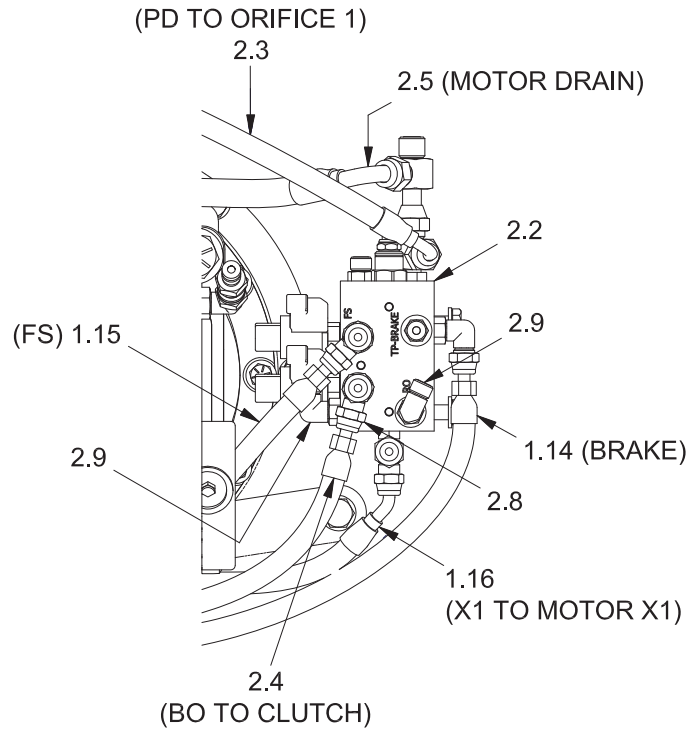
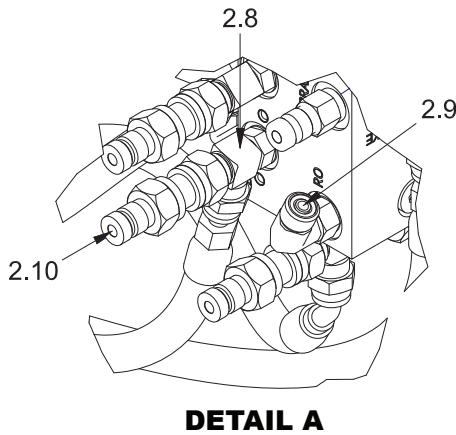


### Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

First Used on S/N 1497

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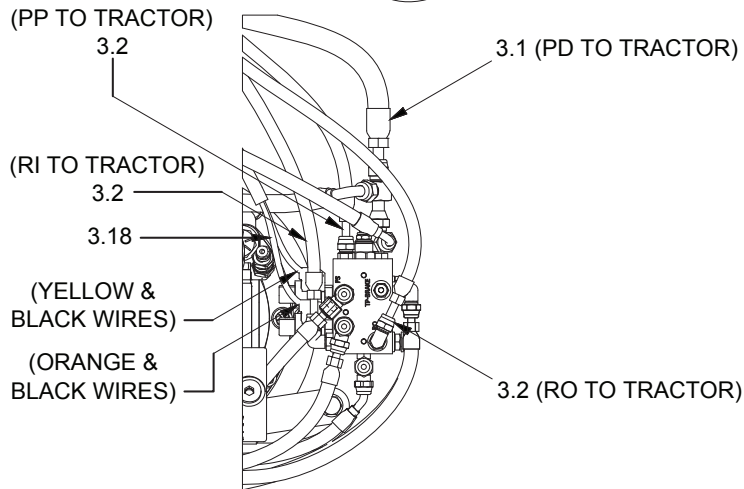
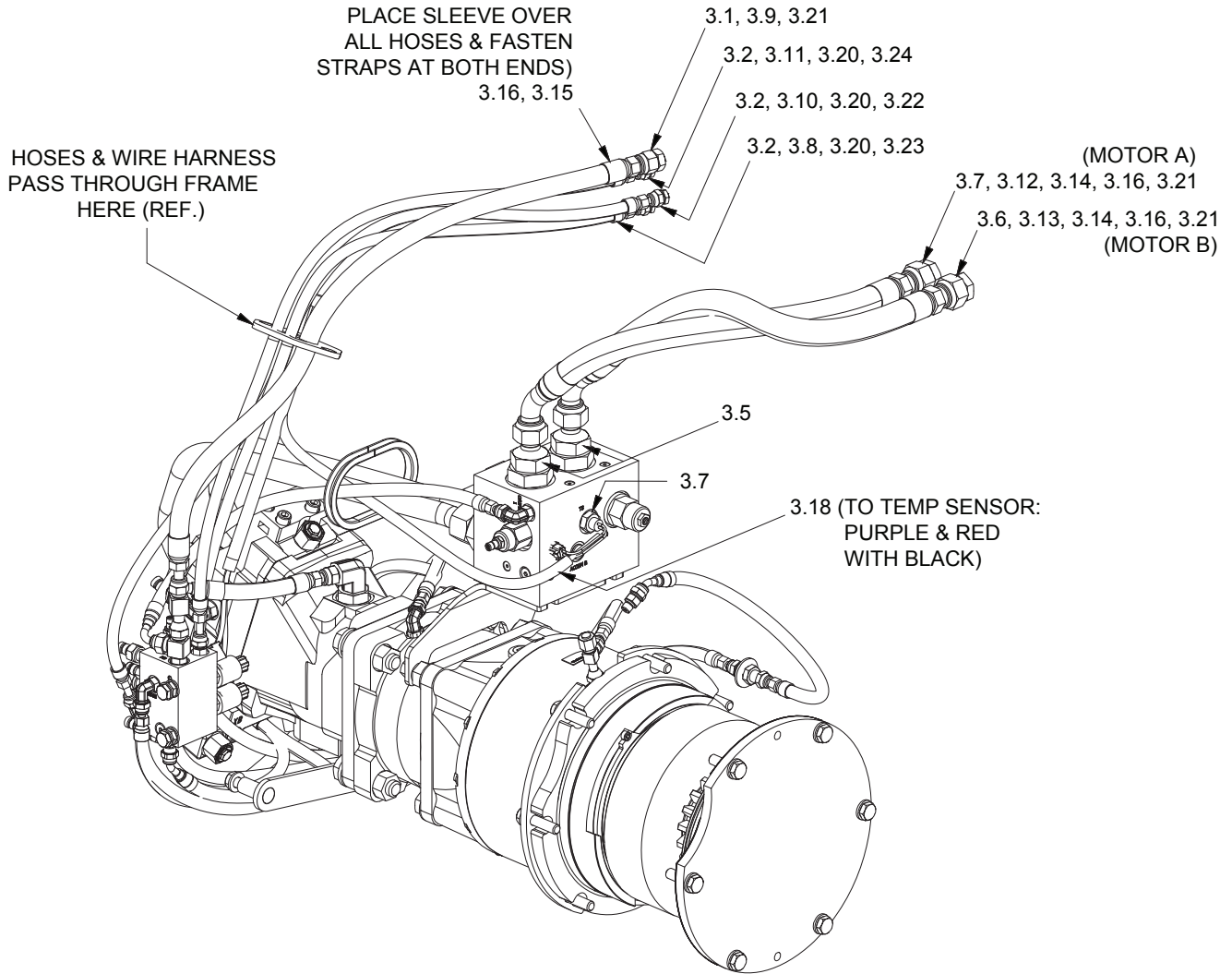
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	2.1	2314965	1	Assy, Counterbalance Relief Manifold (See p. 116)
1.2	296420W	2	Washer	2.2	2312908	1	Assy, Control Manifold (See p. 108)
1.3	229448	2	Kit, Split Flange	2.3	*a 2312357	1	Assy, Hose
1.4	2307625W	2	Coupler, Quick Male	2.4	*a 2312351	1	Assy, Hose
1.5	R833253	2	Fitting	2.5	*a 2312358	1	Assy, Hose
1.7	R834100	1	Fitting	2.6	236855	1	Fitting
1.8	15178W	1	Washer	2.7	232984	1	Fitting
1.9	211564	1	O-Ring	2.8	R833400	1	Fitting
1.10	R833103	1	Fitting	2.9	R833251	2	Fitting
1.11	231439	1	Fitting	2.10	2307625W	1	Coupler, Quick Male
1.14	*a 2312353	1	Assy, Hose	2.11	2314162	1	Assy, Tube - Motor A
1.15	*a 2312350	1	Assy, Hose	2.12	2314690	1	Assy, Tube - Motor B
1.16	*a 2312878	1	Assy, Hose				
1.17	*a 2312212	1	Assy, Hose	*a	Included in Hose Kit 2314767		
1.18	15176W	2	Washer				
1.21	24257	13"	Trim, Edge				
1.22	2312628	1	Clamp, Insulation				

# Attaching Hydraulics

Caterpillar D6N (H6HT\*\*C81)

First Used on S/N 1497

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## Attaching Hydraulics

Caterpillar D6N (H6HT\*\*C81)

First Used on S/N 1497

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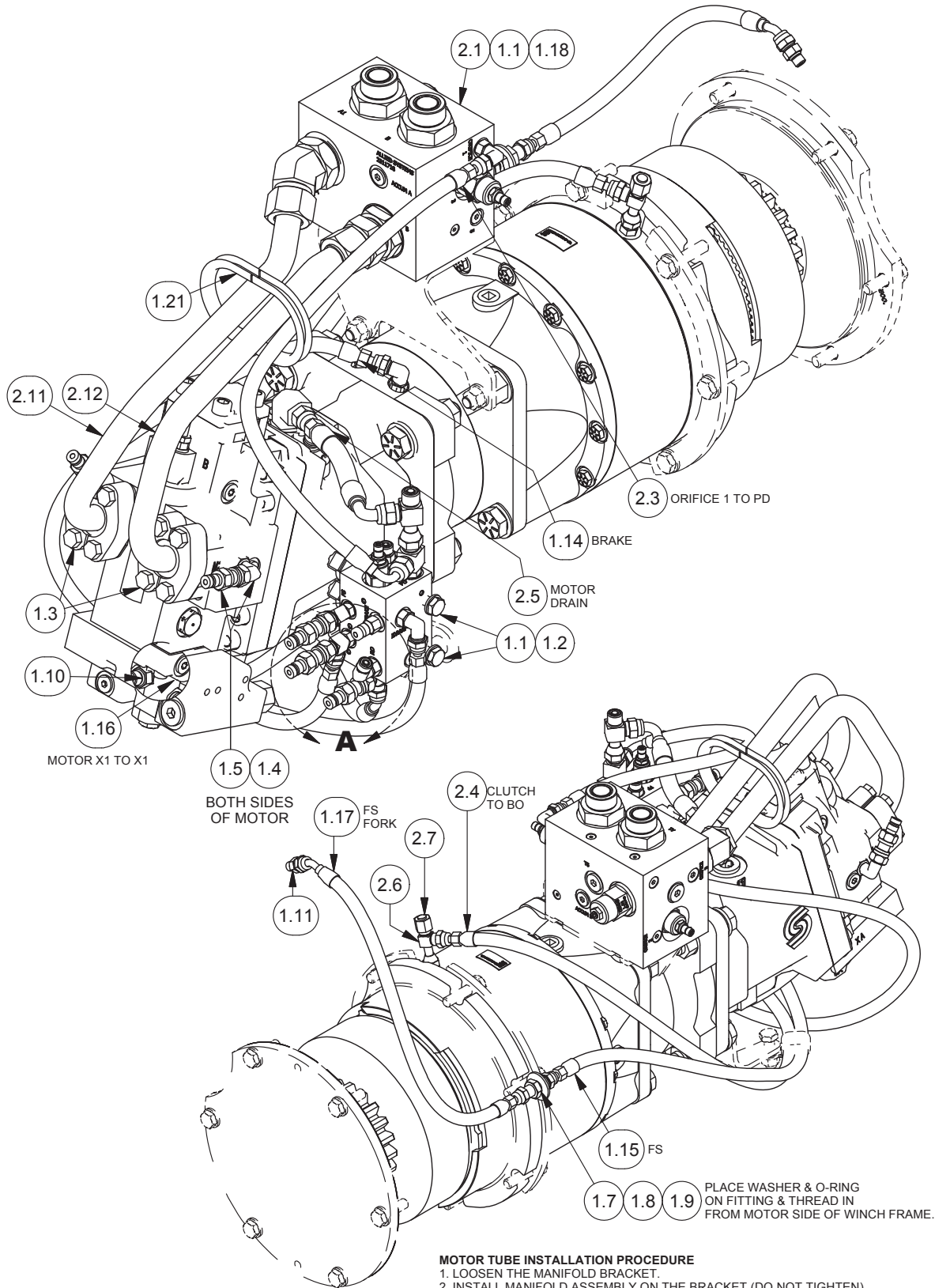
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
3.1	*a 235527	1	Assy, Hose	3.15	R12577882	1	Sleeve, Cordura
3.2	*a 2311572	3	Assy, Hose	3.16	129563W	1	Clamp, Strap
3.5	234191	2	Fitting	3.17	2307904W	1	Switch, Temperature
3.6	*a 2314423	1	Assy, Hose	3.18	2313137	1	Harness, Winch Wire
3.7	*a 2314422	1	Assy, Hose	3.20	R834200	3	Fitting
3.8	2307239W	1	Label, RI	3.21	232960	1	Fitting
3.9	2306151W	2	Label, T	3.22	242596	1	Tie, Cable (Orange)
3.10	2307238W	1	Label, RO	3.23	242597	1	Tie, Cable (Yellow)
3.11	2307241W	2	Label, Pilot	3.24	242598	1	Tie, Cable (Green)
3.12	2310919	1	Label, Motor A				
3.13	2310920	1	Label, Motor B	*a	Included in Hose Kit 2314767		
3.14	R12577880	1	Sleeve, Cordura				

# Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

First Used S/N 1868

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**MOTOR TUBE INSTALLATION PROCEDURE**

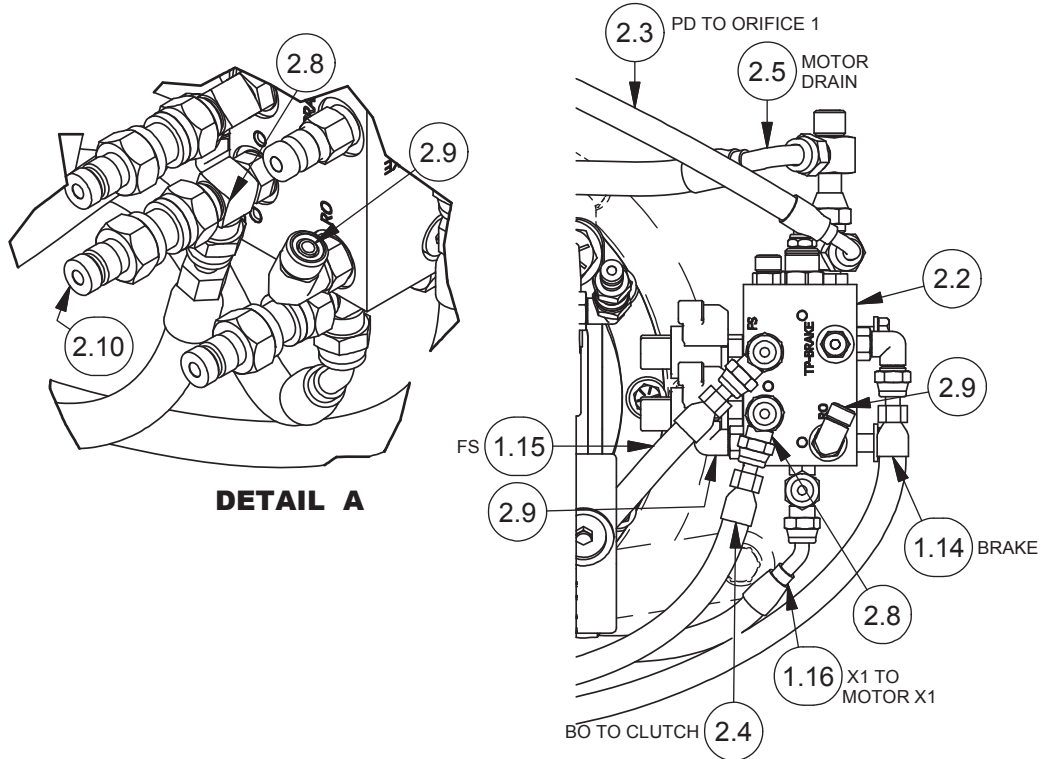
1. LOOSEN THE MANIFOLD BRACKET.
2. INSTALL MANIFOLD ASSEMBLY ON THE BRACKET (DO NOT TIGHTEN).
3. INSTALL MOTOR TUBES. ADJUST THE 45° MANIFOLD FITTING AS NEEDED.
4. TIGHTEN MOTOR TUBES AT THE MOTOR THEN AT THE MANIFOLD.
5. TIGHTEN THE MANIFOLD MOUNTING BOLTS AND MANIFOLD BRACKET BOLTS.

### Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*C81)

First Used S/N 1868

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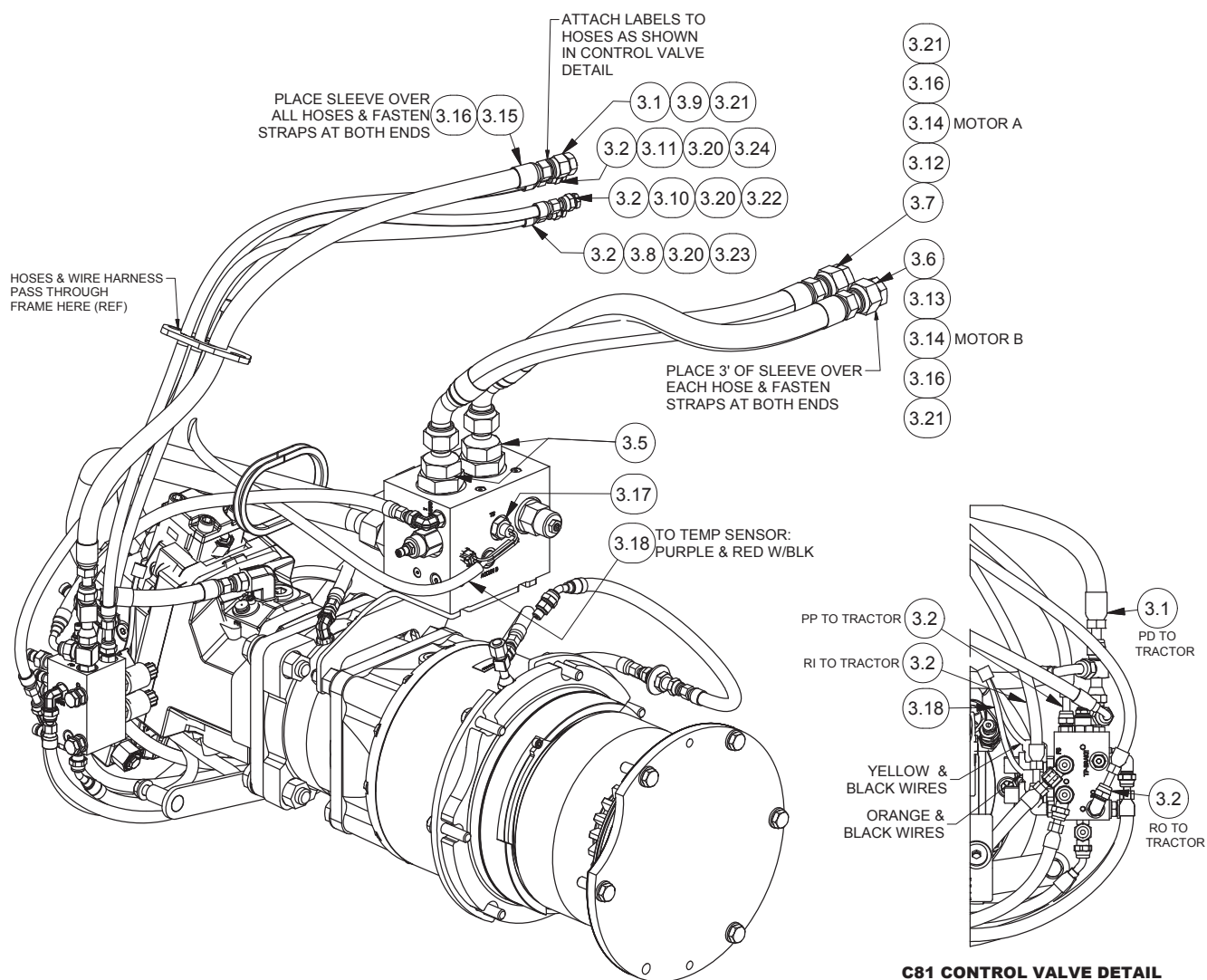
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	2.1	2314965	1	Assy Manifold, Counterbalance Relief (See p. 116)
1.2	296420W	2	Hard Washer	2.2	2312908	1	Manifold Assy, Control (See p. 108)
1.3	229448	2	Kit, Split Flange	2.3	*a 2312357	1	Hose Assy
1.4	2307625W	2	Fitting	2.4	*a 2312351	1	Hose Assy
1.5	R833253	2	Fitting	2.5	*a 2312358	1	Hose Assy
1.7	R834100	1	Fitting	2.6	236855	1	Fitting
1.8	15178W	1	Flat Washer	2.7	232984	1	Fitting
1.9	211564	1	O-Ring	2.8	R833400	1	Fitting
1.10	R833103	1	Fitting	2.9	R833251	2	Fitting
1.11	231439	1	Fitting	2.10	2307625W	1	Fitting
1.14	*a 2312353	1	Hose Assy	2.11	2314162	1	Tube Assy
1.15	*a 2312350	1	Hose Assy	2.12	2314690	1	Tube Assy
1.16	*a 2312878	1	Hose Assy				
1.17	*a 2312212	1	Hose Assy				
1.18	221767W	2	Hard Washer				
1.21	24257	1'	Trim, Edge				
1.22	2312628	1	Clamp				

\*a Included in Hose Kit 2314767

## Attaching Hydraulics

Caterpillar D6N (H6HT\*\*C81)

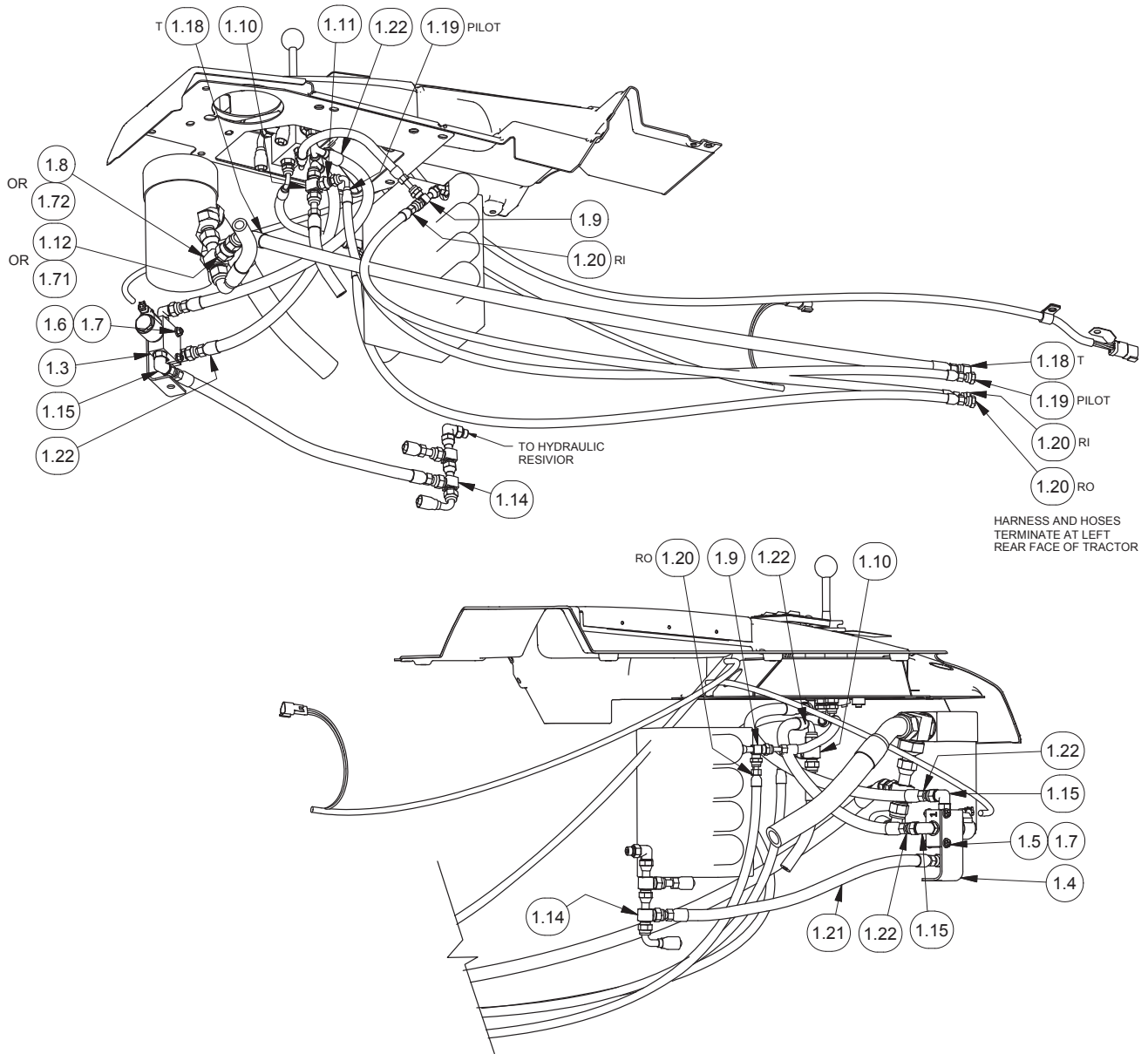
First Used S/N 1868



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
3.1	*a 2315574	1	. Hose Assy	3.14	R12577880	1'	. Sleeve
3.2	*a 2311572	3	. Hose Assy	3.15	R12577882	1'	. Sleeve, Cordura
3.5	234191	2	. Fitting	3.16	129563W	1	. Cable Tie
3.6	*a 2314423	1	. Hose Assy	3.17	2307904W	1	. Switch - Temperature
3.7	*a 2314422	1	. Hose Assy	3.18	2313137	1	. Harness, Wire
3.8	2307239W	1	. Label - RI	3.20	R834200	3	. Fitting
3.9	2306151W	2	. Label - T	3.21	232960	3	. Fitting
3.10	2307238W	1	. Label - RO	3.22	242596	1	. Cable Tie
3.11	2307241W	2	. Label - Pilot	3.23	242597	1	. Cable Tie
3.12	2310919	1	. Label - Motor "A"	3.24	242598	1	. Cable Tie
3.13	2310920	1	. Label - Motor "B"				

\*a Included in Hose Kit 2314767

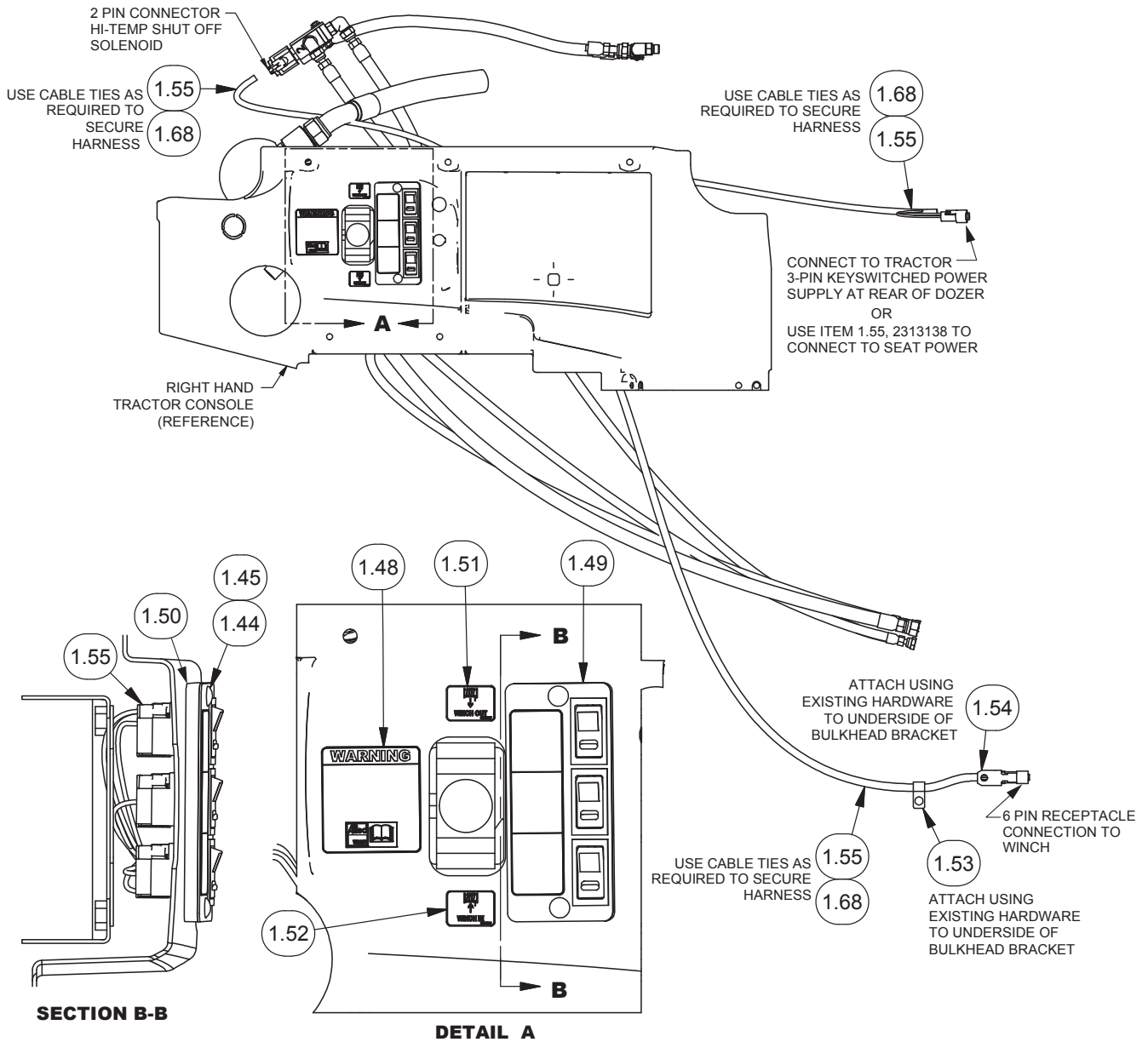
### Console Hydraulics Caterpillar D6N (H6HT\*\*C81)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.3	2307833W	1	Assy, Valve Manifold (104)	1.11	242629	1	Fitting
	2307834W	1	. Valve, Solenoid Cartridge	1.12	252605	1	Fitting
	2307835W	1	. . Valve, Cartridge	1.14	231955	1	Fitting
	250589	1	. . Coil, Solenoid	1.15	R833257	3	Fitting
	R15668	1	. . Kit, Seal	1.18	*a 254680	1	Assy, Hose
	R12973129	1	. Body, Valve	1.19	*a 249465	1	Assy, Hose
1.4	2307897W	1	Plate, Mounting	1.20	*a 242358	2	Assy, Hose
1.5	Y01C-0428	2	Capscrew	1.21	*a 2307906W	1	Assy, Hose
1.6	221703W	2	Nut	1.22	*a 2307905W	2	Assy, Hose
1.7	221763W	6	Washer	1.71	2307958W	1	Fitting
1.8	R834053	1	Fitting	1.72	R834055	1	Fitting
1.9	236855	2	Fitting				
1.10	231470	1	Fitting	*a	Included in Hose Kit 2314767		

## Electrical Installation

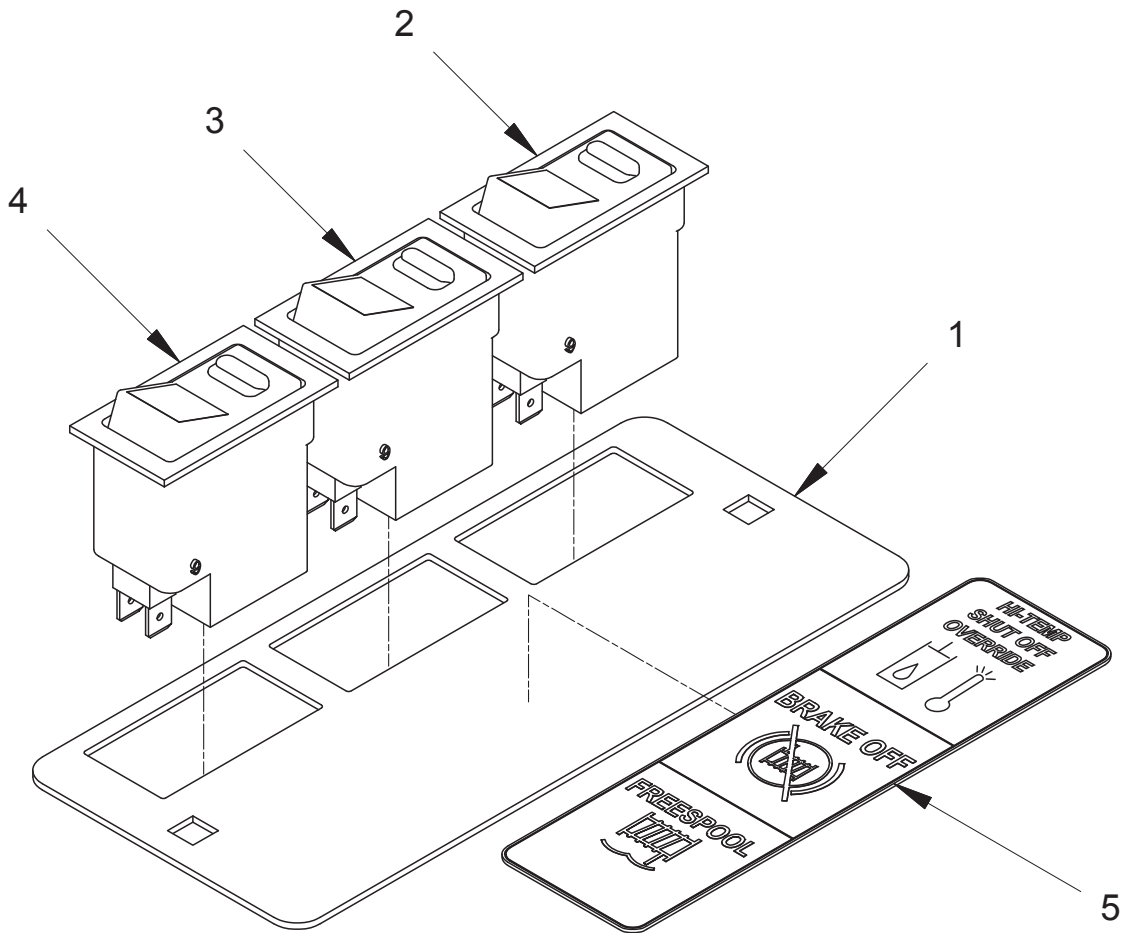
### Caterpillar D6N (H6HT\*\*C81)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.44	220000W	2	Bolt	1.52	2307121W	1	Decal, Winch In
1.45	R13811189	2	Nut, Lock	1.53	R13807642	1	Clip, Insulation
1.48	2313135	1	Decal, Hi-Temp Override	1.54	2311550	1	Clip, Harness Mounting
1.49	2313113	1	Assy, Switch Panel (See p. 81)	1.55	2313138	1	Wire Harness, Console
1.50	2313200	1	Plate, Switch Assy Spacer	1.68	129563W	20	Clamp, Strap
1.51	2307122W	1	Decal, Winch Out				

## Switch Panel Assy

FREESPOOL, BRAKE-OFF & HI-TEMP  
Caterpillar D6N (C81)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313113</b>	<b>1</b>	<b>Assy, Switch Panel; FREE-SPOOL, BRAKE- OFF &amp; HI-TEMP</b>	4	2310506	1	. Assy, Switch; Momentary 24V w/ Red LED
1	2313136	1	. Plate, Switch Mounting	5	2313114	1	. Decal, Switch Panel; FREESPOOL, BRAKE- OFF & HI-TEMP
2	2310013	1	. Assy, Switch; 24V, Yellow LED				
3	2310504	1	. Assy, Switch; 24V, Red LED				

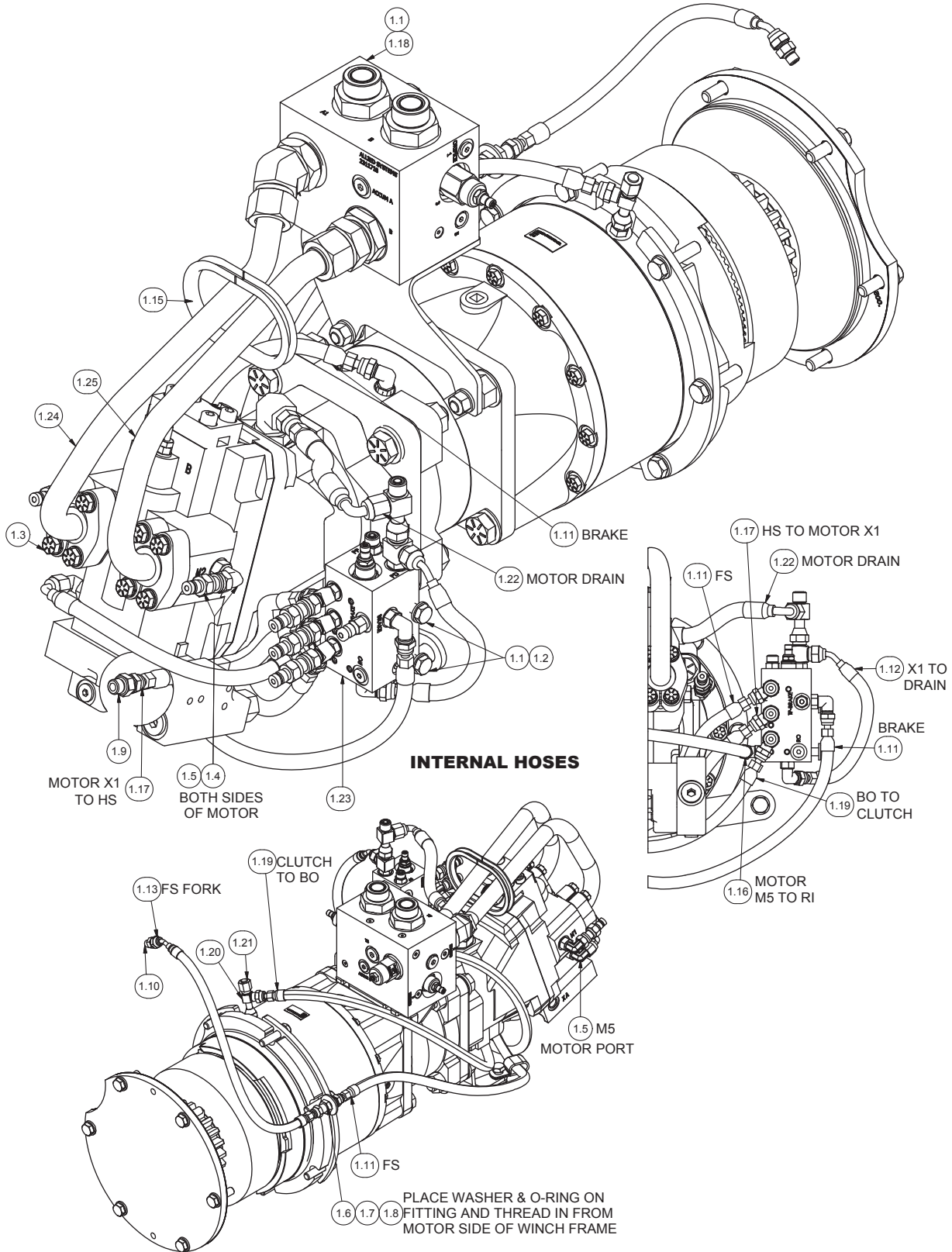


# Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL

Last Used S/N 1713

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**Internal Hydraulic Group**  
 Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL  
 Last Used S/N 1713  
 Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	1.14	221767W	2	Hard Washer
1.2	296420W	2	Hard Washer	1.15	24257	1.08'	Trim, Edge
1.3	229448	2	Kit, Split Flange	1.16	*a 2313843	1	Hose Assy
1.4	2307625W	2	Fitting	1.17	*a 239847	1	Hose Assy
1.5	R833253	2	Fitting	1.18	2314727	1	Assy, Counterbalance Relief Manifold (See p. 114)
1.6	R834100	1	Fitting	1.19	*a 2312351	1	Hose Assy
1.7	15178W	1	Flat Washer	1.20	236855	1	Fitting
1.8	211564	1	O-Ring	1.21	232984	1	Fitting
1.9	R833103	1	Fitting	1.22	*a 2312358	1	Hose Assy
1.10	231439	1	Fitting	1.23	2313960	1	Assy - Manifold, Control (See p. 113)
1.11	*a 2312350	2	Hose Assy	1.24	2314162	1	Tube Assy - Motor A
1.12	*a 2313844	1	Hose Assy	1.25	2314690	1	Tube Assy - Motor B
1.13	*a 2312212	1	Hose Assy				

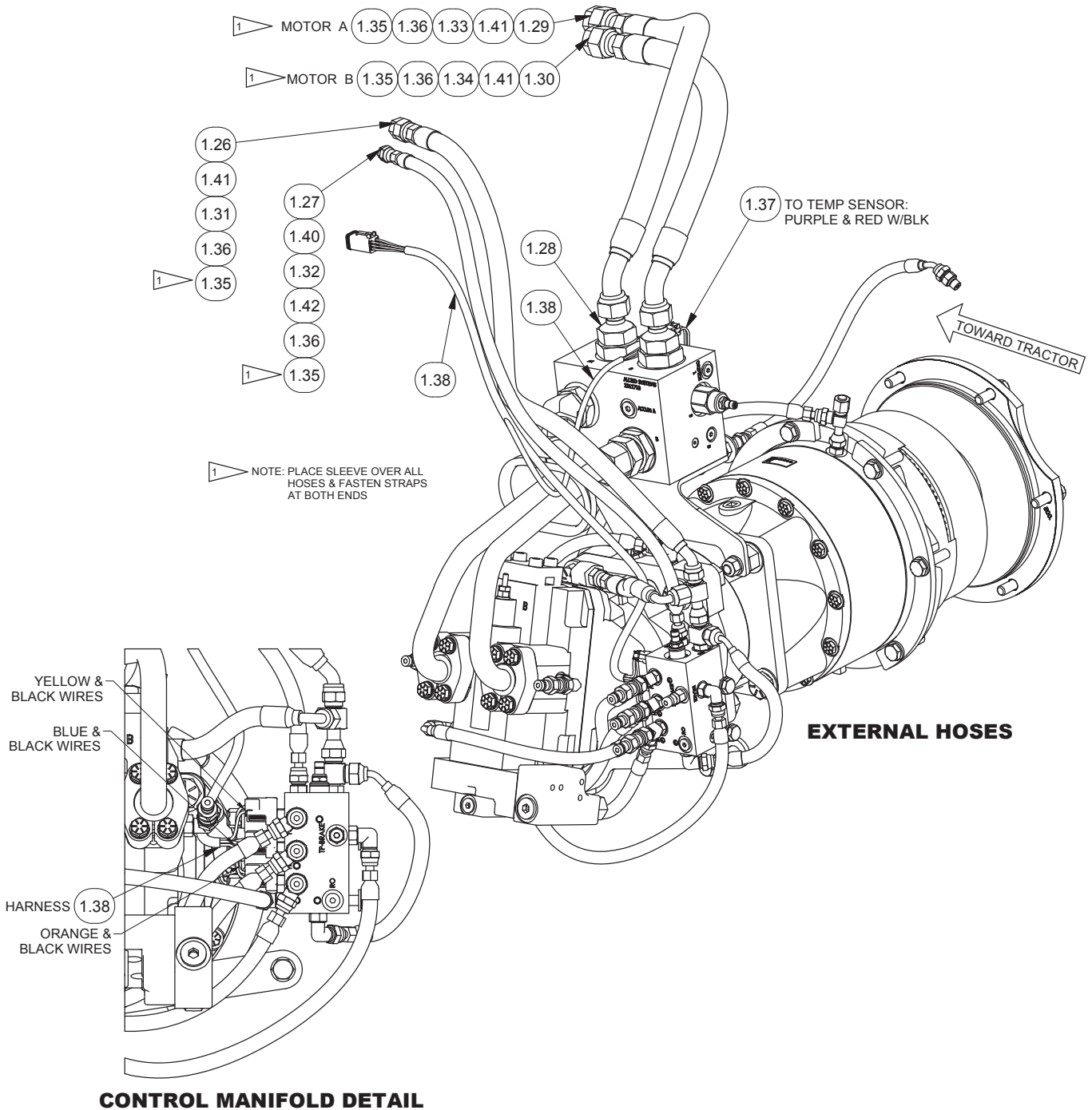
\*a Included in Hose Kit 2314768

# External Hydraulic Group

Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL

Last Used S/N 1713

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## External Hydraulic Group

Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL

Last Used S/N 1713

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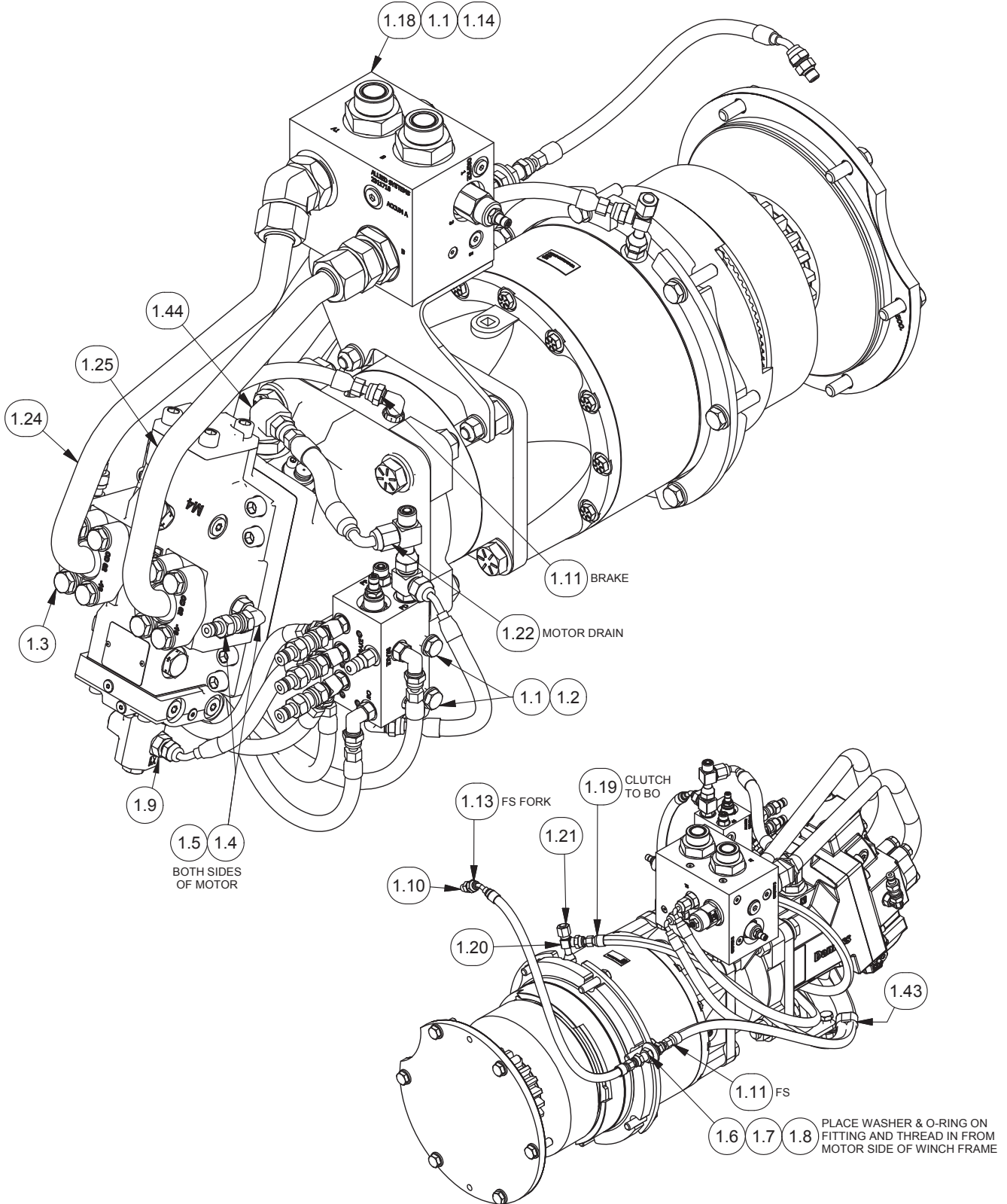
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.26	*a 2314231	1	Assy, Hose	1.35	R12577880	6'	Sleeve, Cordura
1.27	*a 2311572	1	Assy, Hose	1.36	129563	6	Clamp, Strap
1.28	234191	2	Fitting	1.37	2307904W	1	Switch, Temperature
1.29	*a 2314423	1	Assy, Hose	1.38	2313137	1	Harness, Winch Wire
1.30	*a 2314422	1	Assy, Hose	1.40	R834200	1	Fitting
1.31	2306151W	2	Label, T	1.41	232960	3	Fitting
1.32	2307241W	1	Label, Pilot	1.42	242598	1	Tie, Cable (Green)
1.33	2310919	1	Label, Motor A				
1.34	2310920	1	Label, Motor B		*a		Included in Hose Kit 2314768

### Internal Hydraulic Group

Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL

First Used S/N 1714

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**Internal Hydraulic Group**  
 Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL  
 First Used S/N 1714  
 Page 2 of 2

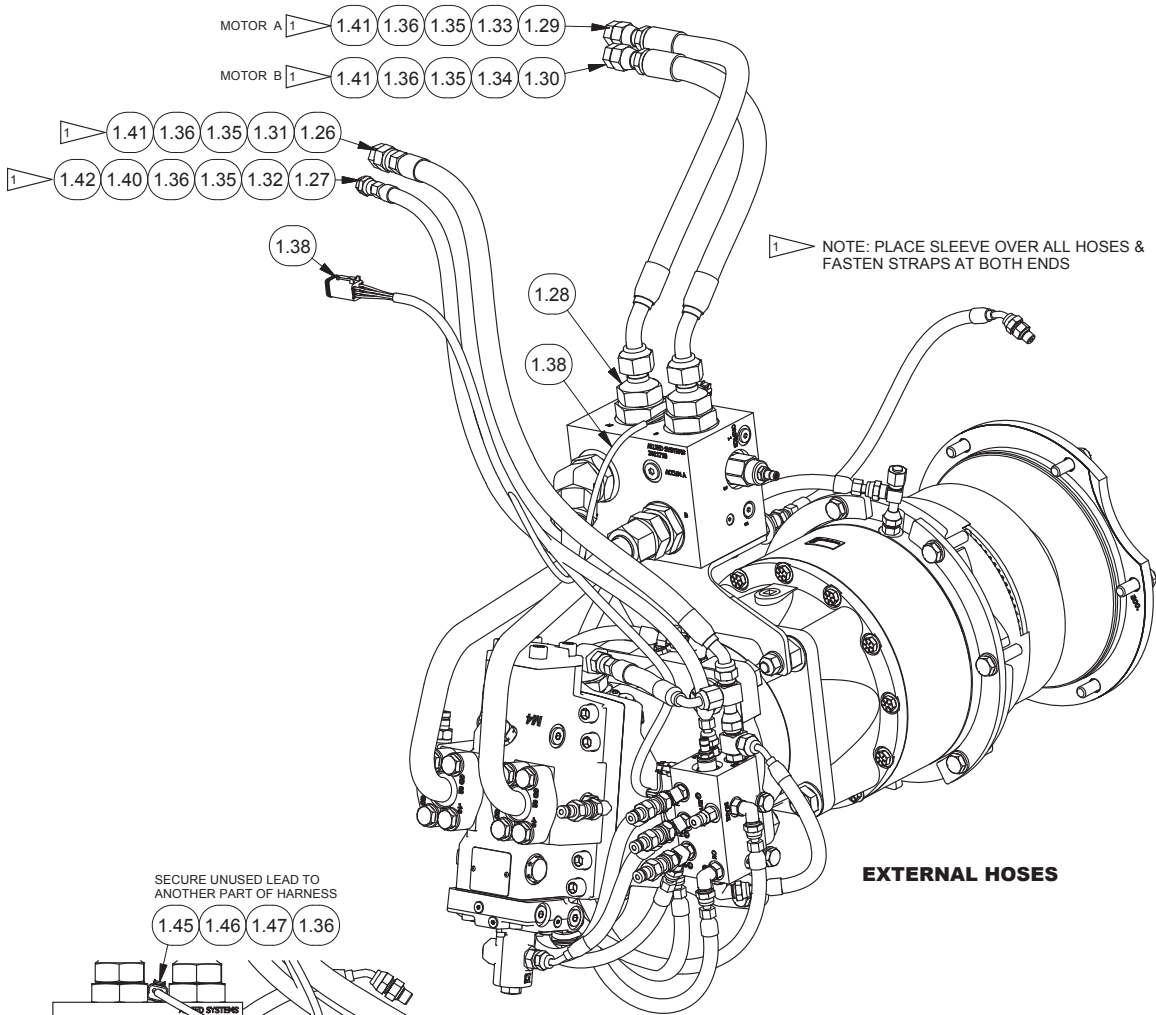
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	1.14	221767W	2	Hard Washer
1.2	296420W	2	Hard Washer	1.18	2314727	1	Assy, Counterbalance Relief
1.3	592255	2	Kit, Split Flange				Manifold (See p. 114)
1.4	2307625W	2	Fitting	1.19	*a 2312351	1	Hose Assy
1.5	R833253	2	Fitting	1.20	236855	1	Fitting
1.6	R834100	1	Fitting	1.21	232984	1	Fitting
1.7	15178W	1	Flat Washer	1.22	*a 2312358	1	Hose Assy
1.8	211564	1	O-Ring	1.24	2316108	1	Tube Assy - Motor A
1.9	R833103	1	Fitting	1.25	2316109	1	Tube Assy - Motor B
1.10	231439	1	Fitting	1.43	2312628	1	Clamp
1.11	*a 2312350	2	Hose Assy	1.44	R833260	1	Fitting
1.13	*a 2312212	1	Hose Assy				
				*a	Included in Hose Kit 2314768		

# External Hydraulic Group

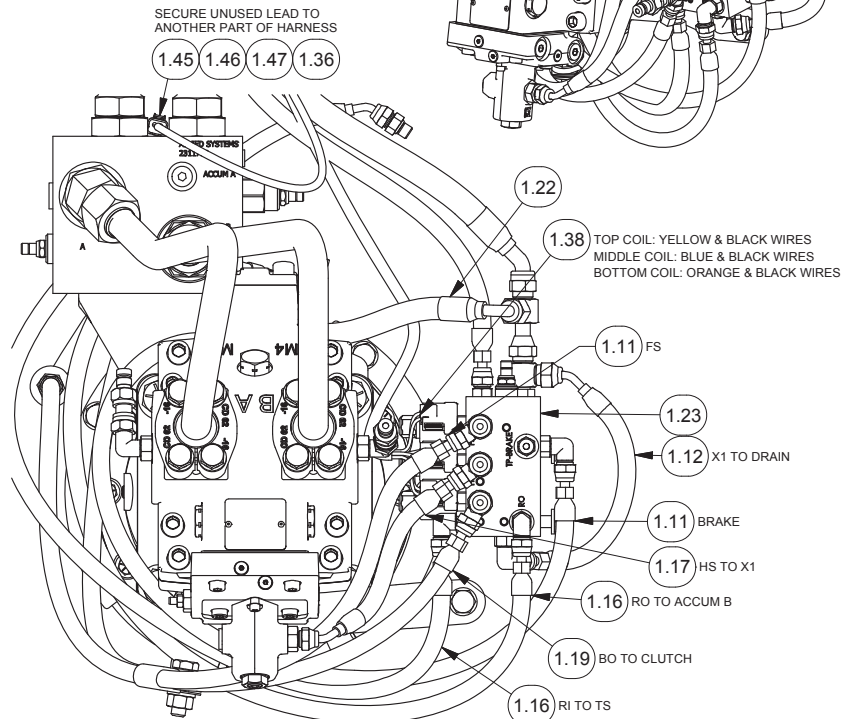
Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL

First Used S/N 1714

Page 1 of 2



**EXTERNAL HOSES**



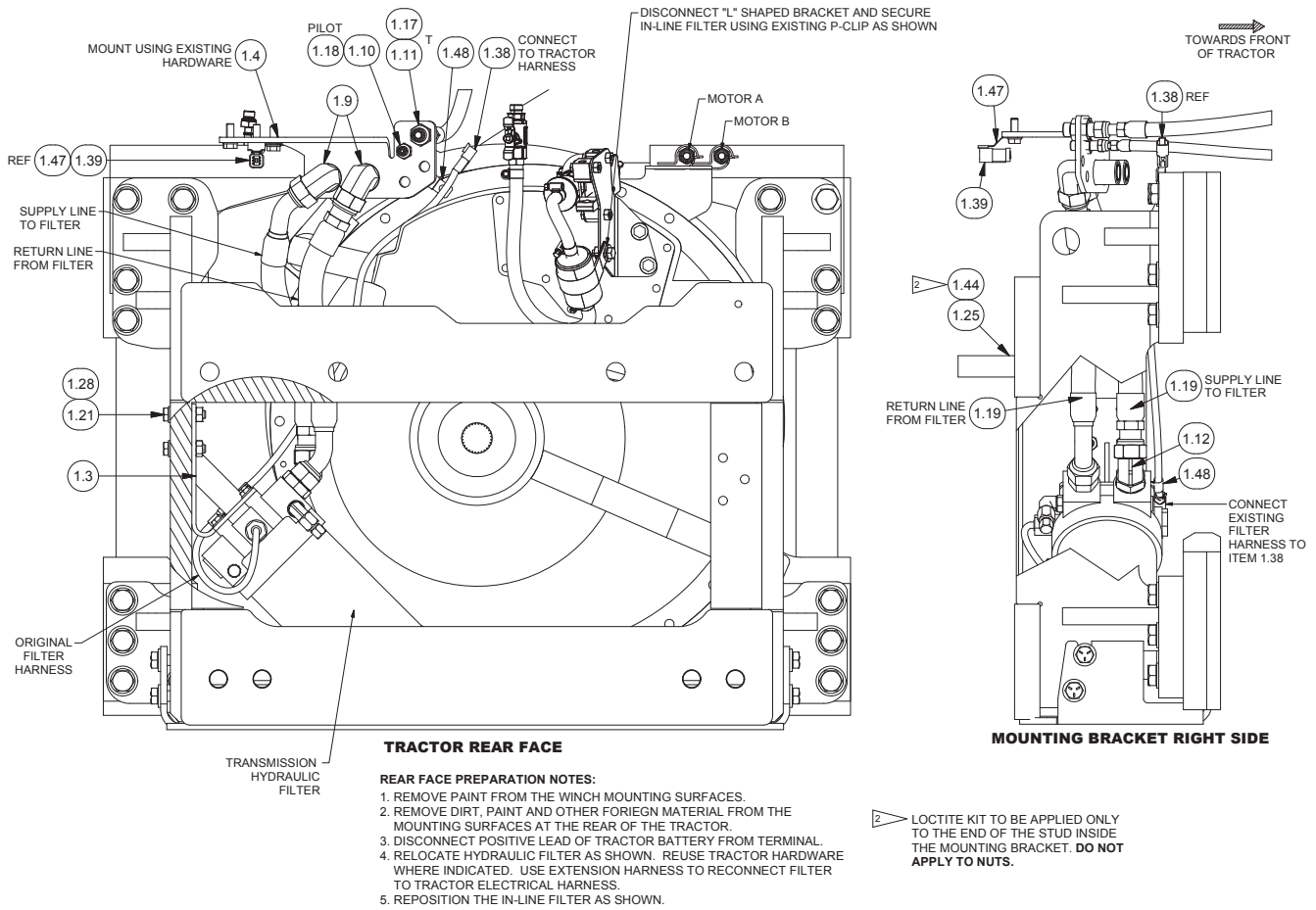
**CONTROL MANIFOLD DETAIL**

**External Hydraulic Group**  
 Caterpillar D6N (H6HT\*\*DC811) with FREESPOOL  
 First Used S/N 1714  
 Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.11	*a 2312350	2	Hose Assy	1.32	2307241W	1	Label - Pilot
1.12	*a 2313844	1	Hose Assy	1.33	2310919	1	Label - Motor A
1.16	*a 2315641	1	Hose Assy	1.34	2310920	1	Label - Motor B
1.17	*a 2313639	1	Hose Assy	1.35	R12577880	6'	Sleeve
1.19	*a 2312351	1	Hose Assy	1.36	129563W	8	Cable Tie
1.22	*a 2312358	1	Hose Assy	1.38	2313137	1	Harness, Wire
1.23	2313960	1	Manifold Assy, Control (See p. 113)	1.40	R834200	1	Fitting
1.26	*a 2314231	1	Hose Assy	1.41	232960	3	Fitting
1.27	*a 2311572	1	Hose Assy	1.42	242598	1	Cable Tie
1.28	234191	2	Fitting	1.45	219288	2	Plug
1.29	*a 2314423	1	Hose Assy	1.46	243502	1	Plug, 2 Conductor
1.30	*a 2314422	1	Hose Assy	1.47	243506	1	Plug, Wedgelock
1.31	2306151W	1	Label - T	*a	Included in Hose Kit 2314768		

# Hydraulic Filter Relocation

## Caterpillar D6N (C811)

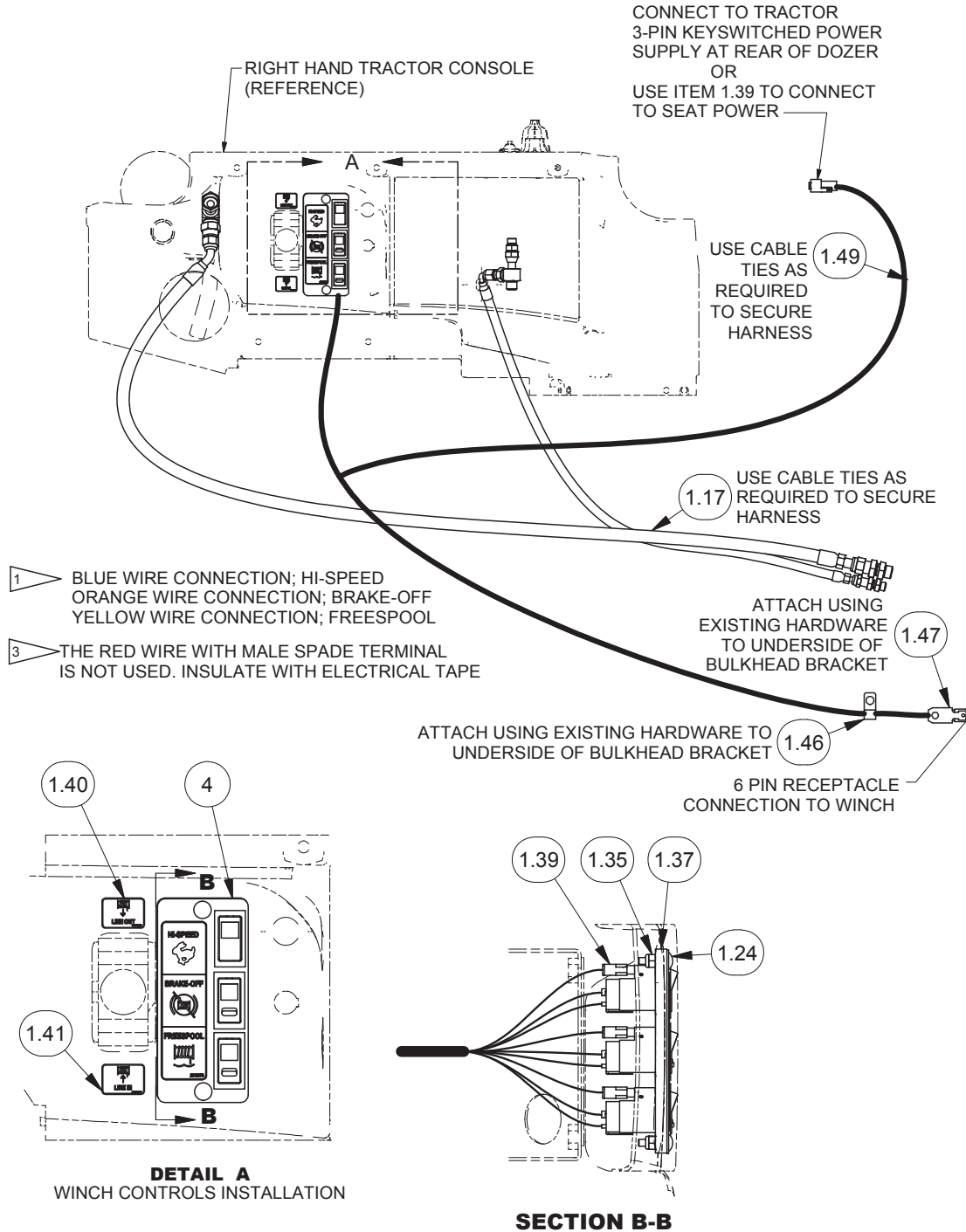


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.3	2314735	1	Bracket, Filter Assy Mounting	1.28	296422W	4	Washer
1.4	2313133	1	Plate, D6N Bulkhead	1.38	2305617W	1	Harness, Filter External
1.9	2305620W	2	Fitting	1.39	2313961	1	Harness, Console Wire
1.10	R834100	1	Fitting	1.44	230064W	1	Loctite Kit
1.11	R834103	1	Fitting	1.47	2311550	1	Clip, Harness Mounting
1.12	R833217	1	Fitting	1.48	243057	2	Clamp
1.17	*a 254680	1	Assy, Hose				
1.18	*a 249465	1	Assy, Hose	*a	Included in Hose Kit 2314768		
1.19	*a 2314742	2	Assy, Hose	*b	Use Loctite Kit, 230064W, only on the end of the studs inside the mounting bracket. Do not apply to nuts.		
1.21	Y09C-M1255	4	Capscrew				
1.25	*b 2300783W	4	Stud				



# Electrical Installation

Caterpillar D6N (H6HT1DNC811)



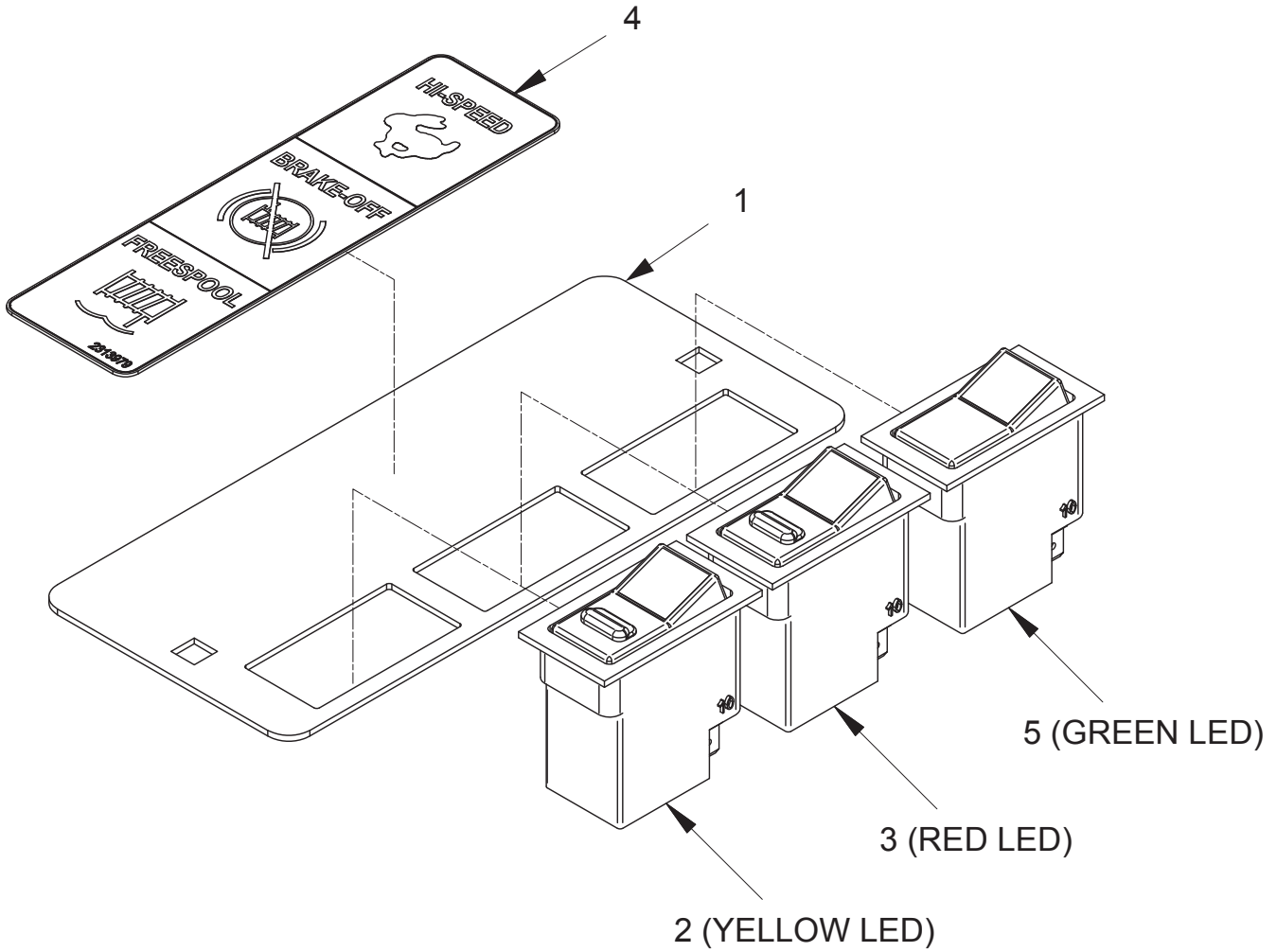
**DETAIL A**  
WINCH CONTROLS INSTALLATION

**SECTION B-B**

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.17	*a 254680	1	Hose Assy	1.46	R13807642	1	Clip, Insulation
1.24	220000W	2	Bolt	1.47	2311550	1	Clip, Harness Mounting
1.35	R13811189	2	Nut, Lock	1.49	129563W	10	Clamp, Strap
1.37	2313200	1	Spacer, Switch Assy	4	2313978	1	Assy, Switch Panel - BRAKE-OFF & HI-SPEED (See p. 92)
1.39	2313961	1	Harness, Console Wire				
1.40	2307122W	1	Decal, Winch Out				
1.41	2307121W	1	Decal, Winch In				

\*a Included in Hose Kit 2314768

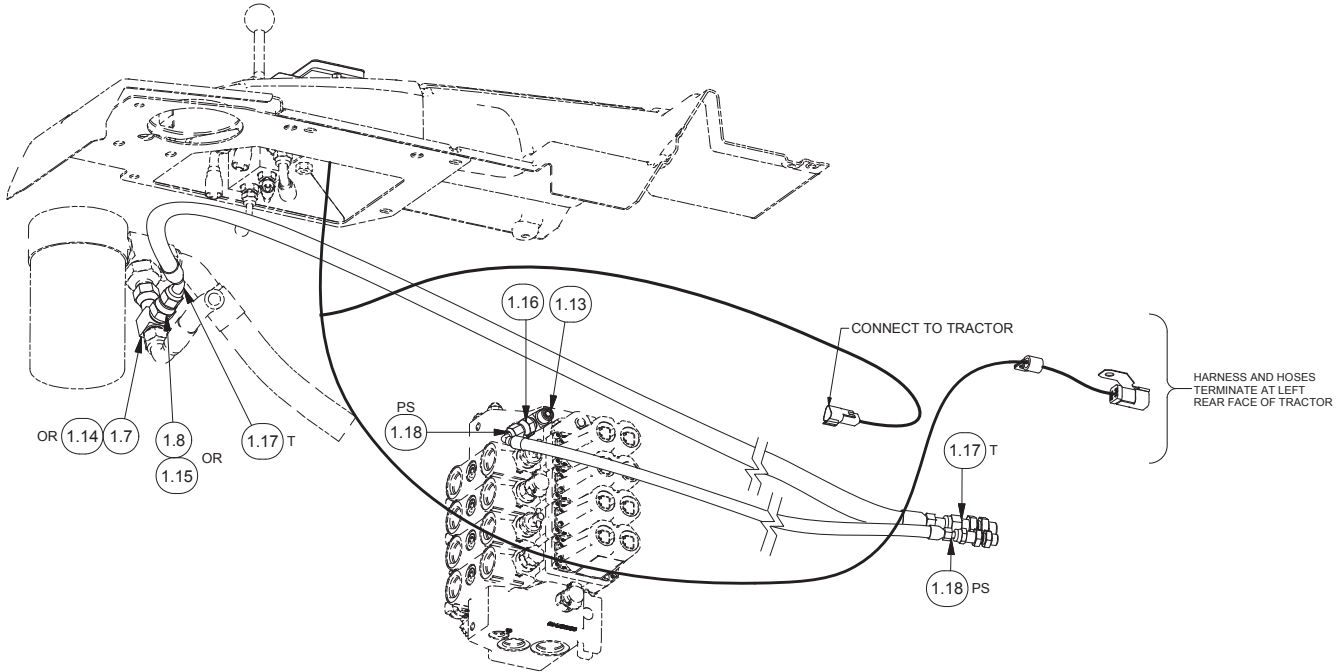
**Switch Panel Assy**  
 FREESPOOL, BRAKE-OFF & HI-SPEED  
 Caterpillar D6N (H6HT1DC811)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313978</b>	<b>1</b>	<b>Assy, Switch Panel; FREE-SPOOL, BRAKE- OFF &amp; HI-SPEED</b>				
1	2313136	1	. Plate, Switch Mounting	4	2313979	1	. Decal, Switch Panel
2	2310013	1	. Assy, Switch; 24V, Yellow	5	2311072	1	. Assy, Switch; 24V, Green
3	2310504	1	. Assy, Switch; 24V, Red				

# Console Hydraulics

Caterpillar D6N (C811)



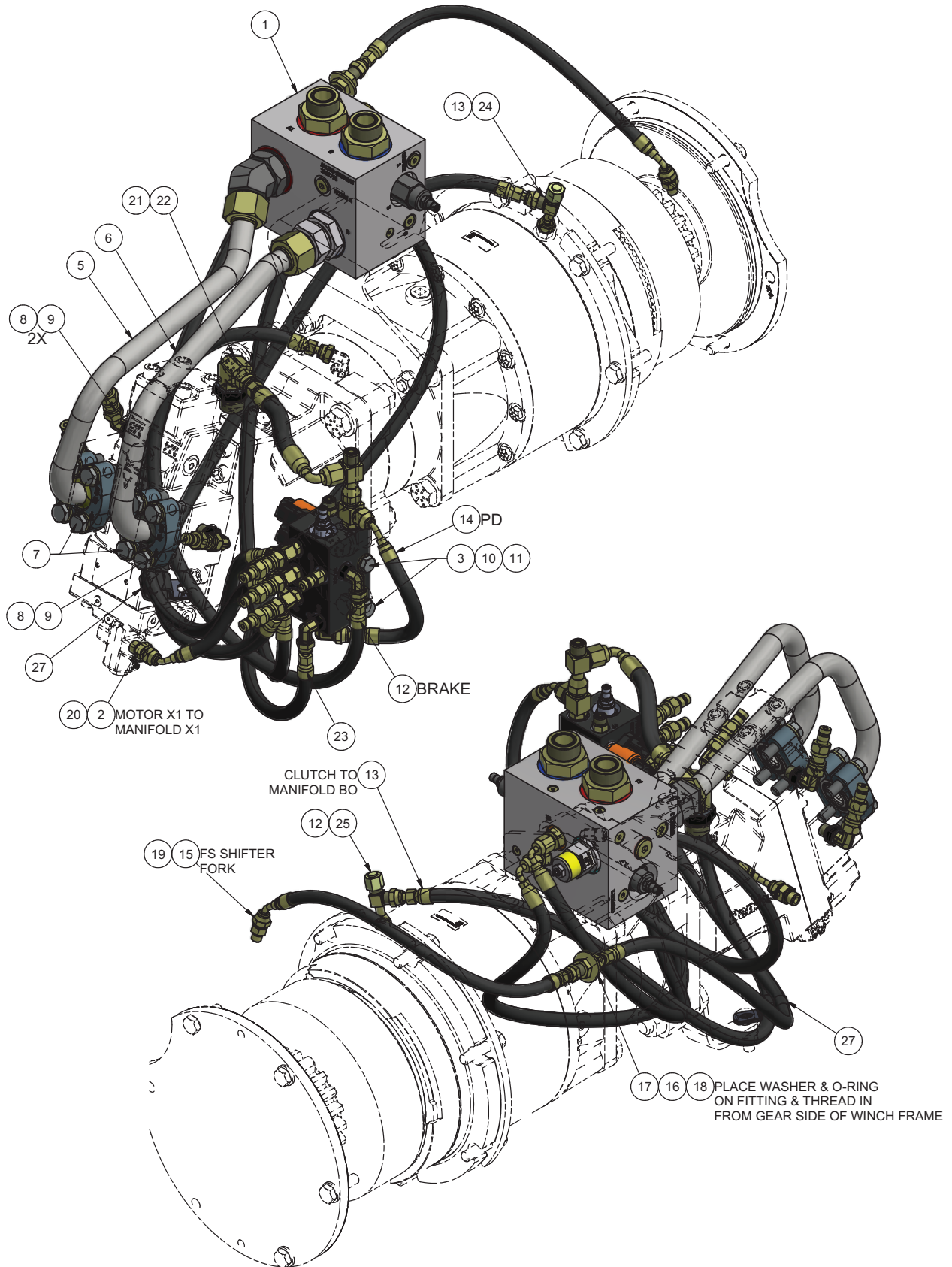
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.13	231955	1	Fitting	1.16	242629	1	Fitting
1.14	R834055	1	Fitting	1.17	*a 254680	1	Assy, Hose
1.15	2307958W	1	Fitting	1.18	*a 249465	1	Assy, Hose

\*a Included in Hose Kit 2314768

# Internal Hydraulic Group

Caterpillar D5 BUILD 17 A/B (H6HT\*DLC812)

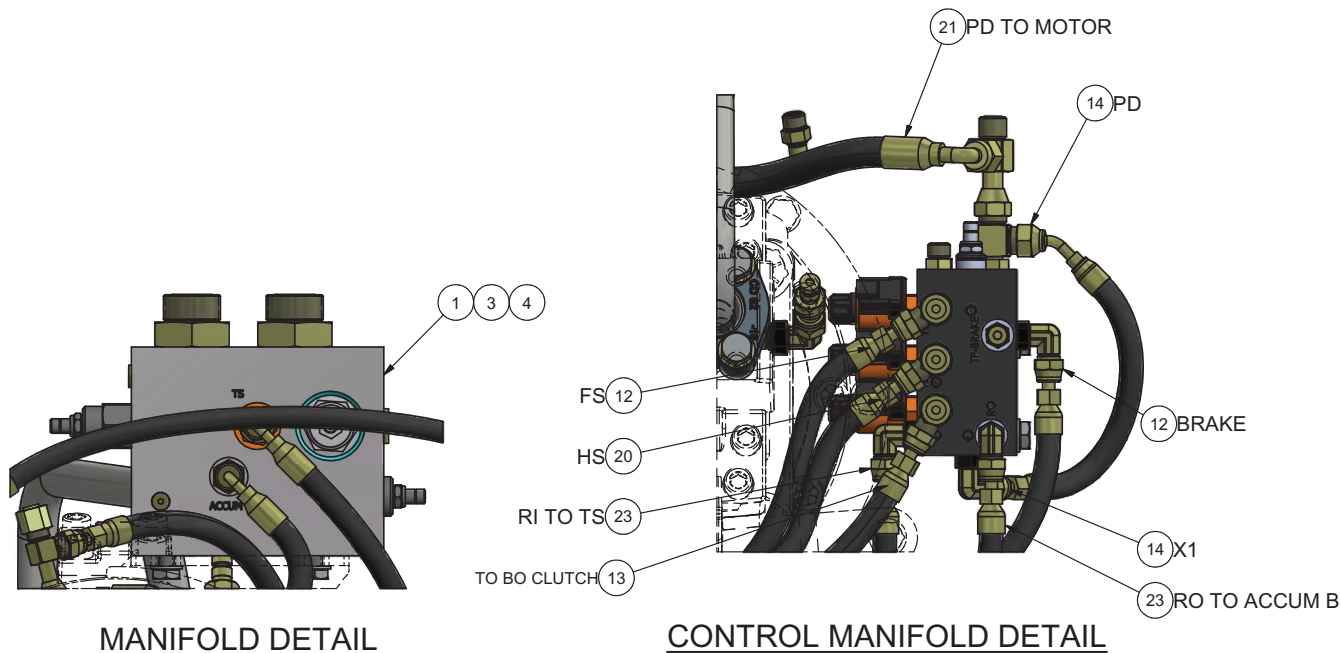
Page 1 of 2



## Internal Hydraulic Group

Caterpillar D5 BUILD 17 A/B (H6HT\*DLC812)

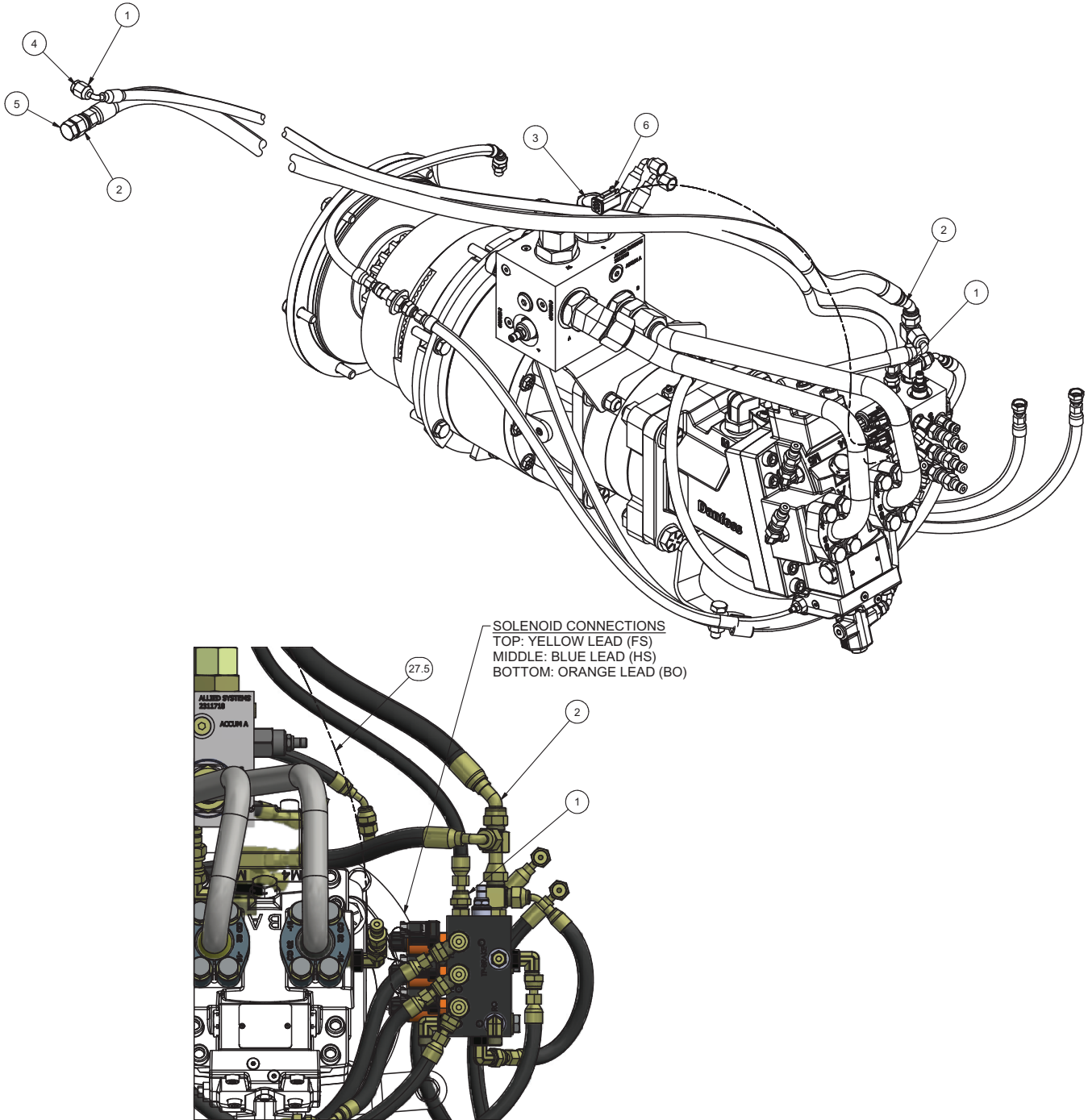
Page 2 of 2



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	2314727	1	Manifold Assembly, CBR (See p. 114)	14	*a 2313844	1	Hose Assembly
2	R833103	1	Fitting	15	*a 2312212	1	Hose Assembly
3	Y09C-M1025	4	Capscrew	16	R834100	1	Fitting
4	221767W	2	Washer	17	15178W	1	Washer
5	2316108	1	Tube Assembly	18	211564	1	O-Ring
6	2316109	1	Tube Assembly	19	231439	1	Fitting
7	592255	2	Kit, Split Flange	20	*a 2313639	1	Hose Assembly
8	R833253	3	Fitting	21	*a 2312358	1	Hose Assembly
9	2307625W	3	Fitting	22	R833260	1	Fitting
10	2313960	1	Manifold Assembly, Control (See p. 113)	23	*a 2315641	2	Hose Assembly
11	296420W	2	Washer	24	236855	1	Fitting
12	*a 2312350	2	Hose Assembly	25	232984	1	Fitting
13	*a 2312351	1	Hose Assembly	26	129563W	8	Cable Tie
				27	2312628	1	Clamp
				*a	Included in Hose Kit 2317933		

## Attaching Hydraulics Group

Caterpillar D5 BUILD 17 A/B (H6HT\*DLC812)



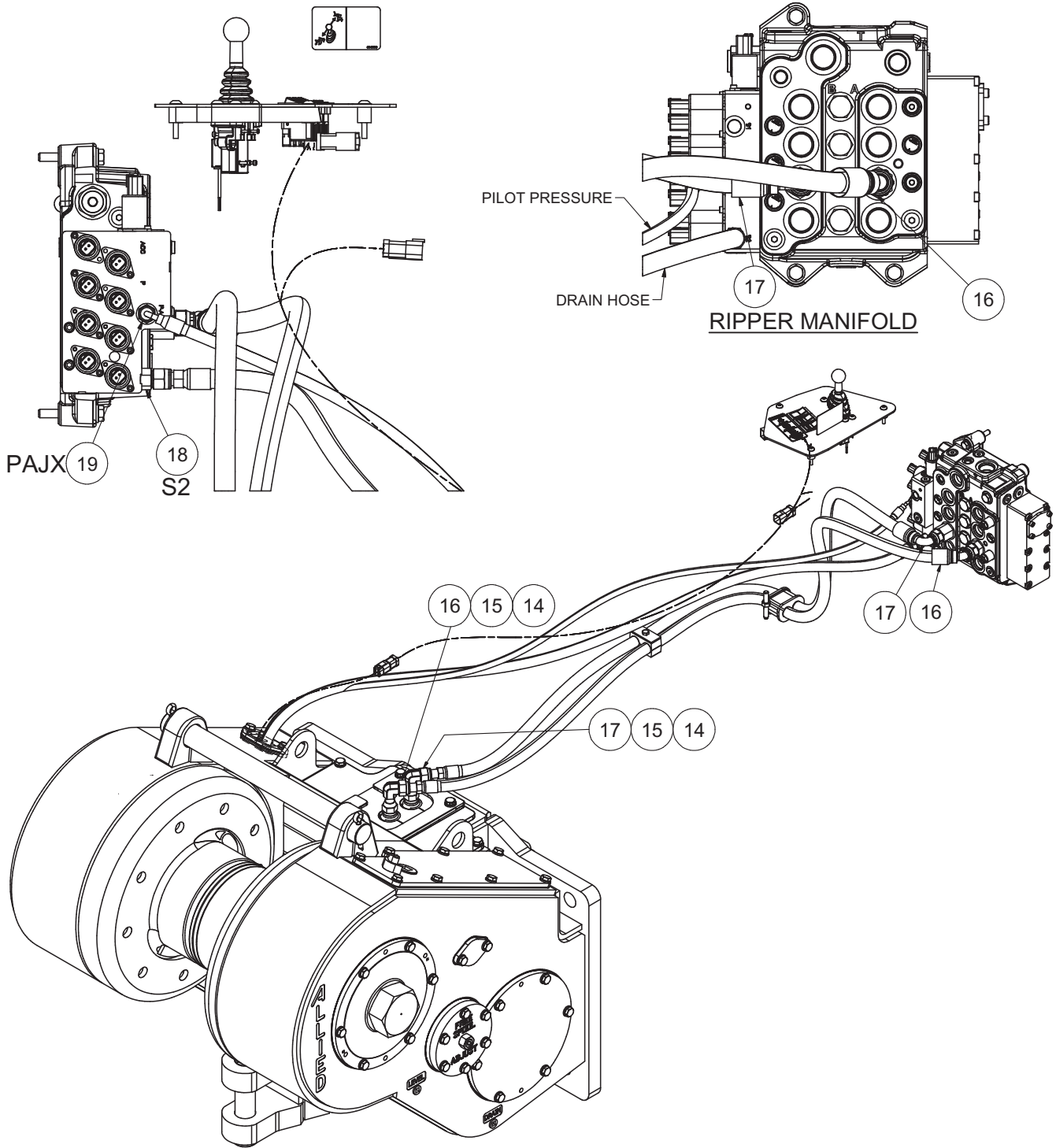
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1	*a 2317865	1	Hose Assembly	4	R834200	1	Fitting
2	*a 2317866	1	Hose Assembly	5	232960	1	Fitting
3	231820	2	Fitting	6	2315725	1	Harness - Wire, Winch
	232383	1	. O-Ring				

\*a Included in Hose Kit 2317933



# Winch Hydraulics

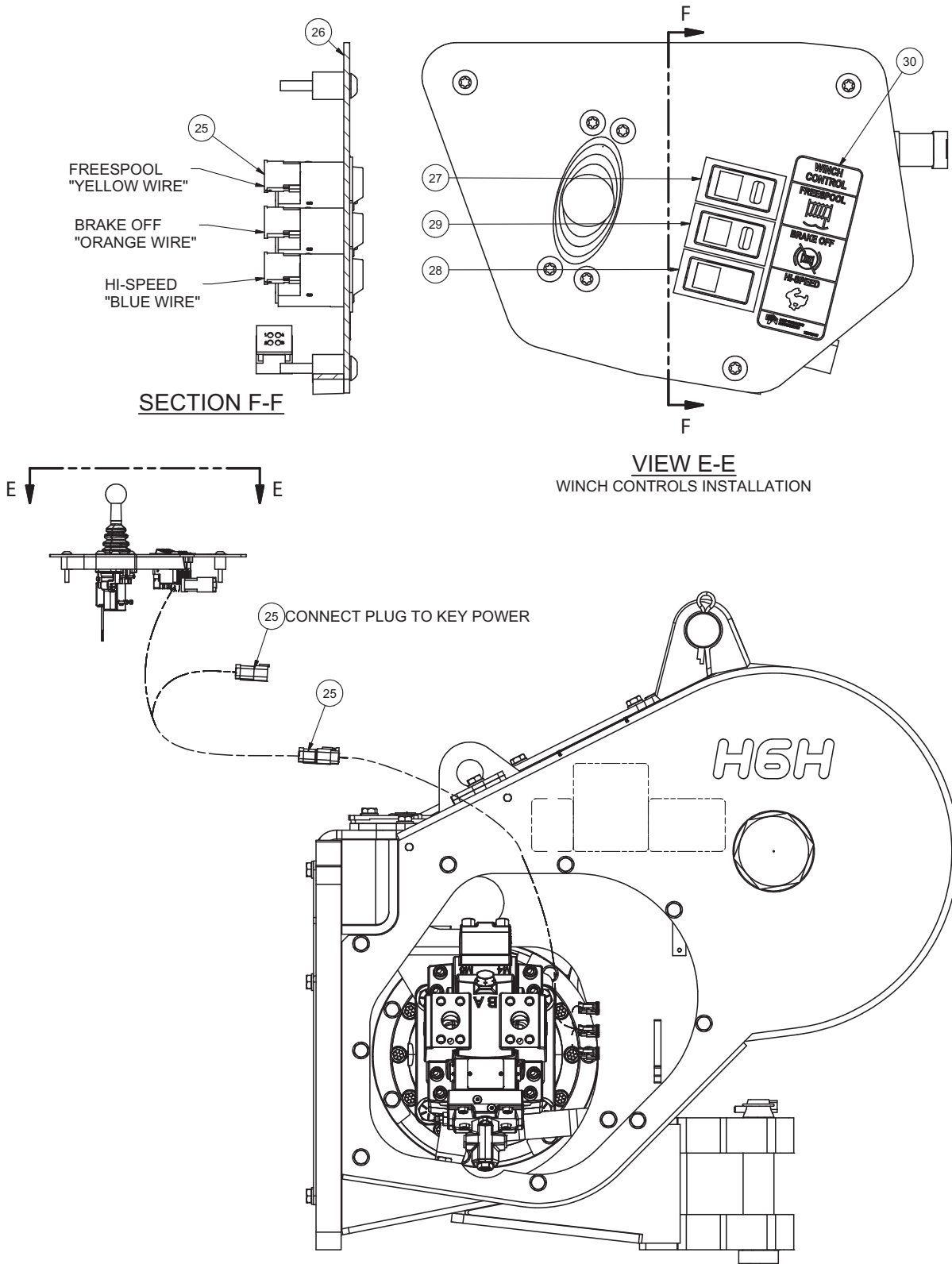
Caterpillar D5 BUILD 17 A/B (C812)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
14	2307104W	2	Fitting	18	R833112	1	Fitting
	R833803	2	Fitting	19	R833103	1	Fitting
16	*a 2317867	1	Hose Assembly				
17	*a 2317868	1	Hose Assembly	*a	Included in Hose Kit 2317933		

## Electrical Installation

Caterpillar D5 BUILD 17 A/B (C812)

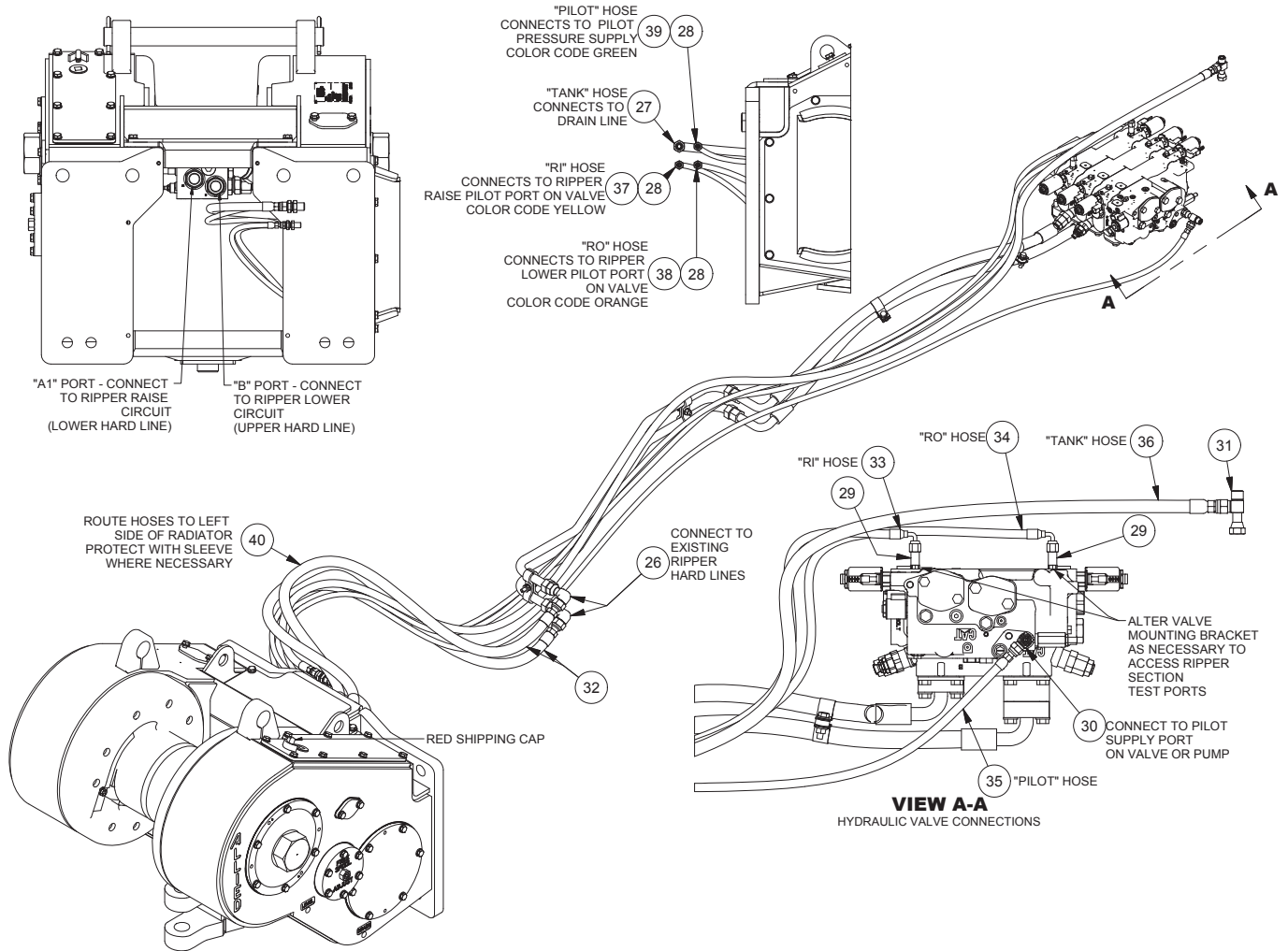


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
25	2317878	1	Harness - Wire, Console	28	2311072	1	Switch Assembly (Green)
26	2317880	1	Controls Mount	29	2310504	1	Switch Assembly (Red)
27	2310013	1	Switch Assembly (Yellow)	30	2307054W	1	Decal, Switch Panel



## External Hydraulic Group

### Caterpillar 963D Track Loader (H6HT1BC963) \*b



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
26	R833804	2	Fitting	34	*a 2316103	1	Hose Assembly
27	R834103	1	Fitting	35	*a 2316104	1	Hose Assembly
28	R834100	3	Fitting	36	*a 2316105	1	Hose Assembly
29	2316077	2	Fitting	37	242597	2	Cable Tie
30	231955	1	Fitting	38	242596	2	Cable Tie
31	R834052	1	Fitting	39	242598	2	Cable Tie
32	*a 2316101	2	Hose Assembly	40	255101	10'	Sleeve, Cordura
33	*a 2316102	1	Hose Assembly				

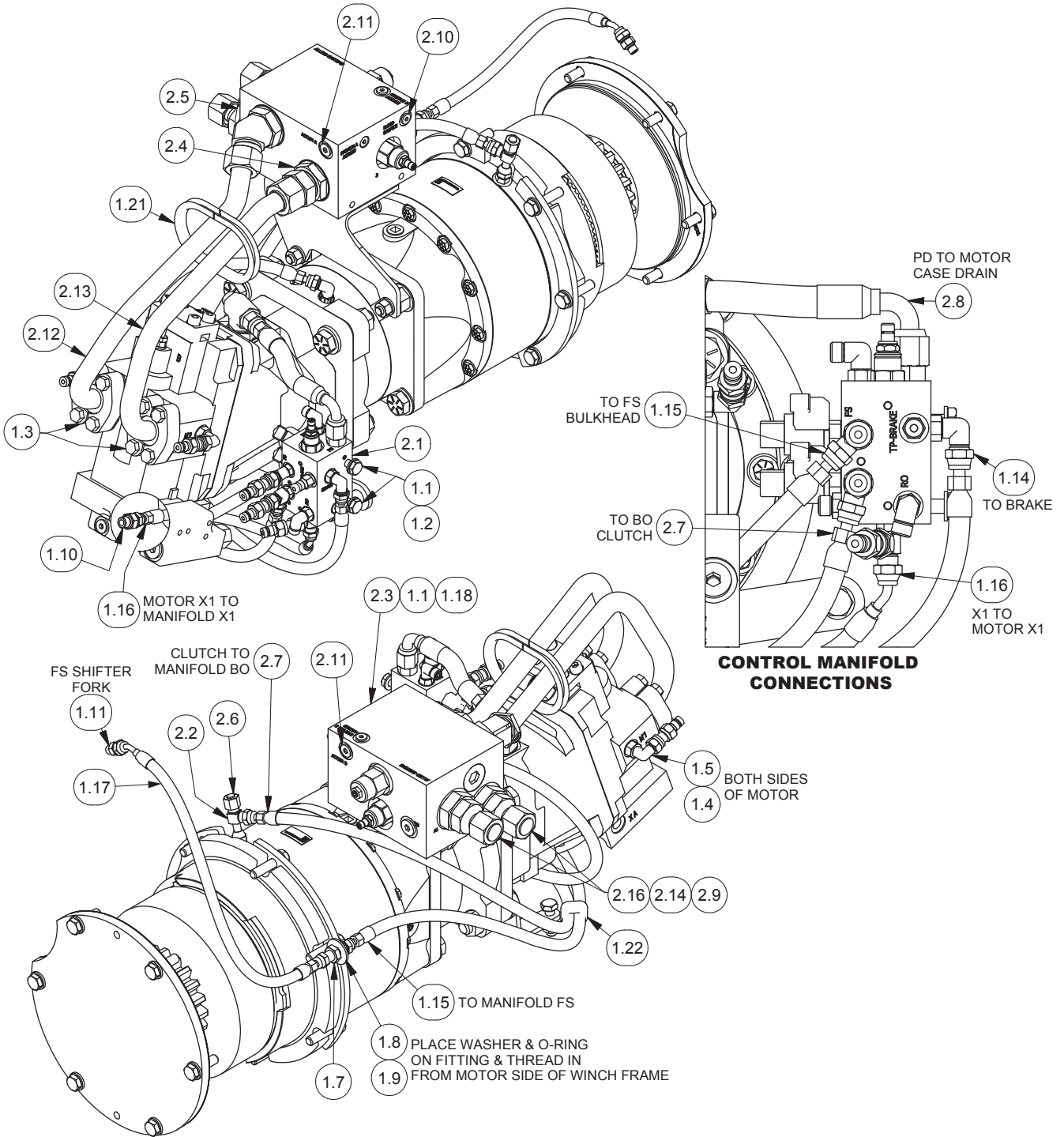
\*a Included in Seal Kit 2317934

\*b Consult Factory For H6HT1DC963 Parts Information

# Hydraulic Installation

Caterpillar 963D Track Loader (H6HT1BC963) \*b

Page 1 of 2



\* Consult Factory For H6HT1DC963 Parts Information

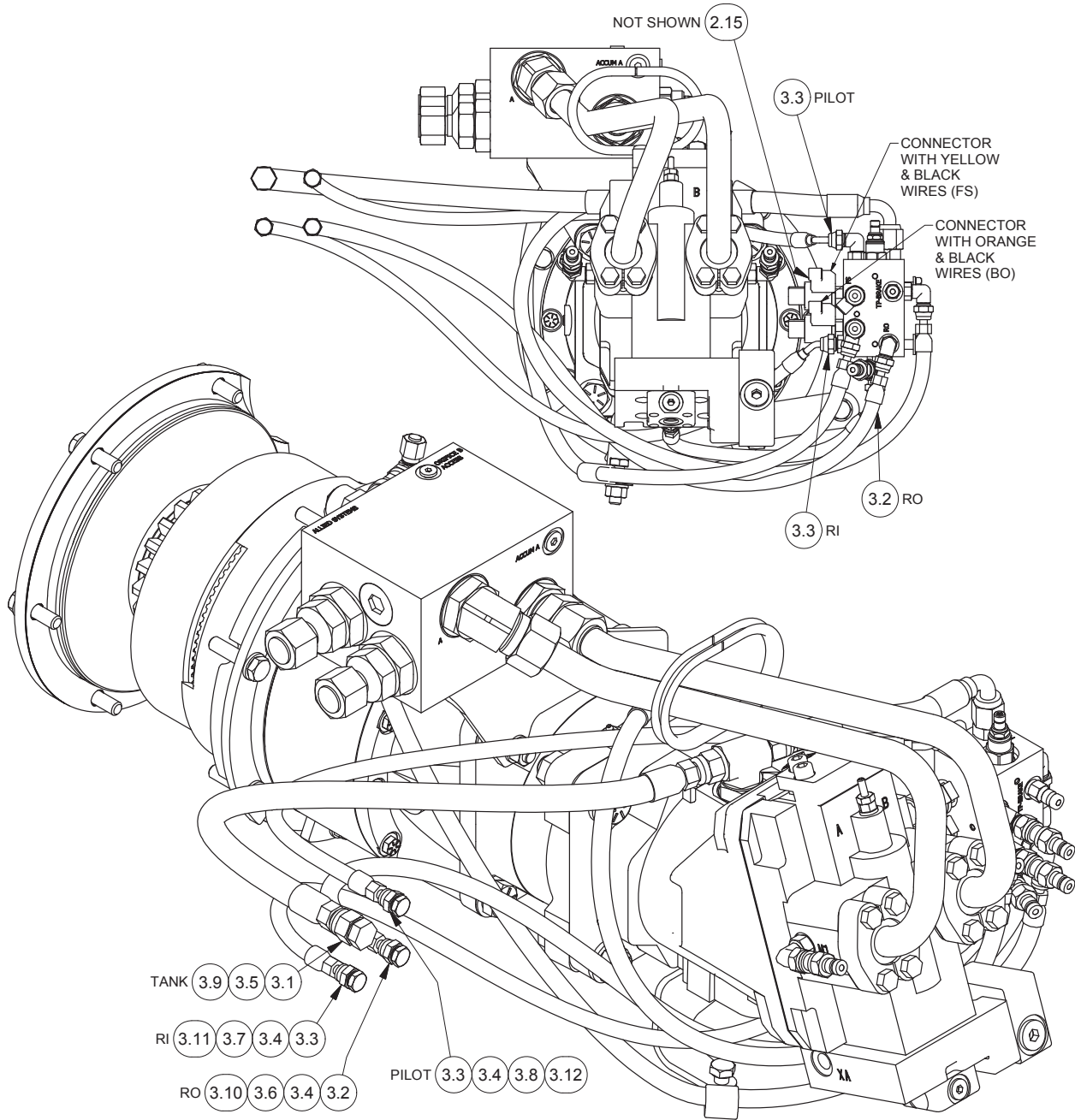
## Hydraulic Installation

Caterpillar 963D Track Loader (H6HT1BC963) \*b  
Page 2 of 2

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
1.1	Y09C-M1025	4	Capscrew	2.2	236855	1	Fitting
1.2	296420W	2	Washer	2.3	2314242	1	Assembly - Manifold, Counterbalance Relief (See p. 118)
1.3	229448	2	Kit, Split Flange				
1.4	2307625W	2	Fitting	2.4	2313948	1	Fitting
1.5	R833253	2	Fitting	2.5	R833218	1	Fitting
1.7	R834100	1	Fitting	2.6	232984	1	Fitting
1.8	15178W	1	Washer	2.7	*a 2312351	1	Hose Assembly
1.9	211564	1	O-Ring	2.8	*a 2313045	1	Hose Assembly
1.10	R833103	1	Fitting	2.9	R833133	2	Fitting
1.11	231439	1	Fitting	2.10	235387	1	Fitting
1.14	*a 2312353	1	Hose Assembly	2.11	229383	2	Fitting
1.15	*a 2312350	1	Hose Assembly	2.12	2314162	1	Tube Assembly
1.16	*a 2312878	1	Hose Assembly	2.13	2314690	1	Tube Assembly
1.17	*a 2312212	1	Hose Assembly	2.14	234191	2	Fitting
1.18	221767W	2	Washer	2.15	2316050	1	Wire Harness, Winch
1.21	24257	1'	Trim, Edge	2.16	231821	2	Fitting
1.22	2312628	1	Clamp		232382	1	. O-Ring
2.1	2313043	1	Assembly - Manifold, Control (109)				
				*a	Included in Seal Kit 2317934		
				*b	Consult Factory For H6HT1DC963 Parts Information		

## Attaching Hydraulics

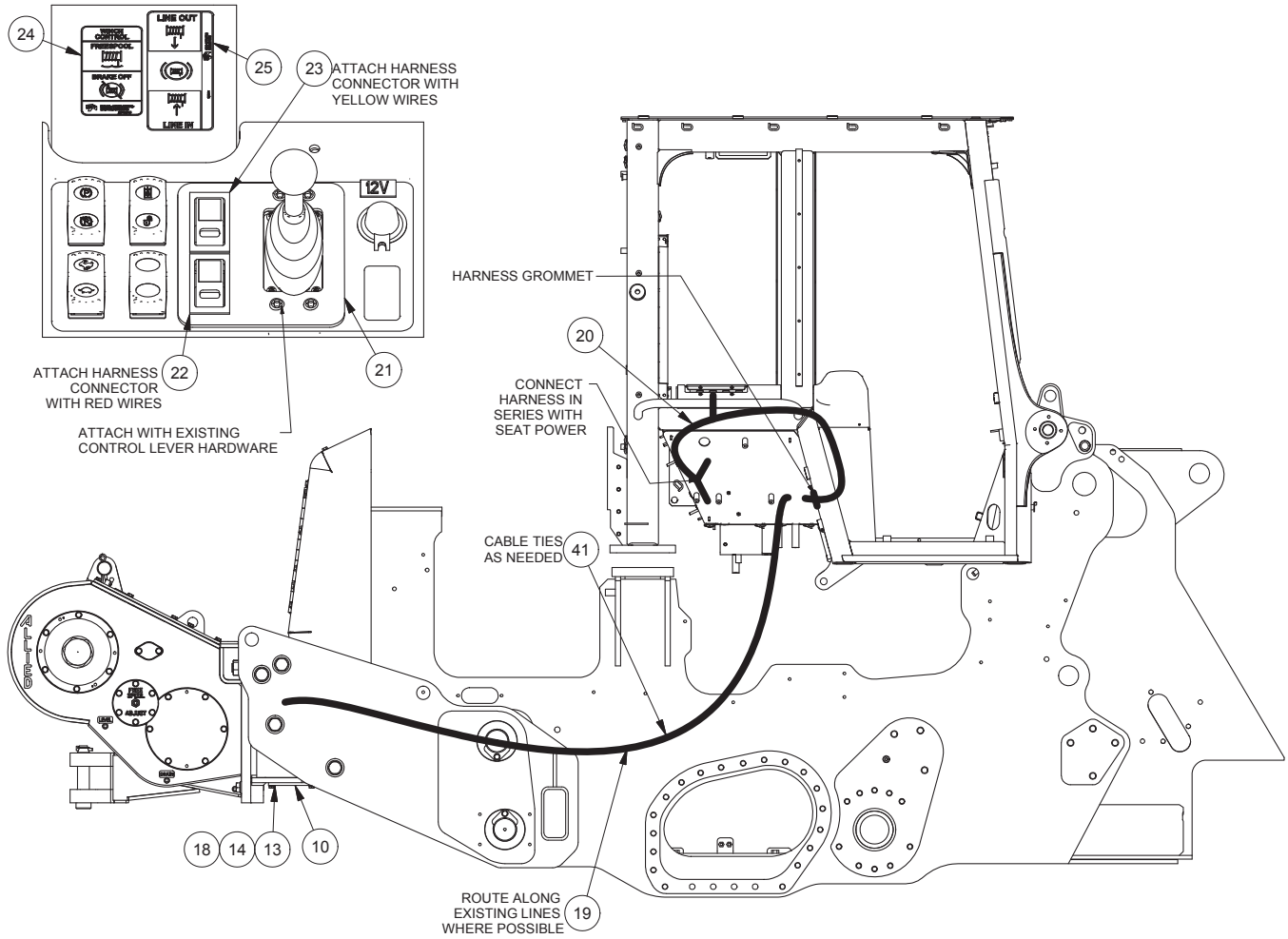
Caterpillar 963D Track Loader (H6HT1BC963) \*b



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.15	2316050	1	Wire Harness, Winch	3.8	2307241W	1	Label - Pilot
3.1	*a 049-2392	1	Hose Assembly	3.9	2307242W	1	Label - Tank
3.2	*a 236893	1	Hose Assembly	3.10	242596	1	Cable Tie
3.3	*a 2316081	2	Hose Assembly	3.11	242597	1	Cable Tie
3.4	R834200	3	Fitting	3.12	242598	1	Cable Tie
3.5	232960	1	Fitting				
3.6	2307238W	1	Label - RO				
3.7	2307239W	1	Label - RI	*a	Included in Seal Kit 2317934		
				*b	Consult Factory For H6HT1DC963 Parts Information		

## Electrical Installation

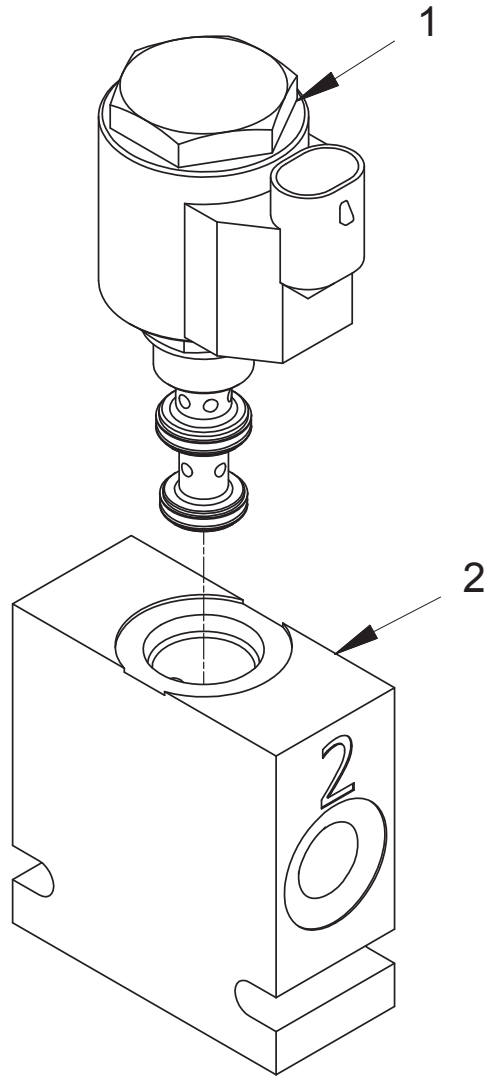
Caterpillar 963D Track Loader (H6HT1BC963)\*



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
10	2316059	1	. Cover Plate - Lower	22	2310504	1	. Switch Assembly
13	296422W	10	. Washer	23	2310013	1	. Switch Assembly
14	292527W	10	. Capscrew	24	2310414	1	. Decal
19	2316069	1	. Wire Harness, Ext	25	2312177	1	. Decal
20	2316070	1	. Wire Harness, Console	41	223872	15	Cable Tie
21	2315593	1	. Plate, Control Mounting				

\* Consult Factory For H6HT1DC963 Parts Information

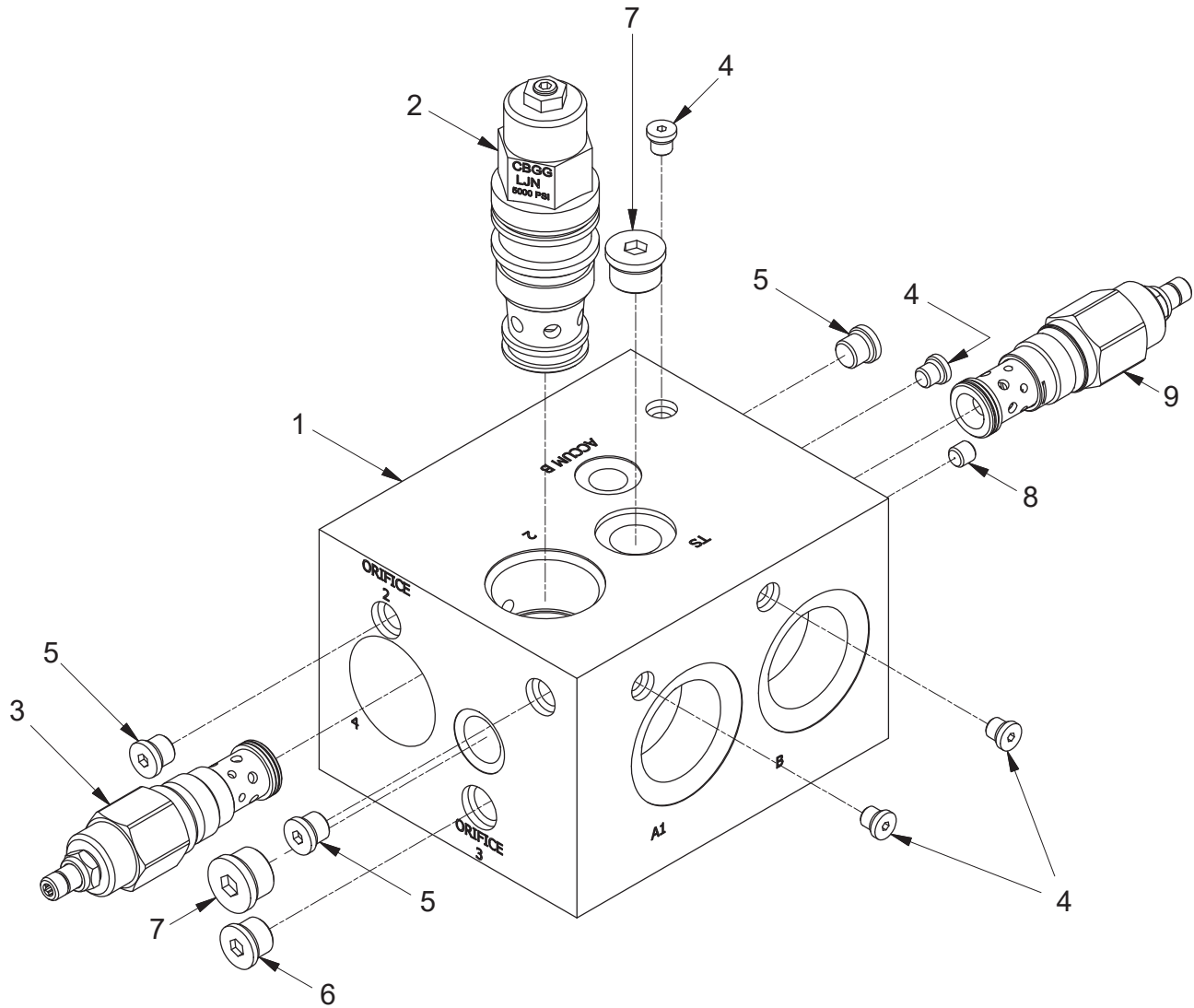
**Valve Manifold Assy**  
 Caterpillar D6N (H6GT\*EC81, H6HT\*BC81)  
 Caterpillar 963D (H6HT1DC963)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2307833W</b>	<b>1</b>	<b>Assy, Valve Manifold</b>				
1	2307834W	1	. Valve, Solenoid Cartridge				
1.1	2307835W	1	.. Valve, Cartridge				
1.2	250589	1	.. Coil, Solenoid				
1.3	R15668	1	.. Kit, Seal				
2	R12973129	1	. Body, Valve				

### Counterbalance Relief Manifold Assy

Caterpillar DR Series II, III, D6T (H6H\*C71)  
 Caterpillar D6/D6XE BUILD 20A (H6H\*C712)  
 Caterpillar D6N (H6H\*C81)  
 Caterpillar D6N (H6H\*C811)  
 Caterpillar D5 BUILD 17 A/B (H6H\*C812)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2311718</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>				
1	2311719	1	. Body, Manifold	5	235387	3	. Fitting
2	2312068	1	. Valve, Counterbalance	6	229383	1	. Fitting
	243815	1	. . Seal Kit	7	229345	2	. Fitting
3	2307438W-3500	1	. Valve, Relief	8	2310181	1	. Plug, Orifice
	259258	1	. . Kit, Seal	9	2307438W-4100	1	. Valve, Relief
4	242230	4	. Fitting		259258	1	. . Kit, Seal

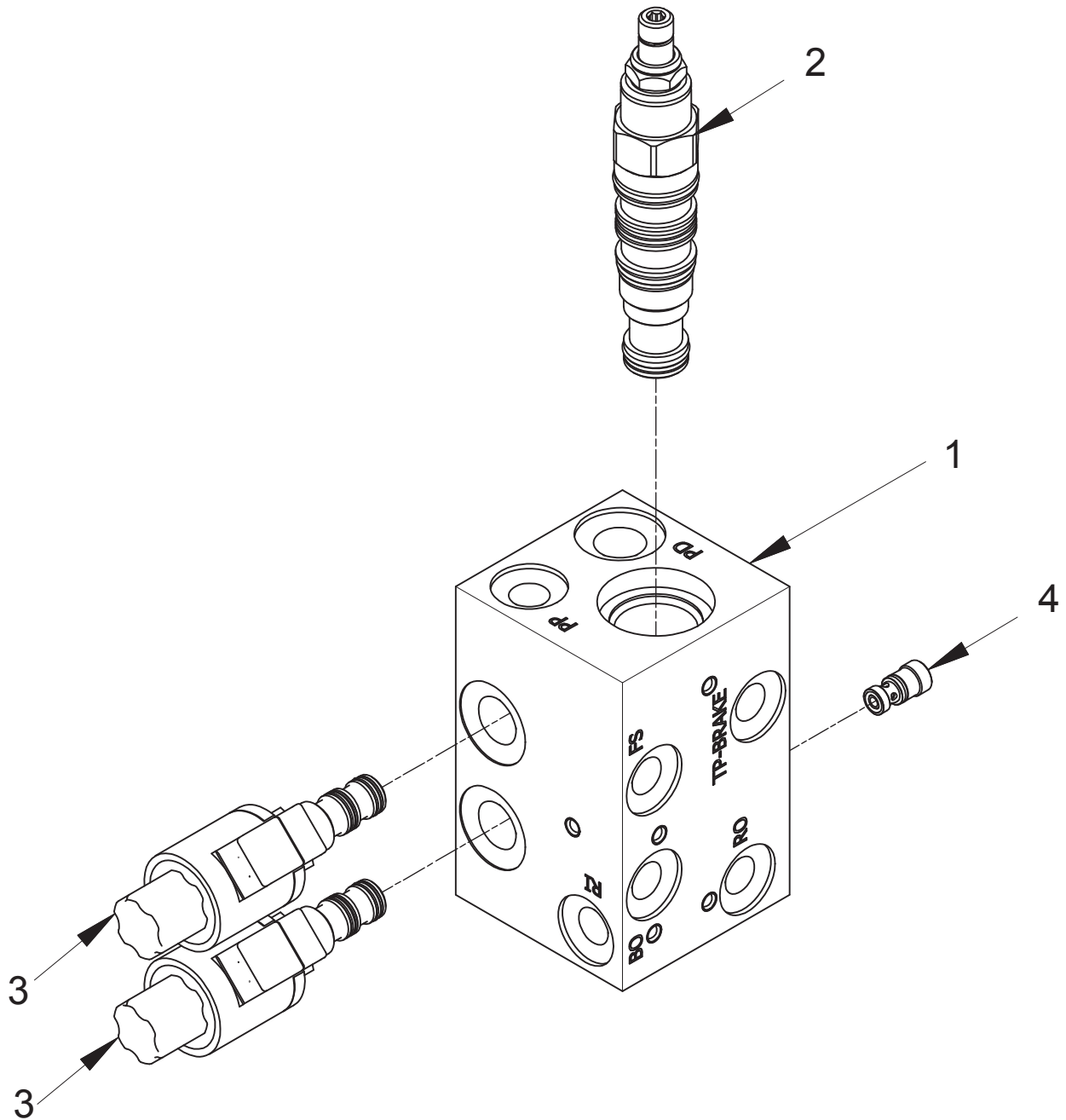
### Control Manifold Assy

Caterpillar DR Series II, III, D6T (H6HT\*C71)

Caterpillar D6N (H6HT\*C81)

Caterpillar D6K2 T4f (H6HH\*C805)

Caterpillar 963D Track Loader (H6HT\*C963)



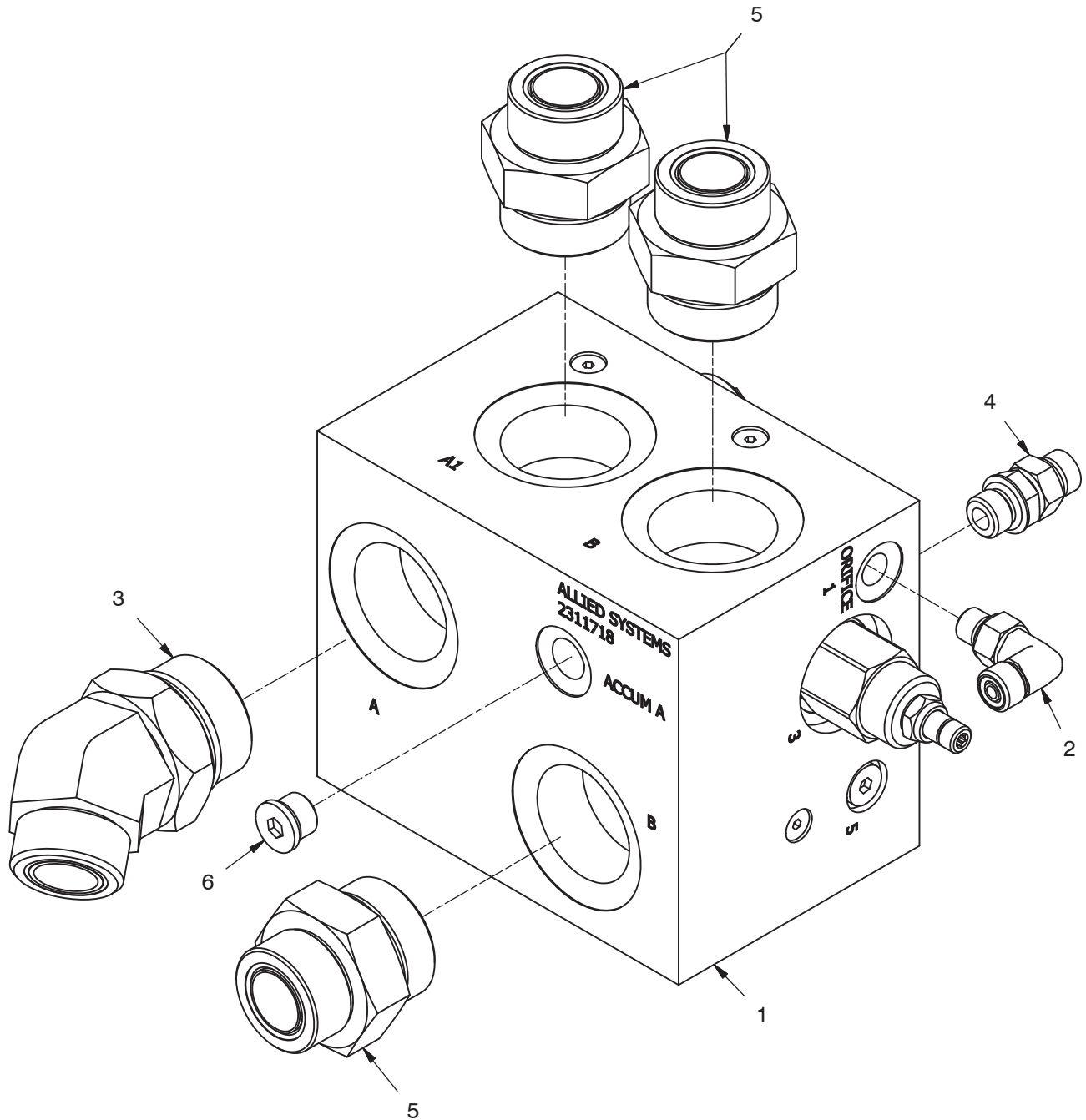
Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2311770</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2311771	1	. Body, Control Manifold	4	2312074	1	. Valve, Shuttle
2	2311592	1	. Valve, Directional		2312112	1	.. Seals, O-Ring
	252566	1	.. Kit, Seal				
3	2312073	2	. Valve, Cartridge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



### Counterbalance Relief Manifold Assy

Caterpillar D6N (C81) and (C811)

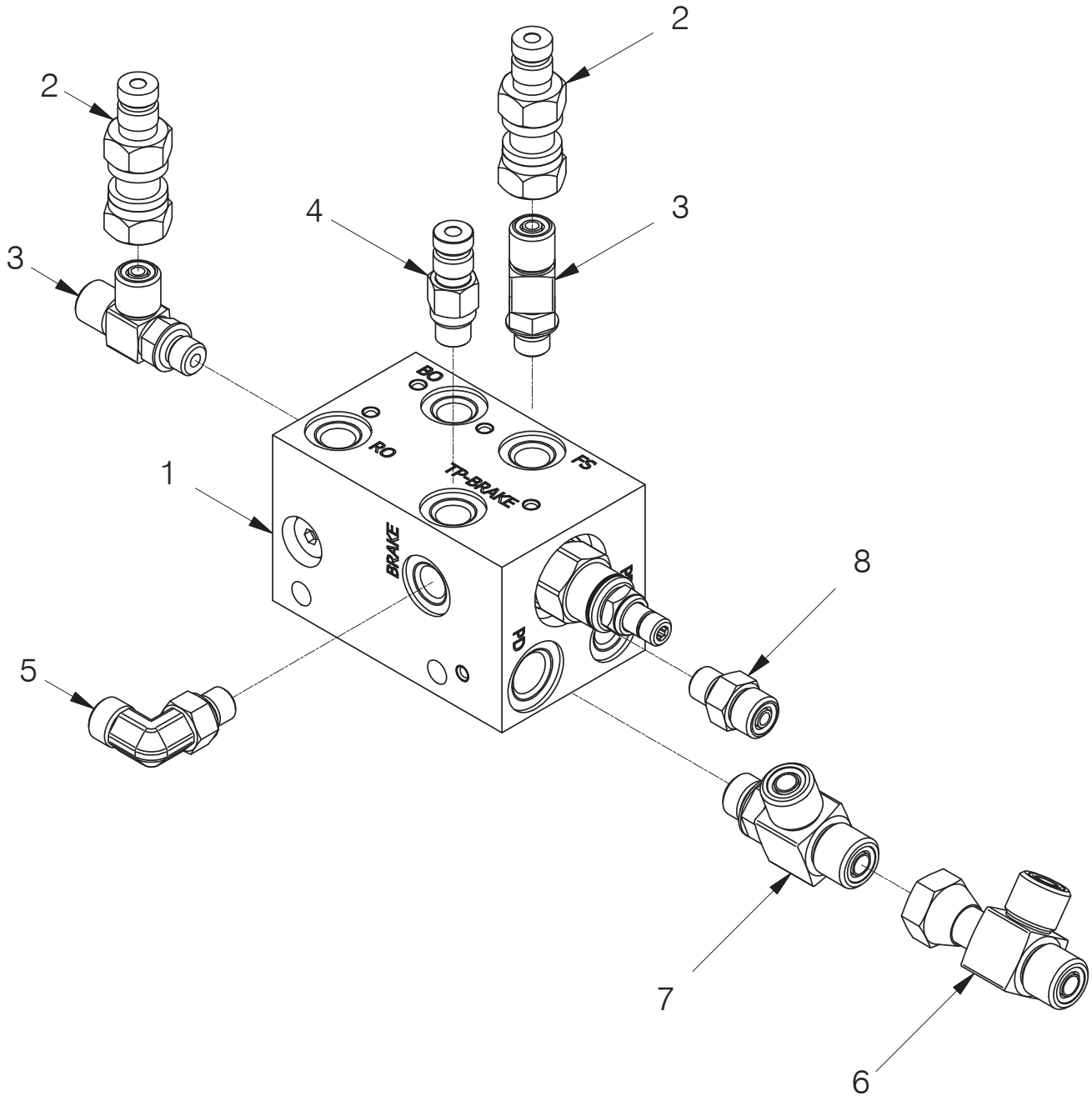
Last Used on S/N 1496



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312816</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>				
1	2311718	1	. Assy, Counterbalance Relief Manifold (See p. 105)	4	229347	1	. Fitting
2	R833251	1	. Fitting	5	R833133	3	. Fitting
3	R833218	1	. Fitting	6	222443W	1	. Fitting

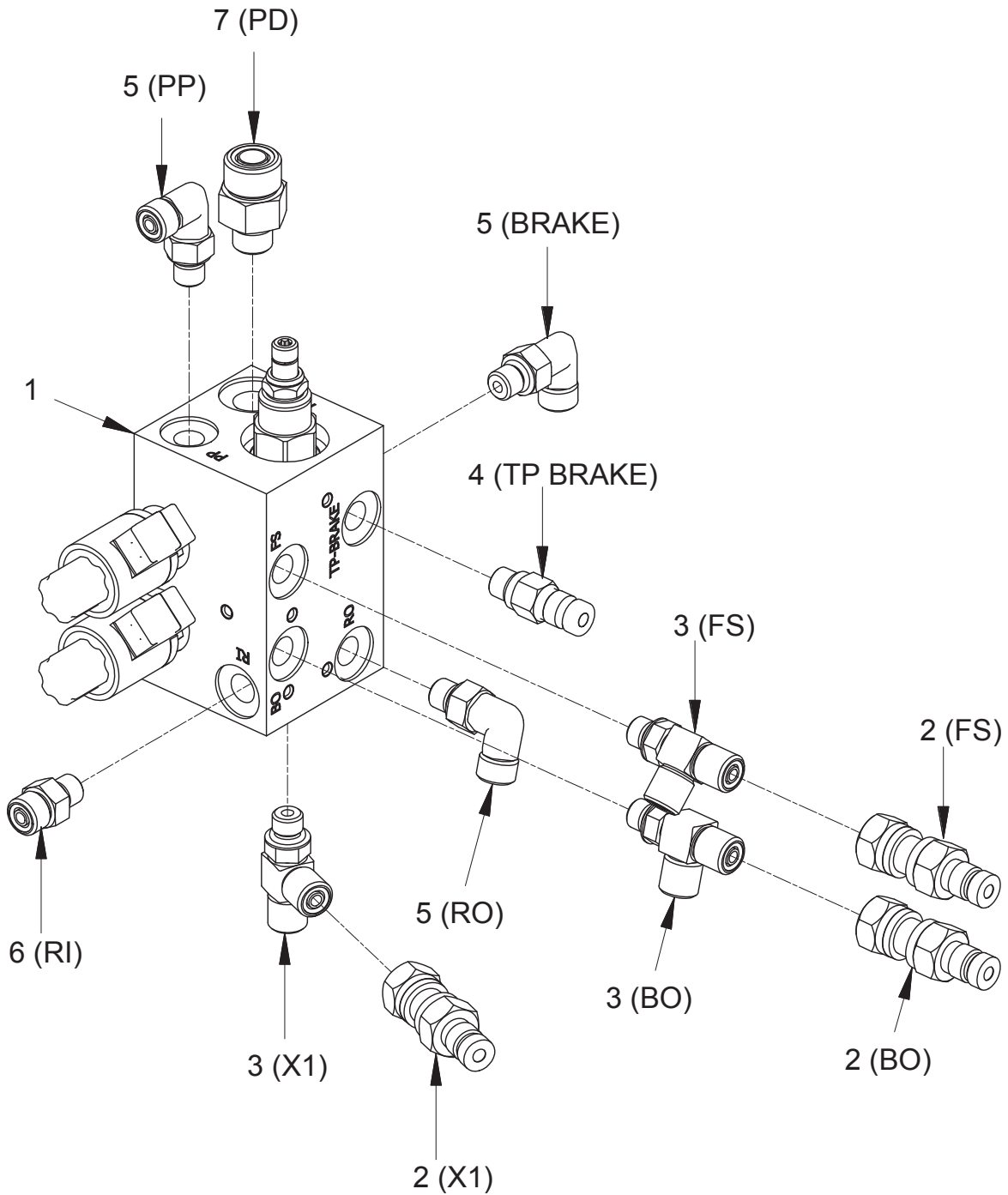
### Control Manifold Assy

Caterpillar D6N (C81)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312908</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2311770	1	. Assy, Control Manifold (See p. 106)	5	R833251	1	. Fitting
2	2307625W	2	. Coupler	6	231955	1	. Fitting
3	R833400	2	. Fitting	7	231465	1	. Fitting
4	R14040	1	. Coupler	8	231439	1	. Fitting

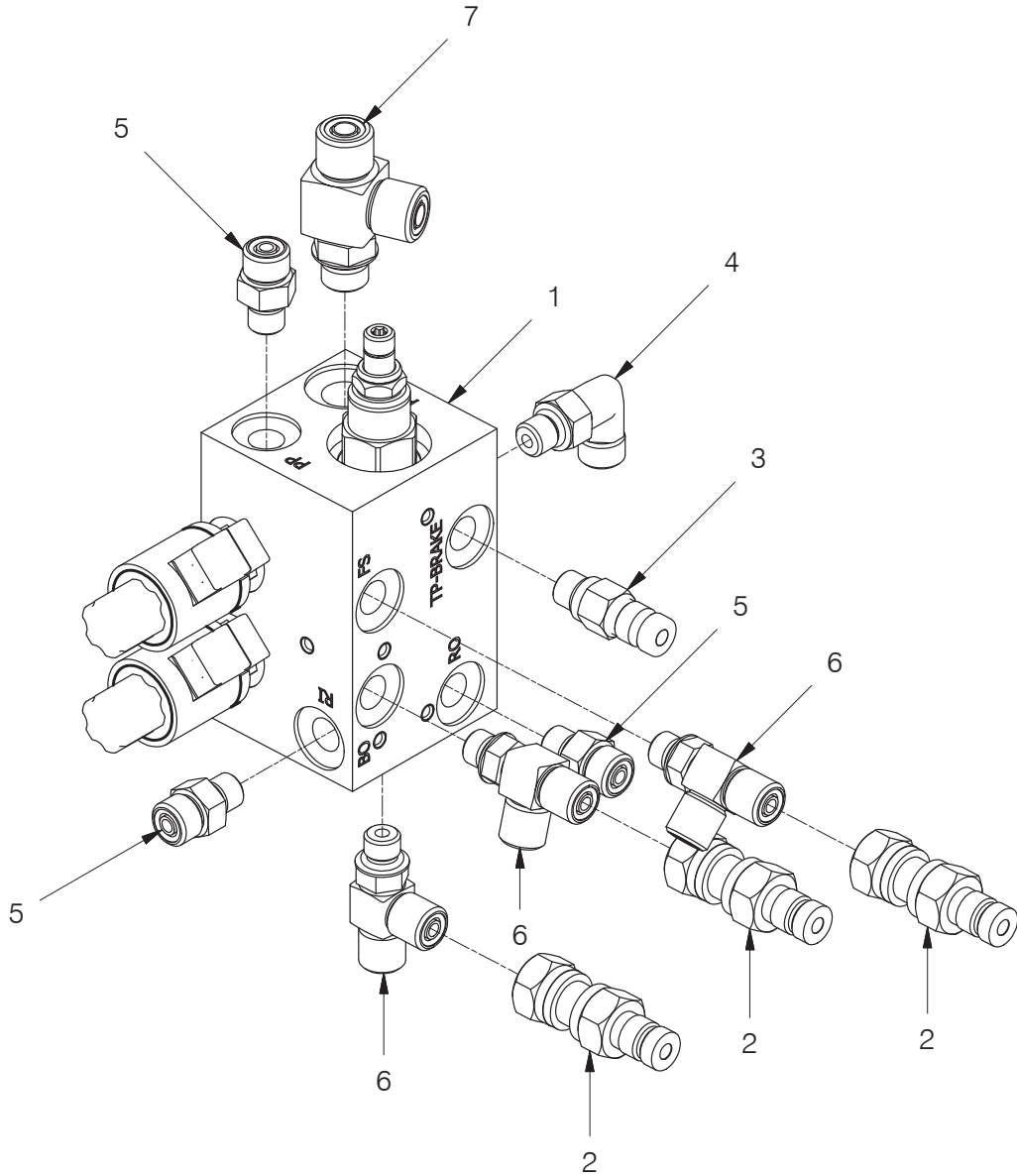
Control Manifold Assy



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313043</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2311770	1	. Assy, Control Manifold (See p. 106)	5	R833251	3	. Fitting
2	2307625W	3	. Coupler	6	231439	1	. Fitting
3	R833400	3	. Fitting	7	R833112	1	. Fitting
4	R14040	1	. Coupler				

### Control Manifold Assy

Caterpillar D6T (C71)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313617</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2311770	1	. Assy, Control Manifold (See p. 106)	5	231439	3	. Fitting
2	2307625W	3	. Coupler, Quick Male	6	R833400	3	. Fitting
3	R14040	1	. Coupler, Quick Male	7	231465	1	. Fitting
4	R833251	1	. Fitting				

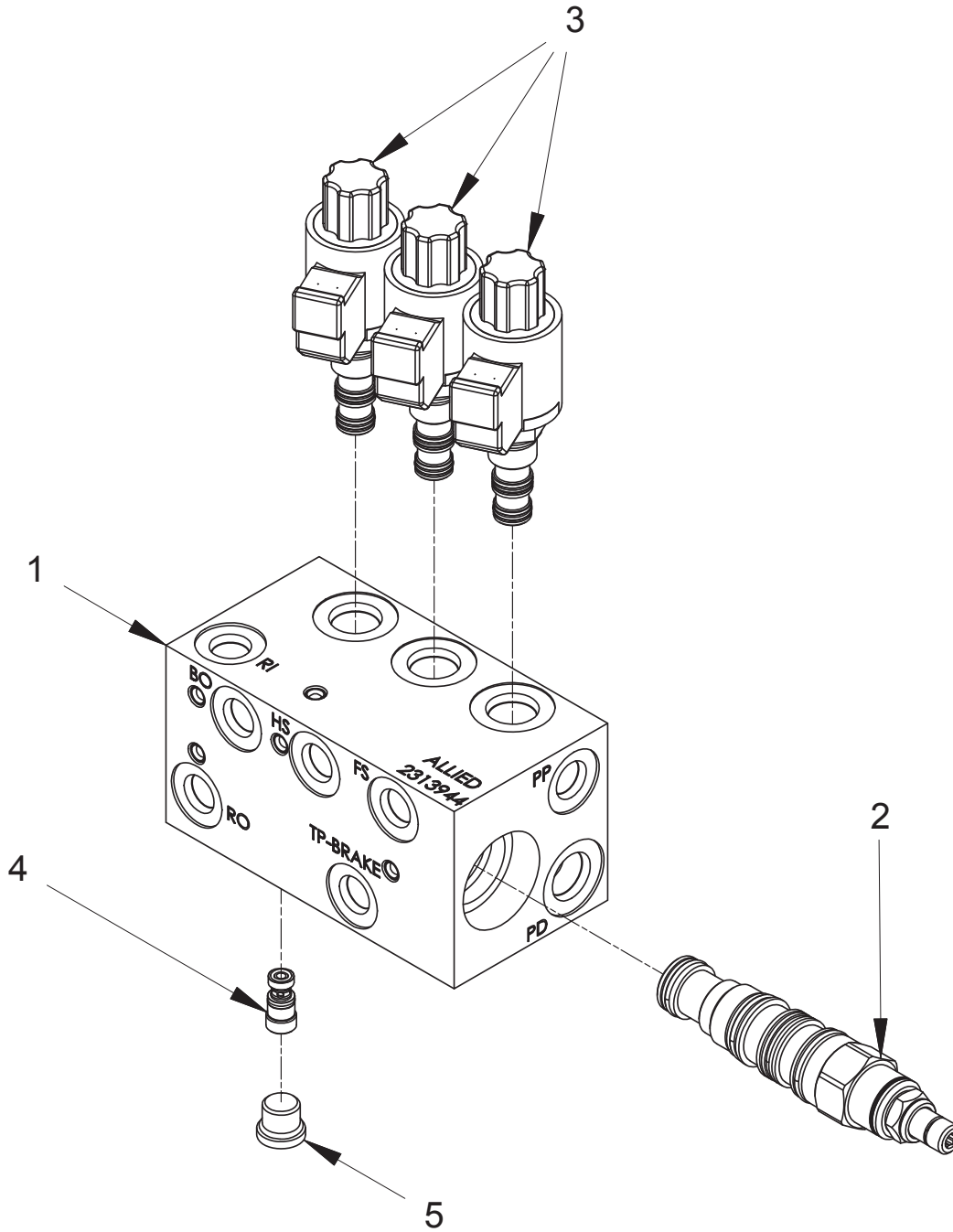
### Control Manifold Assy

Caterpillar D6/D6XE BUILD 20A (H6HT\*C712)

Caterpillar D6K2 T4f (H6HT\*C805)

Caterpillar D6N (H6HT\*C811)

Caterpillar D5 BUILD 17 A/B (H6HT\*C812)

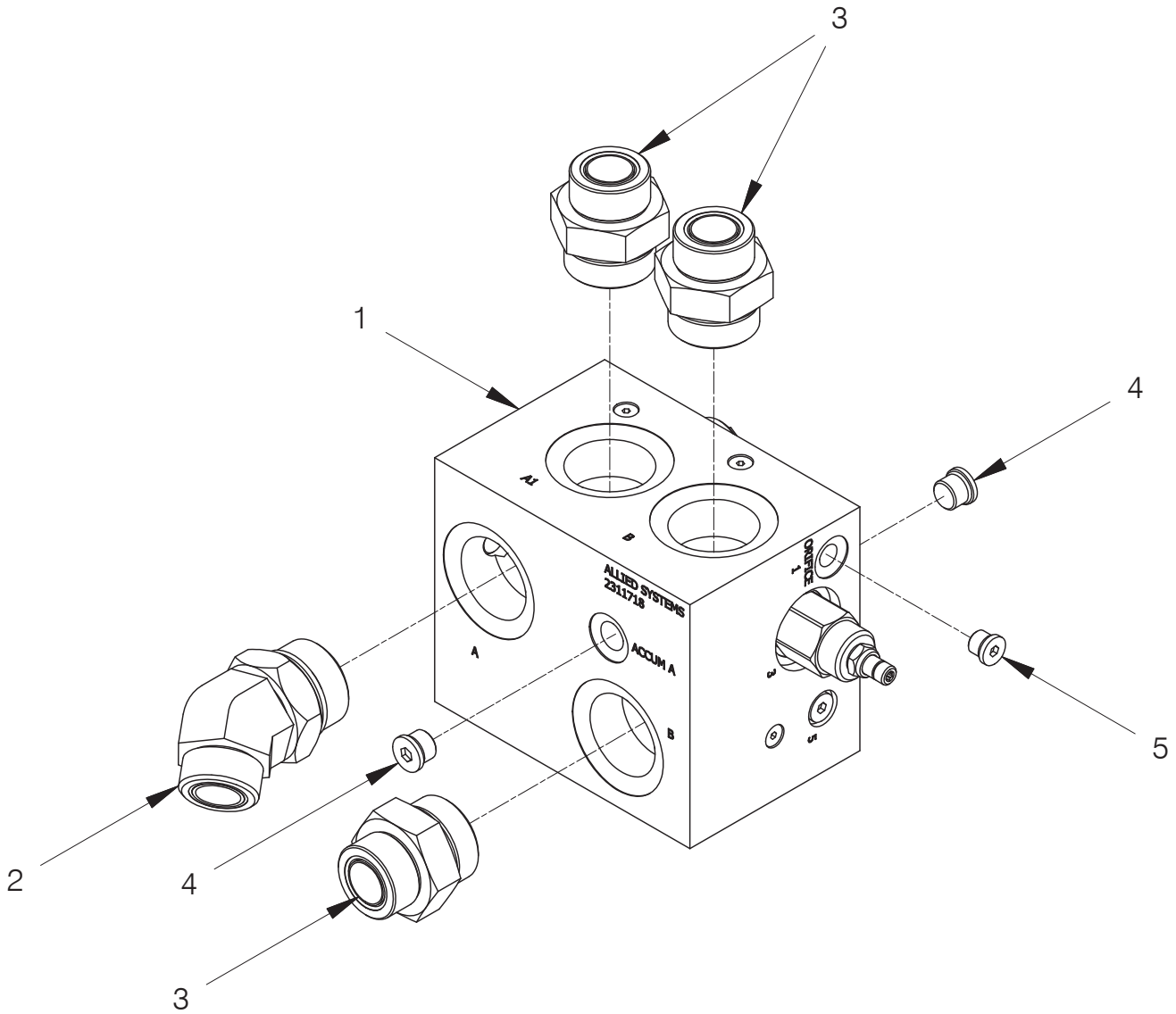


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313944</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2313943	1	. Body, Control Manifold	4	2312074	1	. Valve, Shuttle
2	2311592	1	. Valve, Directional		2312112	1	. Seal, O-Ring
	252566	1	. Kit, Seal	5	235387	1	. Fitting
3	2312073	3	. Valve, Cartridge				
	2312111	1	. Kit, Seal				

### Counterbalance Relief Manifold Assy

Cat (H6HT\*DC811)

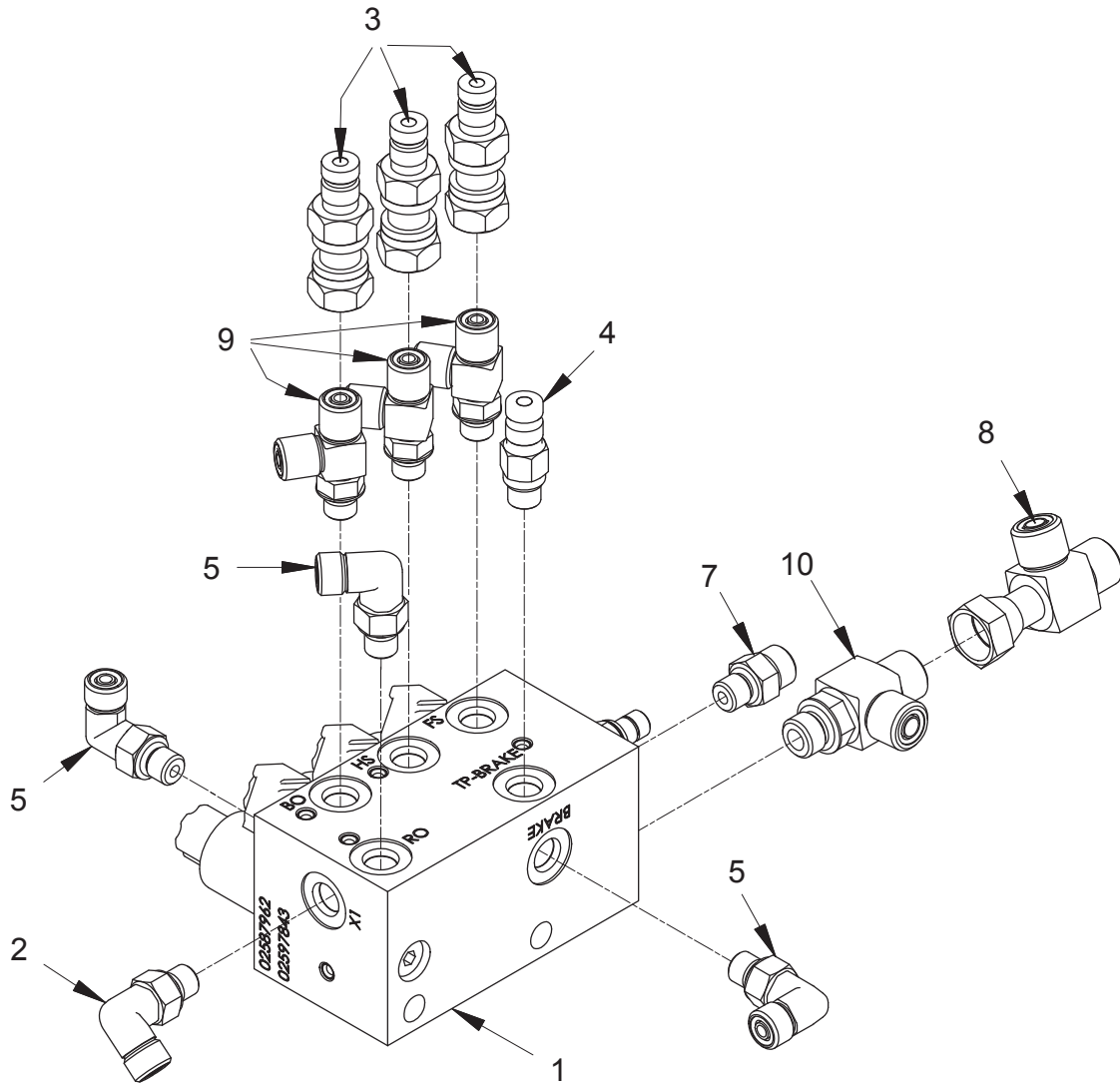
non-current



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313959</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>				
1	2311718	1	. Assy, Counterbalance Relief Manifold (See p. 105)	3	R833133	3	. Fitting
				4	229383	2	. Fitting
2	R833218	1	. Fitting	5	235387	1	. Fitting

# Control Manifold Assy

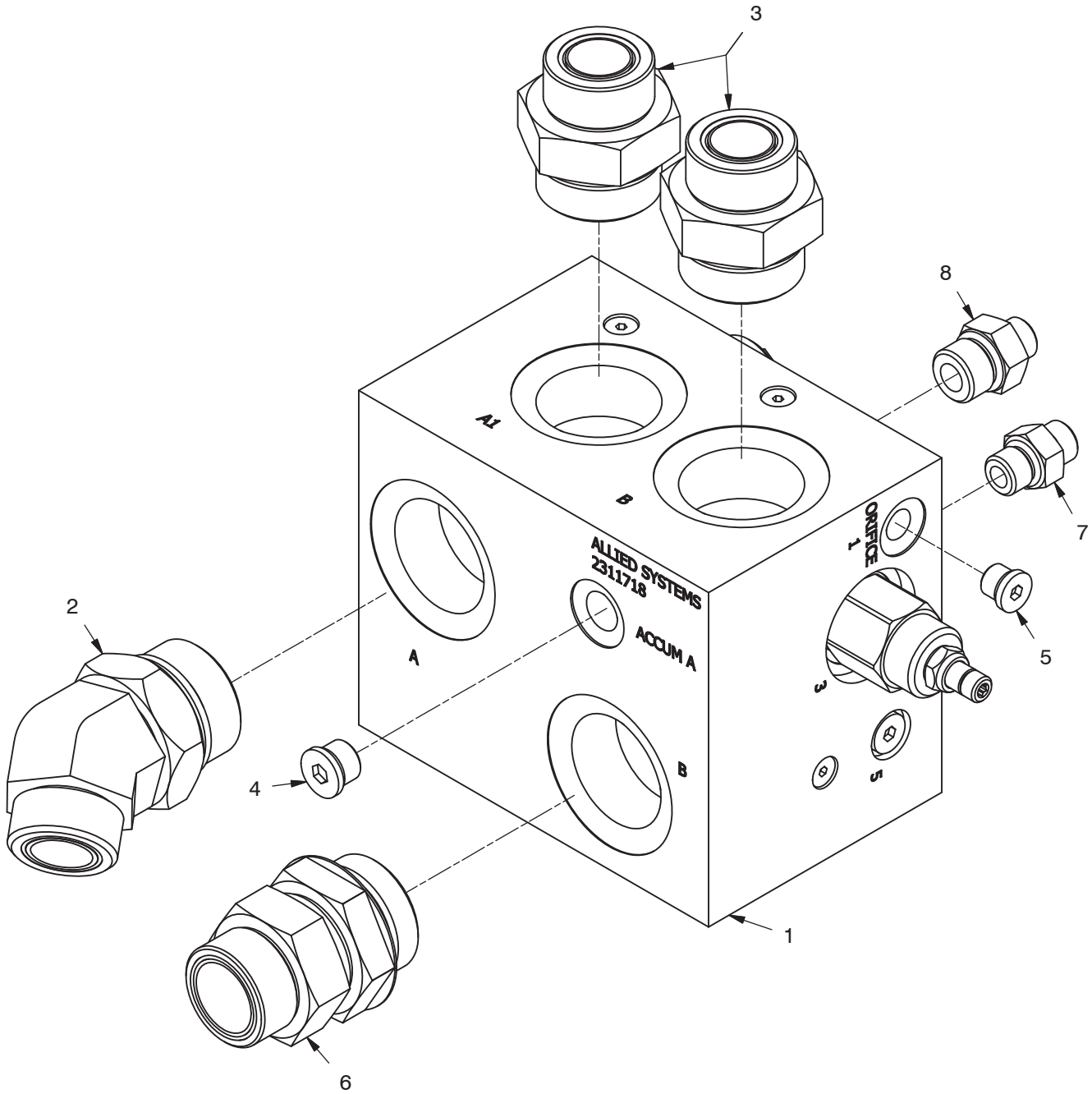
Caterpillar D6N (C811)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2313960</b>	<b>1</b>	<b>Assy, Control Manifold</b>				
1	2313944	1	. Assy, Control Manifold (See p. 111)	7	231439	1	. Fitting
2	2311500	1	. Assy, Fitting	8	231955	1	. Fitting
3	2307625W	3	. Fitting	9	R833400	3	. Fitting
4	R14040	1	. Coupler, Quick Male	10	231465	1	. Fitting
5	R833251	3	. Fitting				

### Counterbalance Relief Manifold Assy

Caterpillar D6N (C811)  
 First Used on S/N 1497

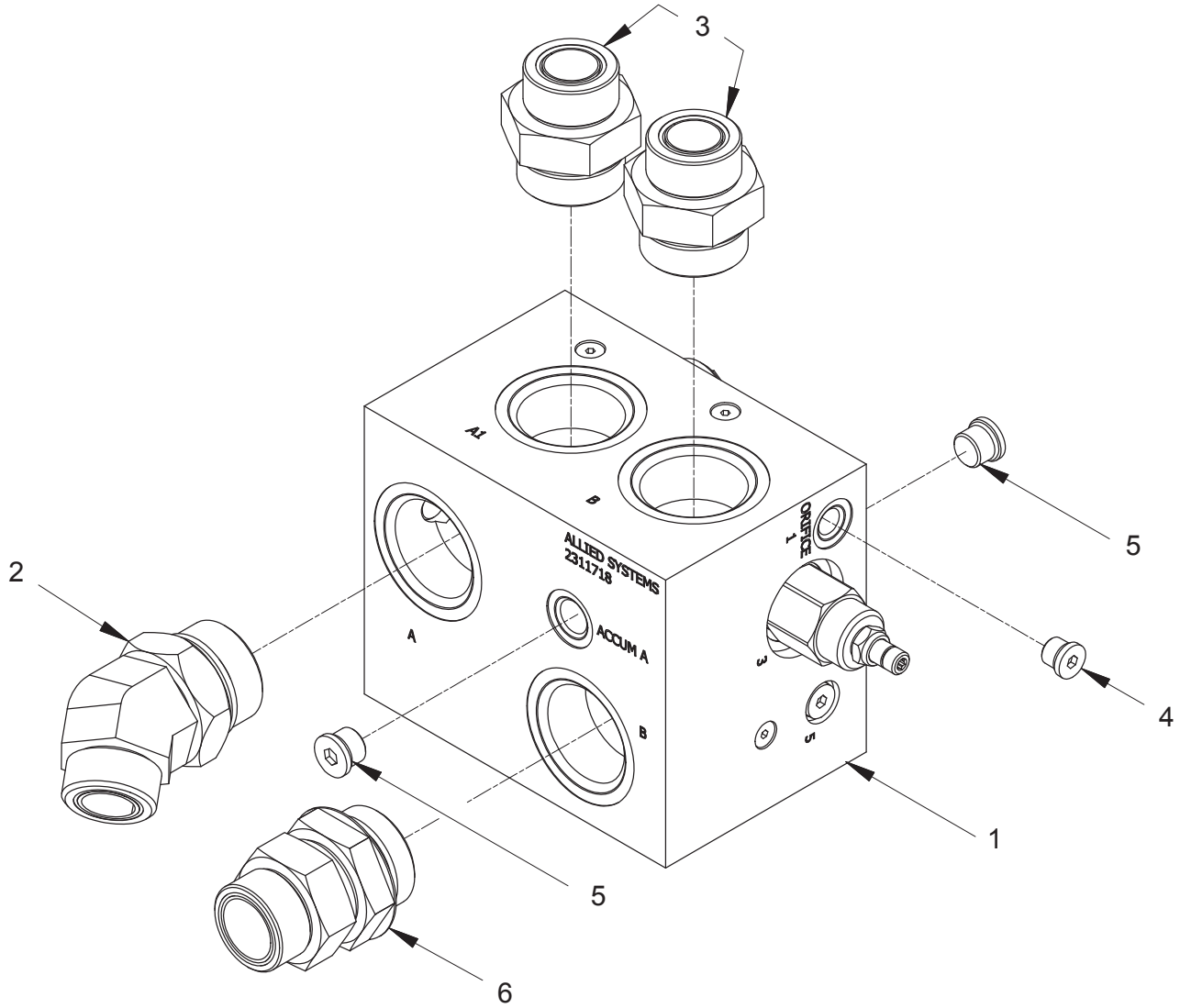


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314727</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>				
1	2311718	1	. Assy, Counterbalance Relief Manifold (See p. 105)	4	229383	1	. Fitting
2	R833218	1	. Fitting	5	235387	1	. Fitting
3	R833133	2	. Fitting	6	2313948	1	. Fitting
				7	R833103	1	. Fitting
				8	R833104	1	. Fitting



**Manifold Assy**

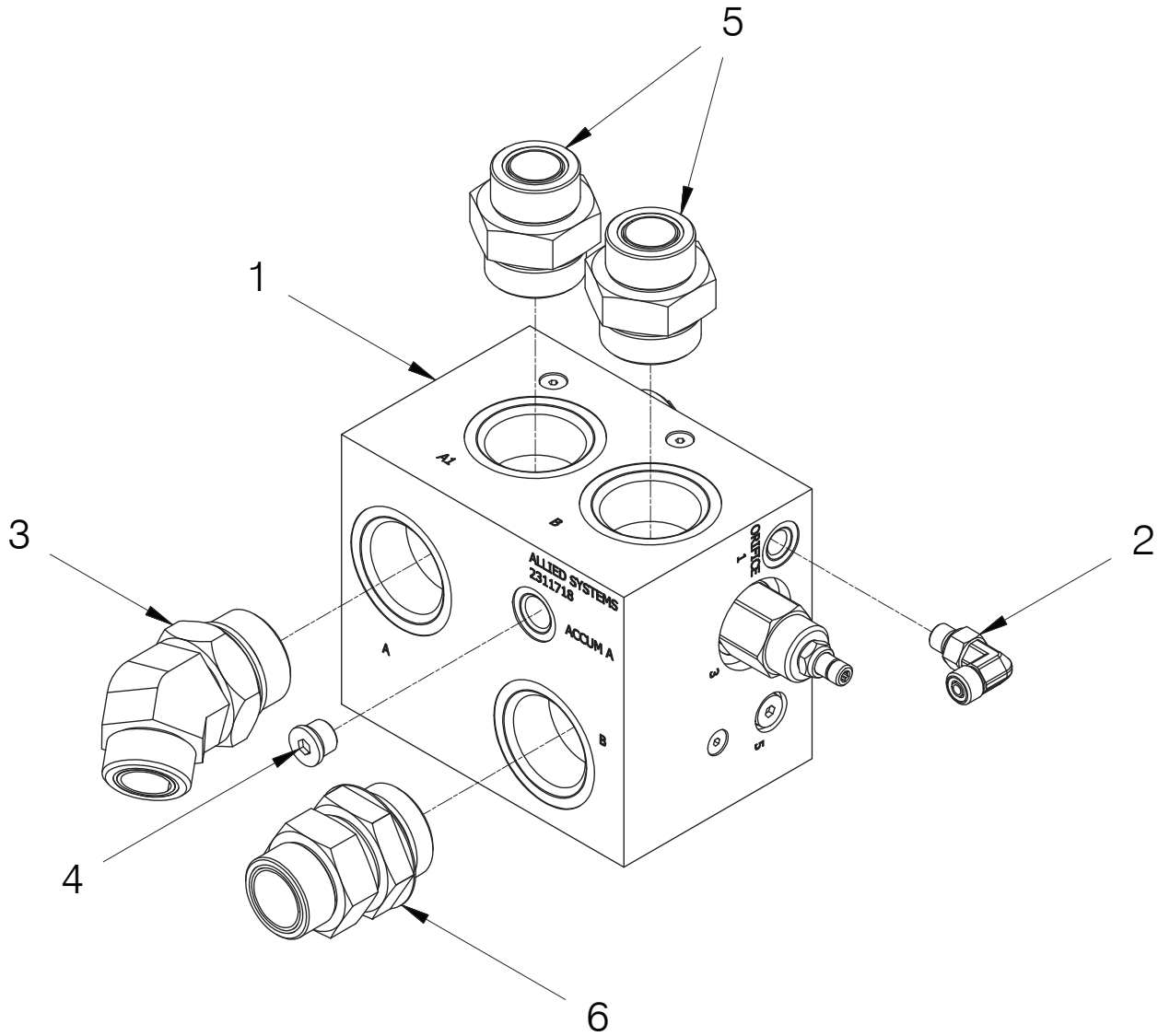
First Used on S/N H6H-1497



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314691</b>	<b>1</b>	<b>Assy, Manifold</b>				
1	2311718	1	. Assy, Counterbalance Relief Manifold (See p. 105)	4	235387	1	. Fitting
2	R833218	1	. Fitting	5	229383	2	. Fitting
3	R833133	2	. Fitting	6	2313948	1	. Fitting

### Counterbalance Relief Manifold Assy

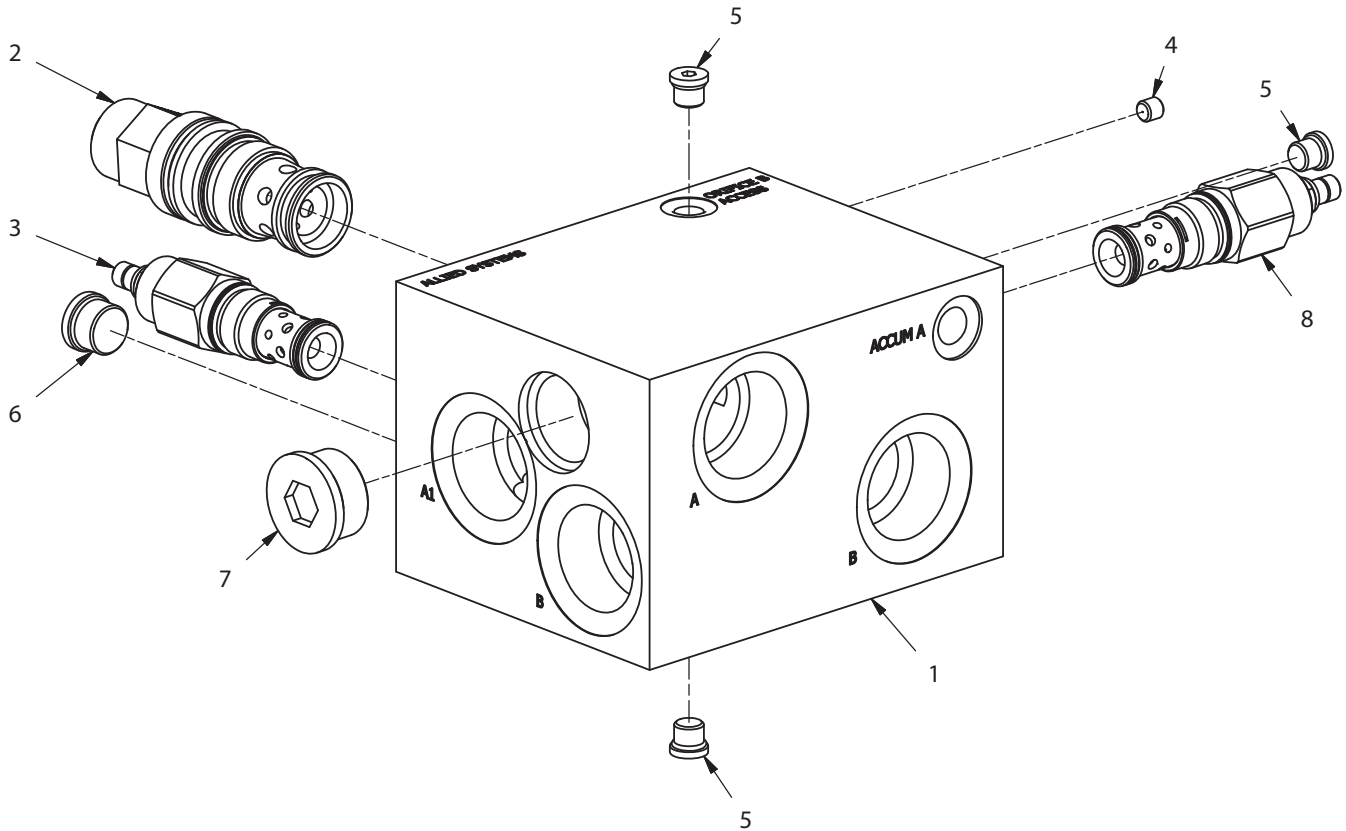
Caterpillar D6N (C81)  
First Used on S/N 1497



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314965</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>	3	R833218	1	. Fitting
1	2311718	1	. Assy, Counterbalance Relief Manifold (See p. 105)	4	229383	2	. Fitting
2	R833251	1	. Fitting	5	R833133	2	. Fitting
				6	2313948	1	. Fitting

## Counterbalance Relief Manifold Assy

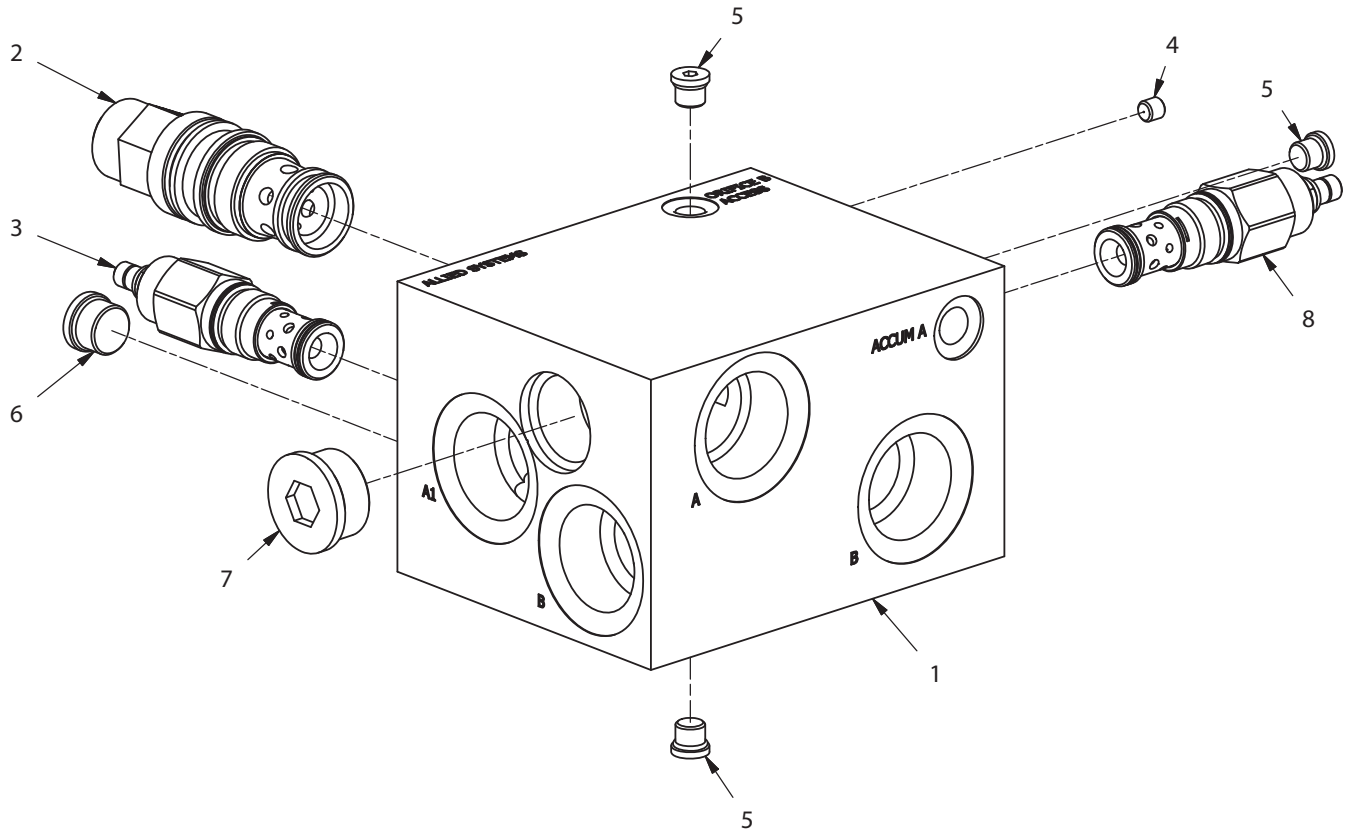
Caterpillar D6K2 T4f (H6HT\*C805)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2312941</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>	4	2310181	1	. Plug
1	2312940	1	. Manifold - Body, CBR	5	235387	3	. Fitting
2	2312068	1	. Valve, Counterbalance	6	229345	1	. Fitting
	243815	1	.. Seal Kit	7	227949	1	. Fitting
3	2307438W-3500	1	. Relief Valve	8	2307438W-4250	1	. Relief Valve
	259258	1	.. Seal Kit		259258	1	.. Seal Kit

## Counterbalance Relief Manifold Assy

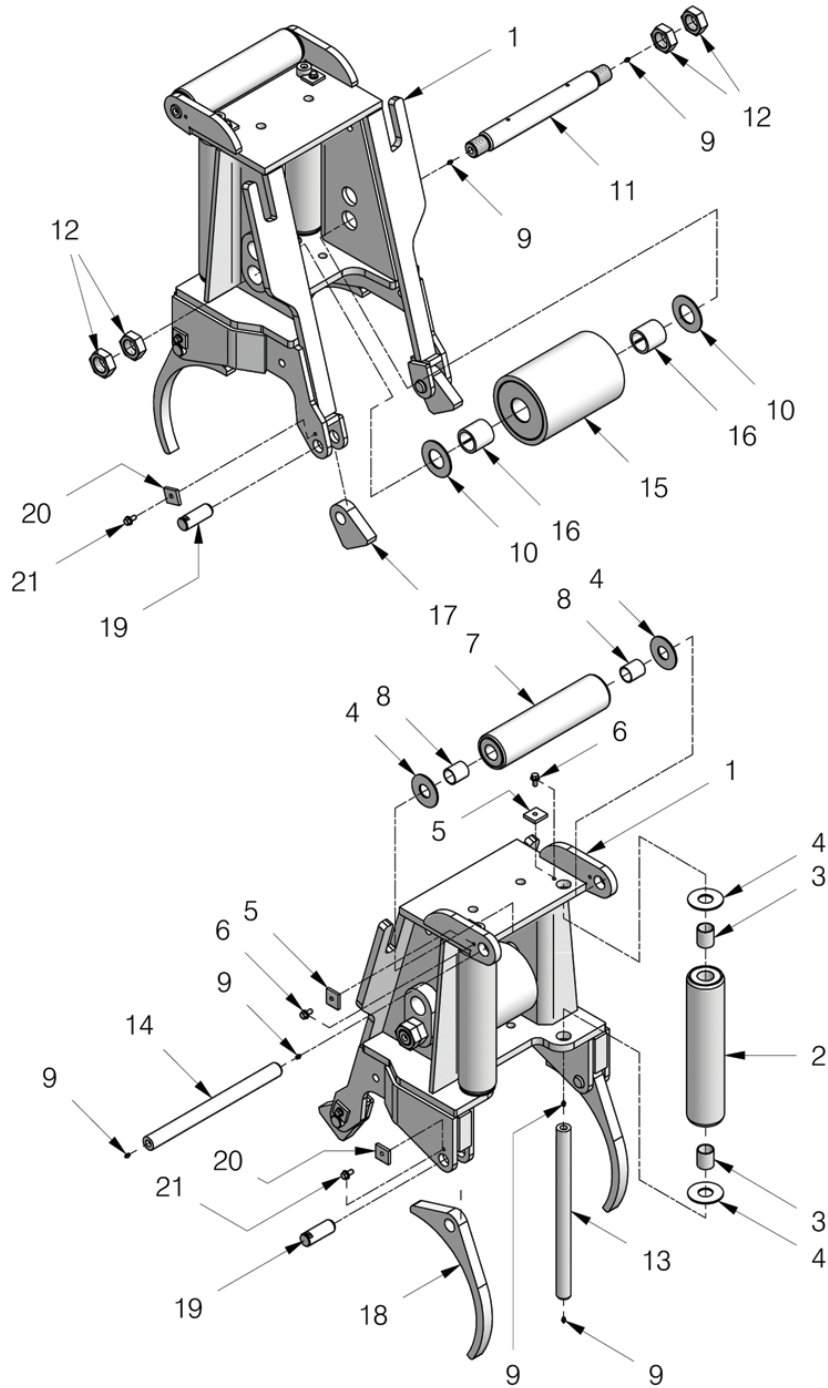
963D Track Loader (C963)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314242</b>	<b>1</b>	<b>Assy, Counterbalance Relief Manifold</b>	4	2310181	1	. Plug
1	2312940	1	. Manifold - Body, CBR	5	235387	3	. Fitting
2	2312068	1	. Valve, Counterbalance	6	229345	1	. Fitting
	243815	1	.. Seal Kit	7	227949	1	. Fitting
3	2307438W-3500	1	. Relief Valve	8	2307438W-3600	1	. Relief Valve
	259258	1	.. Seal Kit		259258	1	.. Seal Kit

**Section 4**  
**Optional Equipment**

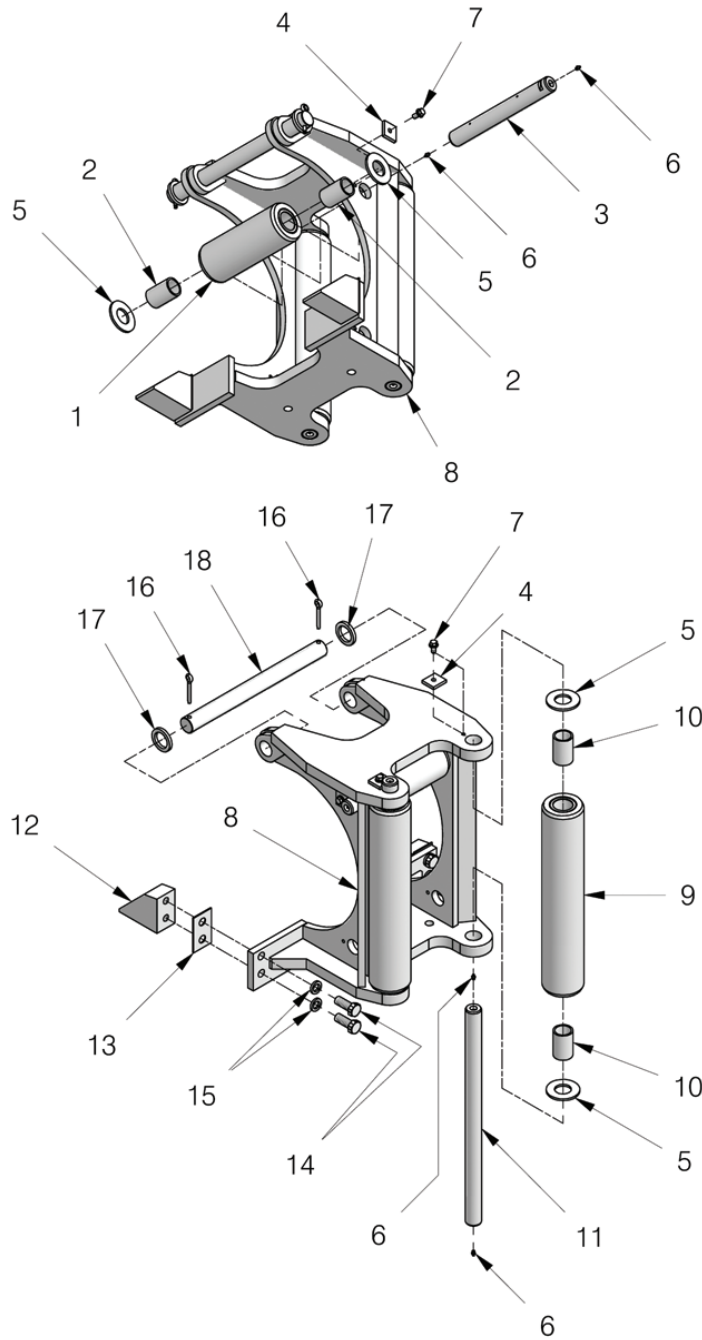
Arch



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2301748W</b>	<b>1</b>	<b>Arch Assembly</b>				
1	2301749W	1	. Arch	12	221336W	4	. Nut
2	2301907W	2	. Roller	13	2301920W	2	. Shaft
3	35135W	2	. . Bushing	14	2301919W	1	. Shaft
4	331767W	6	. Washer	15	2301925W	1	. Roller
5	2301706W	3	. Keeper	16	2817W	2	. . Bushing
6	398817W	3	. Flange, Screw	17	2310726	2	Ear, Arch
7	2301910W	1	. Roller	18	2312168	2	Lug, Wrapped
8	35135W	2	. . Bushing	19	2301924W	4	Pin
9	16001W	8	. Fitting, Grease	20	2301706W	4	Keeper
10	2821W	2	. Washer	21	398817W	4	Flange Screw
11	2302120W	1	. Shaft				

### Fairlead

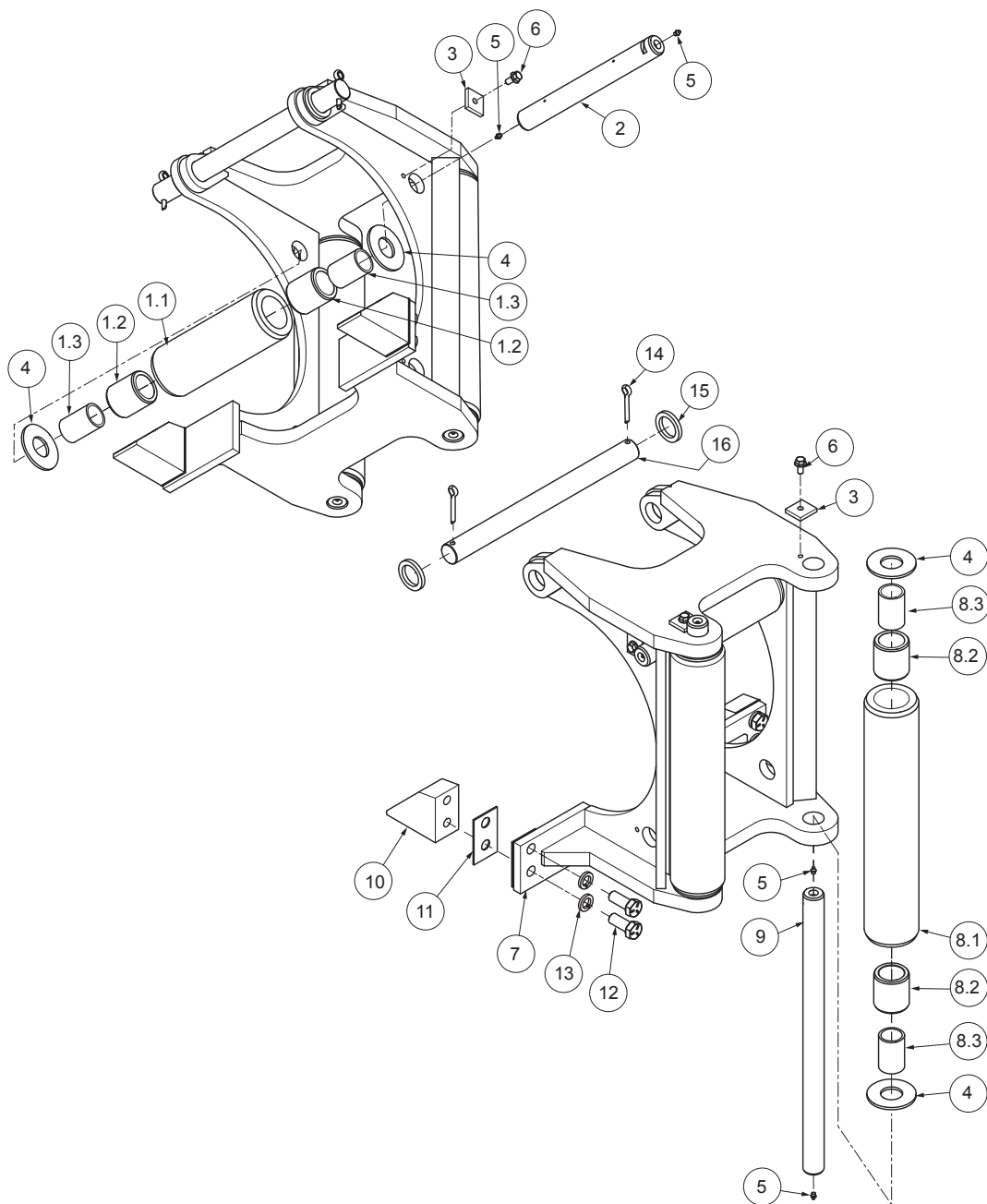
3-Roller, Last Used S/N 1609



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
<b>2301731W Fairlead Assembly, 3-Roller</b>							
1	2301727W	1	. Roller	10	2570W	4	.. Bushing
2	2570W	2	.. Bushing	11	2301721W	2	. Shaft
3	2301722W	1	. Shaft	12	226374W	2	Bracket
4	2301706W	3	. Keeper	13	93878W	AR	Shim
5	33394W	6	. Washer	14	18669W	4	Capscrow
6	16001W	6	. Fitting, Grease	15	15166W	4	Washer
7	398817W	3	. Screw, Flange	16	15272W	2	Pin, Cotter
8	2301718W	1	. Fairlead	17	2312437	2	Spacer
9	2301726W	2	. Roller	18	2312580	1	Bar, Tie

### Fairlead

3-Roller, First Used S/N 1610

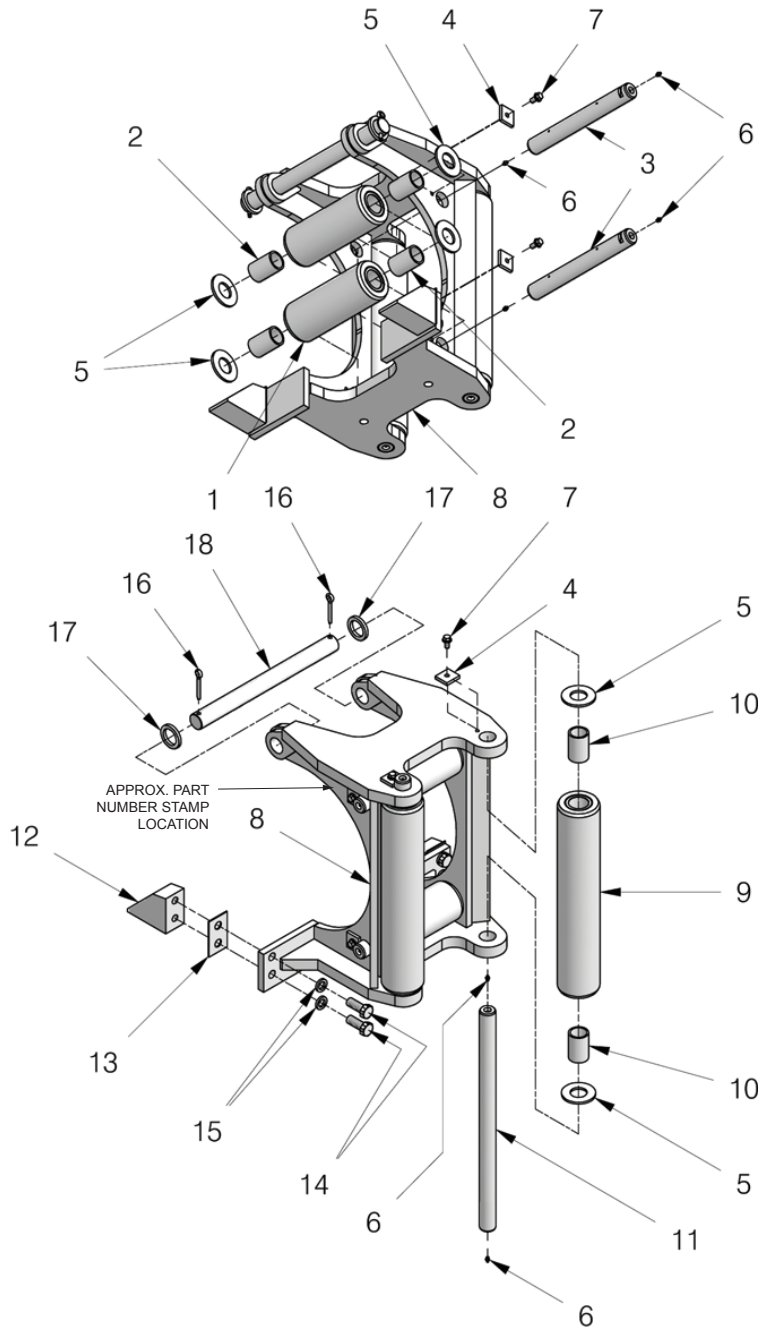


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2315548</b>		<b>Fairlead Assembly, 3-Roller</b>				
1	2315545	1	. Roller Assy	8.1	2301724W	1	.. Tube
1.1	2315544	1	.. Tube	8.2	2301961W	2	.. Spacer
1.2	2301961W	2	.. Spacer	8.3	2570W	2	.. Bushing
1.3	2570W	2	.. Bushing	9	2301721W	2	. Shaft, Vertical
2	2315546	1	. Shaft	10	226374W	2	Bracket - Fairlead
3	2301706W	3	. Keeper	11	93878W	8	Shim
4	2314097	6	. Washer	12	18668W	4	CapscREW
5	16001W	6	. Fitting, Lube	13	15166W	4	Washer
6	398817W	3	. Screw, Flange	14	15272W	2	Cotter Pin
7	2315555	1	. Frame, Fairlead	15	173607W	2	Spacer
8	2301726W	2	. Roller Assy	16	2312580	1	Rod - Tie



### Fairlead

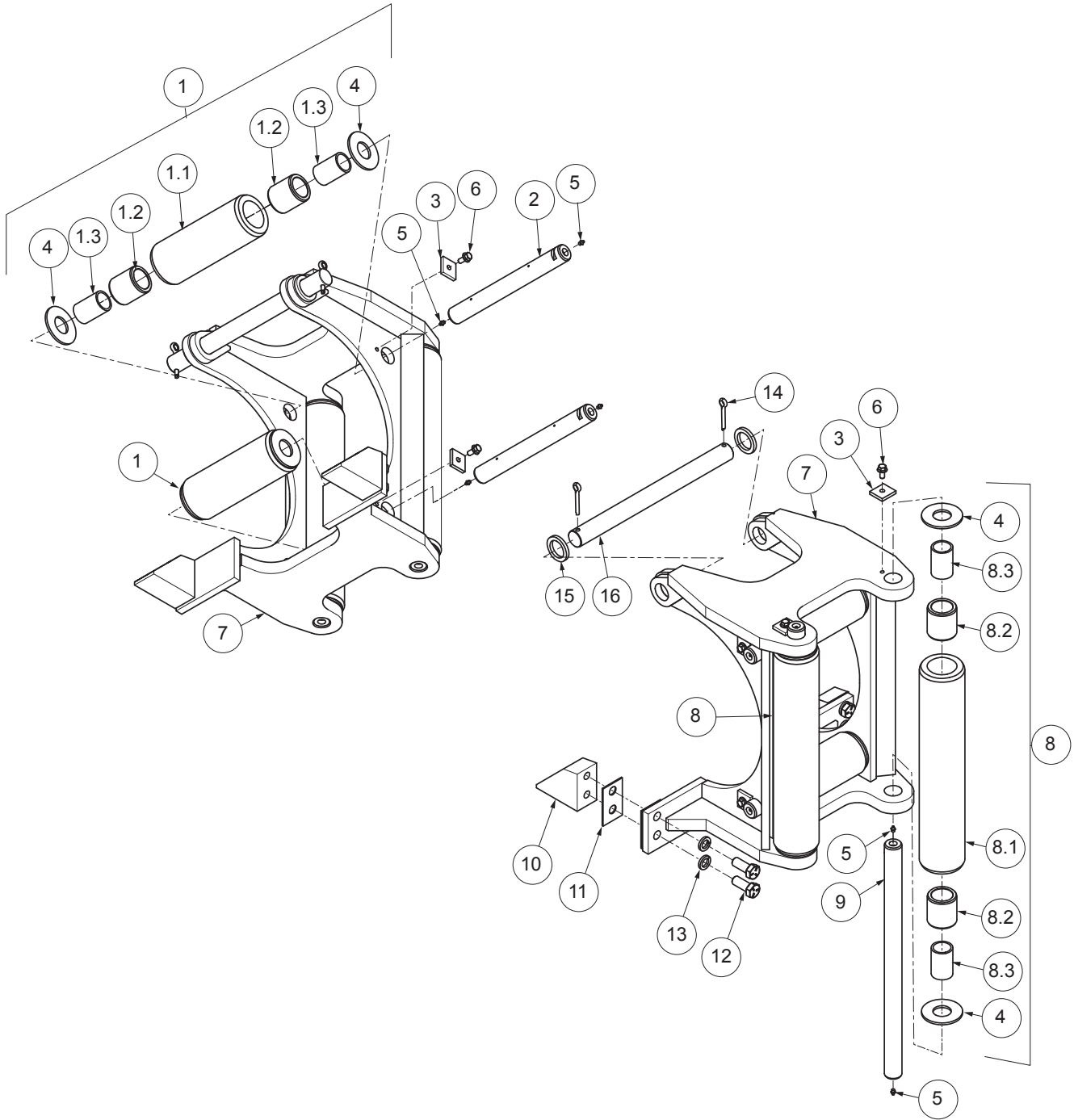
4-Roller, Last Used S/N 1609



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2301732W</b>		<b>Fairlead Assy, 4-Roller</b>				
1	2301727W	2	. Roller	10	2570W	4	. Bushing
2	2570W	4	. Bushing	11	2301721W	2	. Shaft
3	2301722W	2	. Shaft	12	226374W	2	Bracket
4	2301706W	4	. Keeper	13	93878W	AR	Shim
5	33394W	8	. Washer	14	18668W	4	Capscrew
6	16001W	8	. Fitting, Grease	15	15166W	4	Washer
7	398817W	4	. Screw, Flange	16	15272W	2	Pin, Cotter
8	2301718W	1	. Fairlead	17	2312437	2	Spacer
9	2301726W	2	. Roller	18	2312580	1	Bar, Tie

### Fairlead

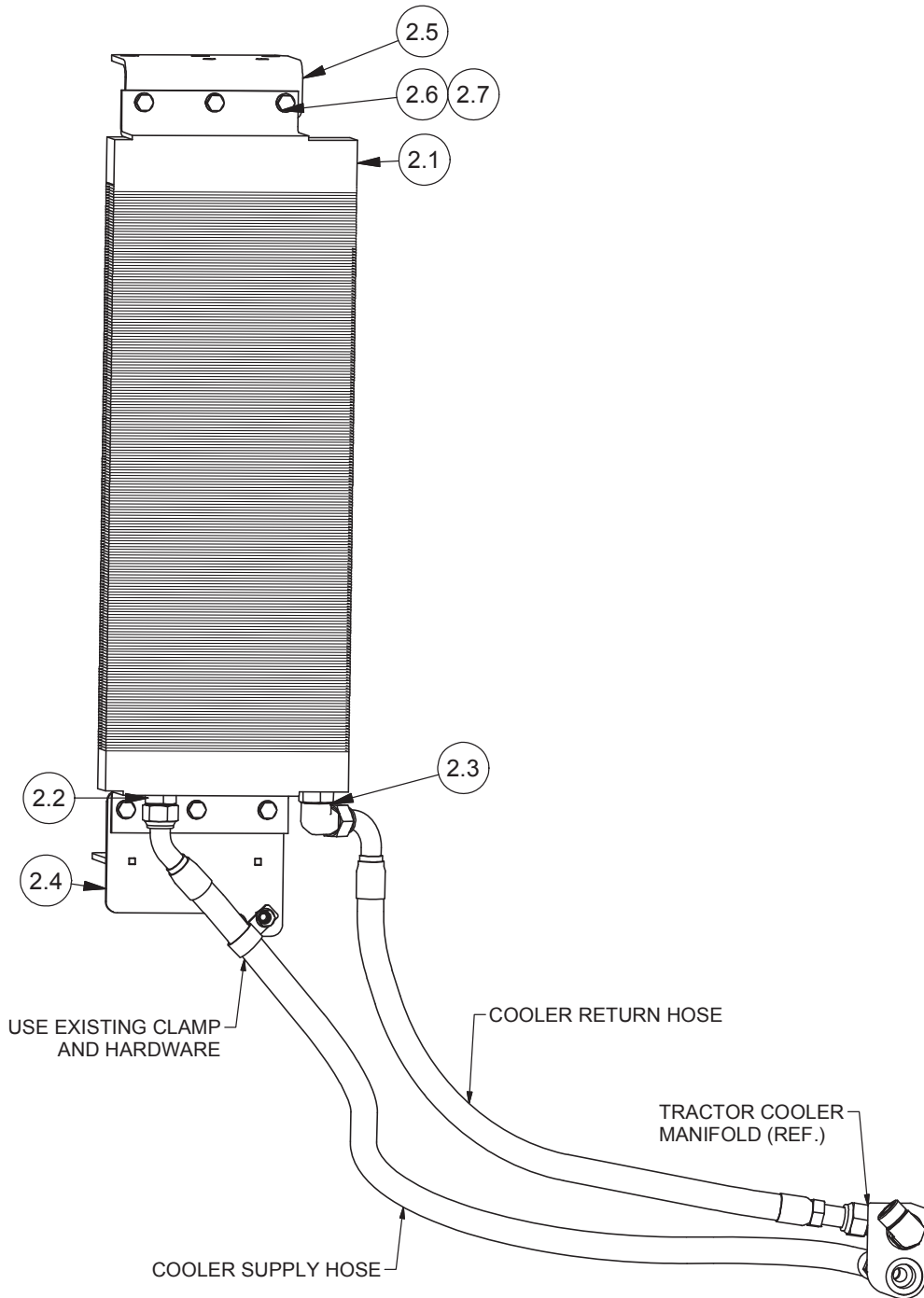
4-Roller, Wide, First Used S/N 1610



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2315549</b>		<b>Fairlead Assy, 4-Roller</b>				
1	2315545	2	. Assy, Roller	8.1	2315544	1	.. Tube
1.1	2315544	1	.. Tube	8.2	2301961W	2	.. Spacer
1.2	2301961W	2	.. Spacer	8.3	2570W	2	.. Bushing
1.3	2570W	2	.. Bushing	9	2301721W	2	. Shaft, Vertical
2	2315546	2	. Shaft	10	226374W	2	Bracket, Fairlead
3	2301706W	4	. Keeper	11	93878W	8	Shim
4	2314097	8	. Washer	12	18668W	4	Capscrew
5	16001W	8	. Fitting, Lube	13	15166W	4	Washer
6	398817W	4	. Screw, Flange	14	15272W	2	Cotter Pin
7	2315555	1	. Frame, Fairlead	15	173607W	2	Spacer
8	2301726W	2	. Assy, Roller	16	2312580	1	Bar, Tie

## Optional Hydraulic Cooler Installation

Caterpillar D6N (H6HT\*\*C81, C811)



Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
2.1	2307695W	1	Cooler, Oil	2.5	2307696W	1	Bracket, Upper
2.2	231443	1	Fitting	2.6	136985W	6	Capscrew
2.3	R833270	1	Fitting	2.7	296420W	6	Washer
2.4	2307898W	1	Assy, Lower Bracket				

## Wire Rope Assemblies

### Wire Rope Drum End



Junior Ferrule

### Wire Rope Loose End Options



Tail Chain & Hook (TC)



Wedge Socket (WS)



Open Spelter Socket (OS)

Part Number	Wire Rope Diameter	Wire Rope Type	Loose End Type	Loose End Rating (lbs)	Length (ft)	Weight (lbs)	Drum Fill	Wire Rope Breaking Strength (lbs)
WR6-275L	3/4"	EIPS	TC	34,200	275	306	2/3	58,800
WR6-413L					413	450	Full	
YS6-275LWS		EEIPS	WS	51,840	275	306	2/3	64,800
YS6-413LWS					413	450	Full	
WR7-198L	7/8"	EIPS	TC	34,200	198	311	2/3	79,600
WR7-297L					297	451	Full	
YS7-198LWS		EEIPS	WS	70,080	198	311	2/3	87,600
YS7-297LWS					297	451	Full	
WR8-154L	1"	EIPS	TC	47,700	154	384	2/3	103,400
WR8-230L					230	449	Full	
YS8-154LWS		EEIPS	WS	91,040	154	384	2/3	113,800
YS8-230LWS					230	459	Full	
YS8-154LOS			OS	113,800	154	385	2/3	
YS8-230LOS					230	459	Full	

**Section 5**  
**Recommended Service 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.

Recommended Gear Compartment Oil		
Caterpillar	TO-4	<b>Consult service/operating manual for low temperature oils and other details. Use of non-recommended oil may void the warranty.</b>
Chevron	Drive Train Fluids HD	
ExxonMobil	Mobiltrans HD Series	

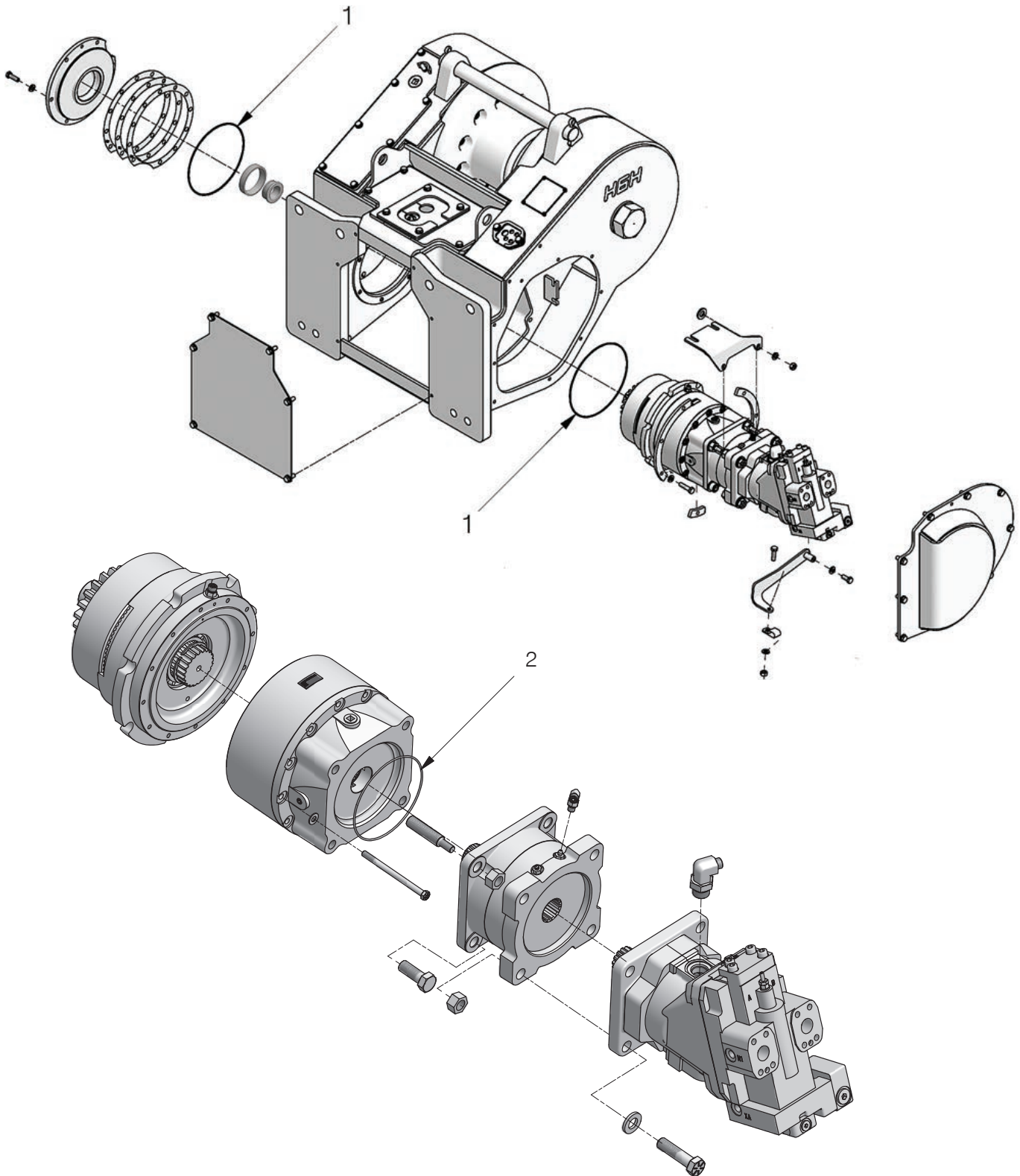
Table 1 Recommended Winch Service Intervals

Service Kits for H6H Winches				
Service Description	Kit Description	Winch Serial Number	Kit Part# for Hi-Performance (H) Winches	Kit Part# for Standard (T) Winches
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	2314659	
Major overhaul (every 10,000 hours)	Intermediate/drum shaft & brake assembly rebuild kit	All	2314660	

Table 2 Routine Maintenance Kits

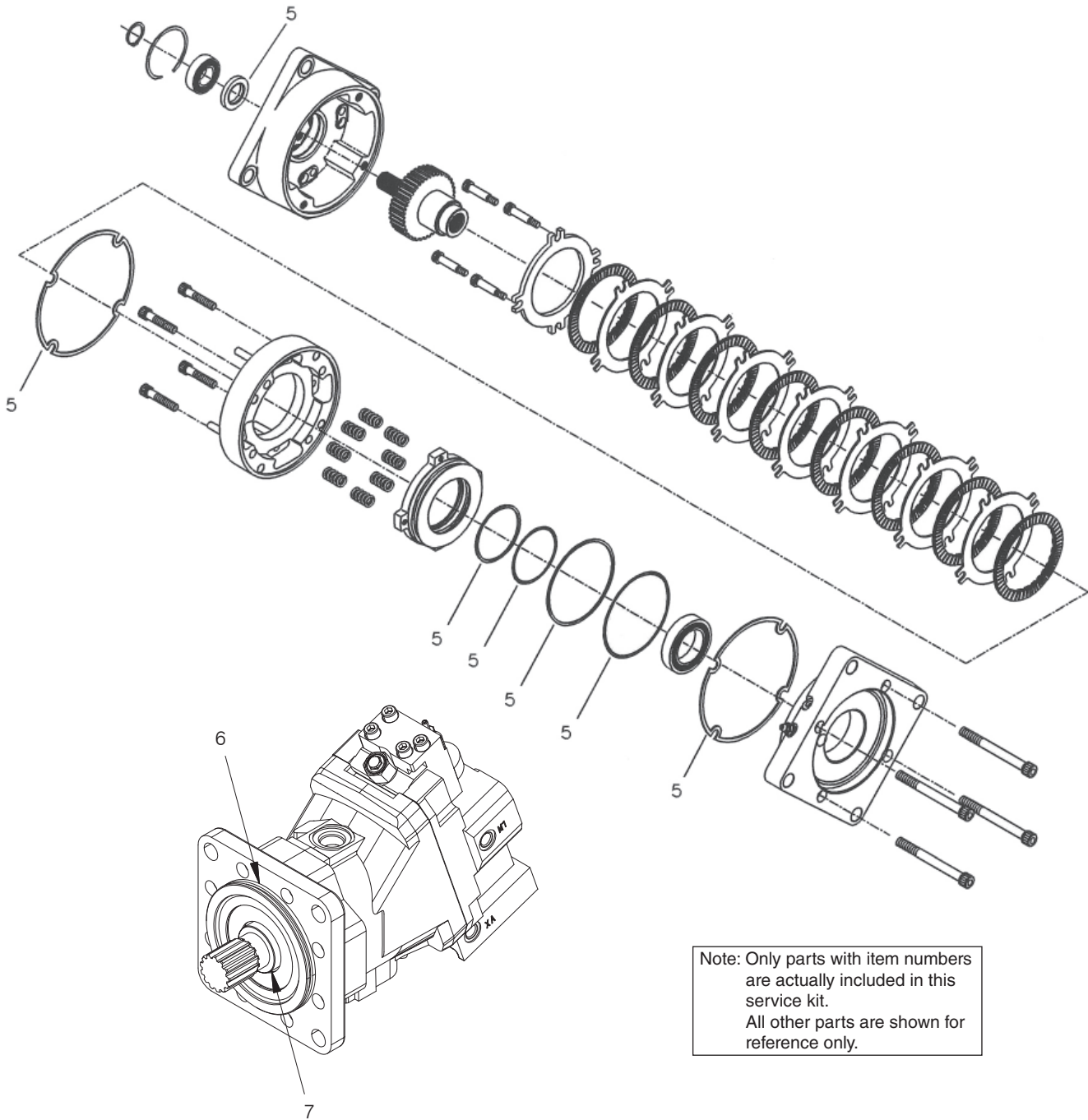
Motor, Reducer & Brake Assembly Rebuild Kit: 2314659

Page 1 of 2



**Motor, Reducer & Brake Assembly Rebuild Kit: 2314659**

Page 2 of 2

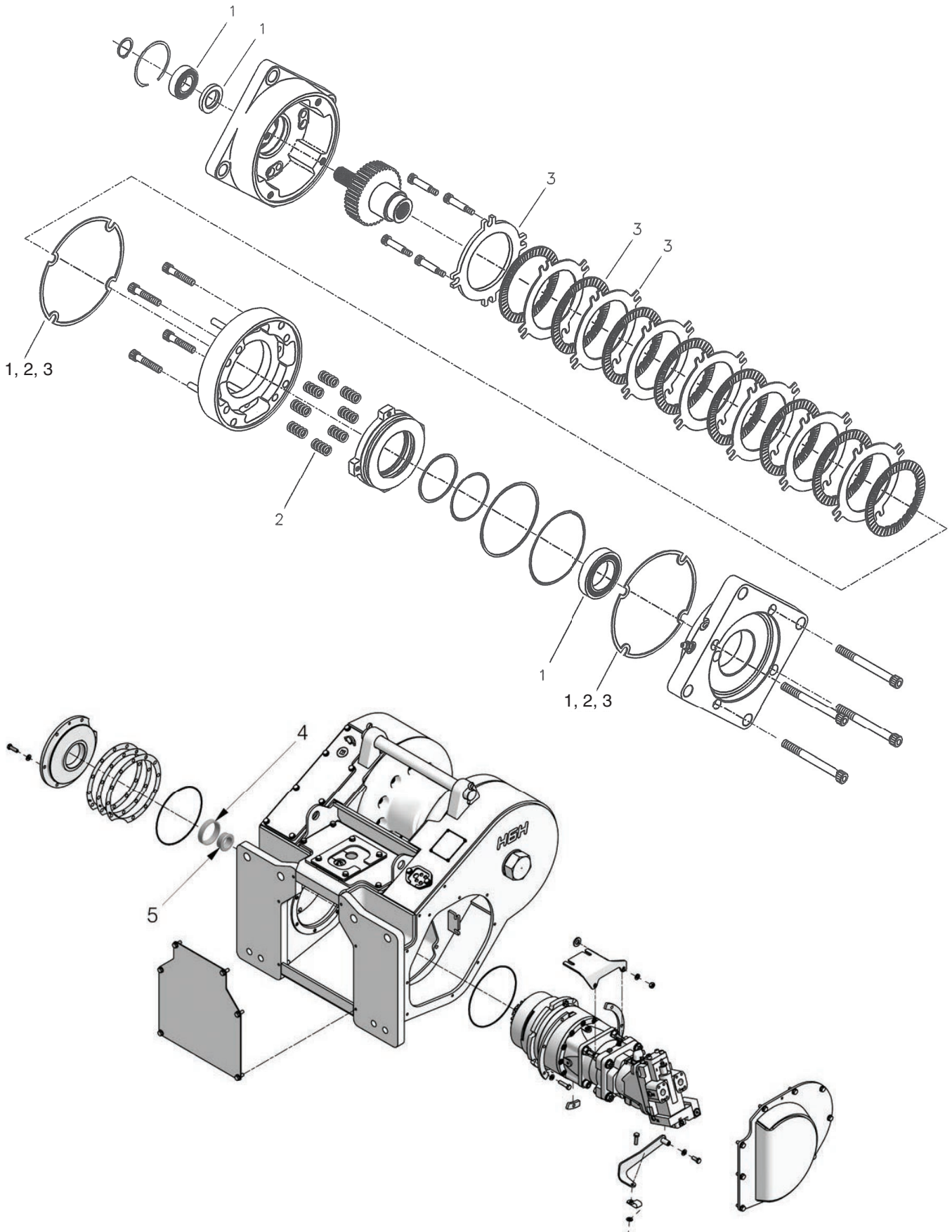


Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
	<b>2314659</b>		<b>Rebuild Kit, Motor, Reducer &amp; Brake Assy</b>				
1	203564	2	. O-Ring	6	2313890	1	. O-Ring
2	237349	1	. O-Ring	7 *a	2313891	1	. Kit, Shaft Seal
3	313022W	1	. Adhesive (Not Shown)	7 *b	2316156	1	. Kit, Shaft Seal
4	230064W	1	. Adhesive (Not Shown)				
5	2312302	1	. Kit, O-Ring	*a	Last used S/N 1713 (Danfoss 51V Motor)		
				*b	First used S/N 1714 (Danfoss H1B Motor)		



Intermediate/Drum Shaft & Brake Assembly Rebuild Kit: 2314660

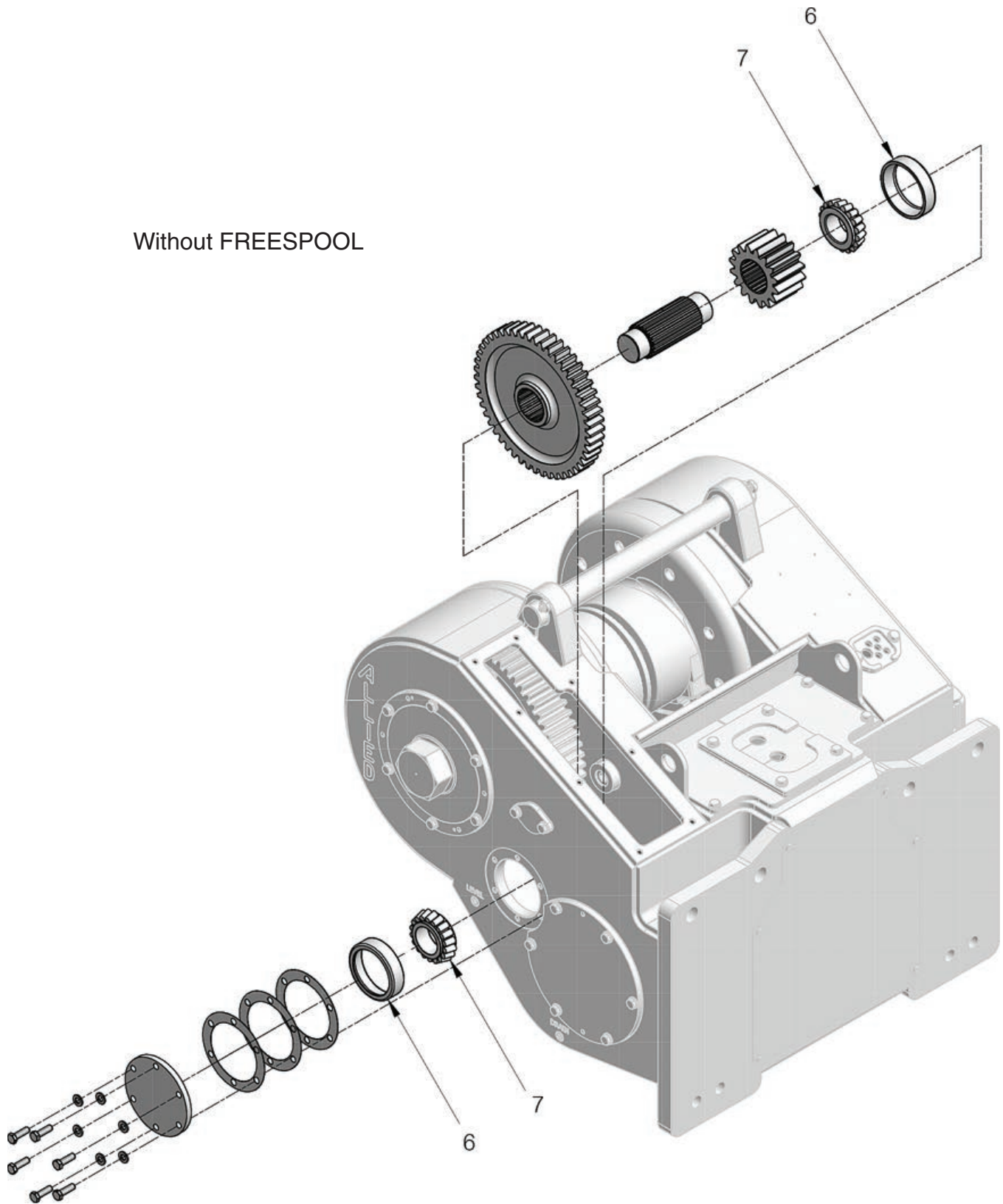
Page 1 of 4



Intermediate/Drum Shaft & Brake Assembly Rebuild Kit: 2314660

Page 2 of 4

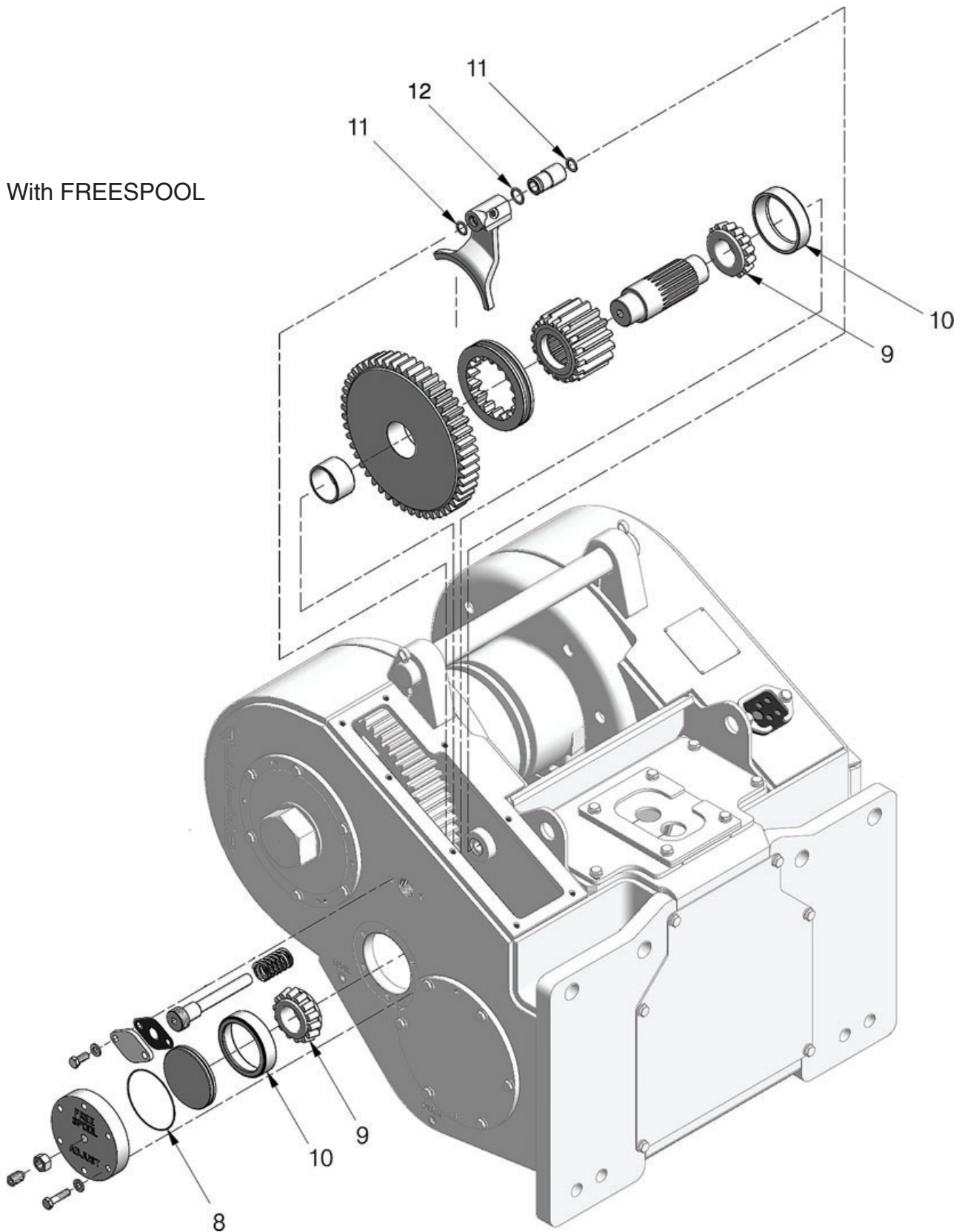
Without FREESPOOL



Intermediate/Drum Shaft & Brake Assembly Rebuild Kit: 2314660

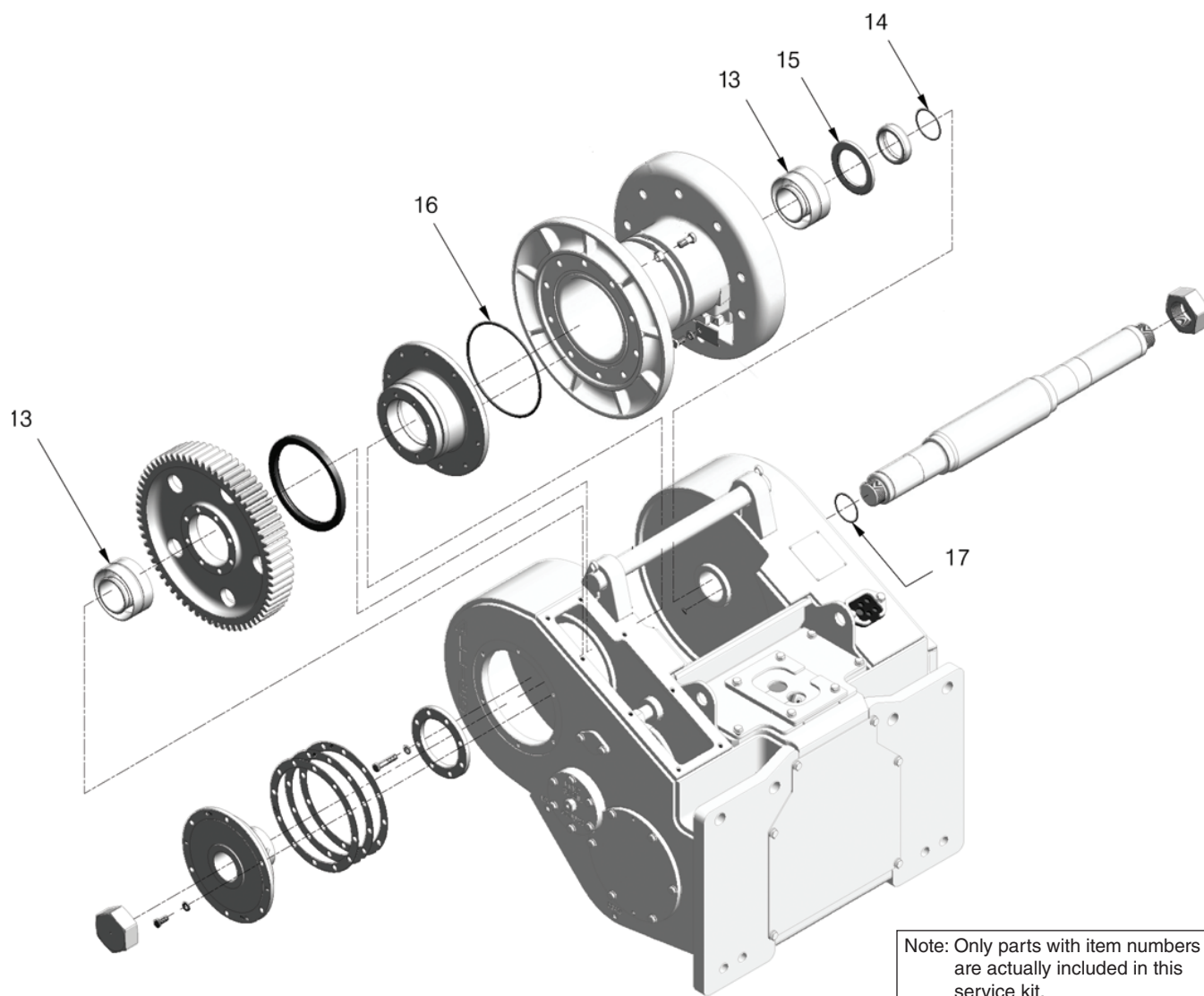
Page 3 of 4

With FREESPOOL



**Intermediate/Drum Shaft & Brake Assembly Rebuild Kit: 2314660**

Page 4 of 4



Note: Only parts with item numbers are actually included in this service kit. All other parts are shown for reference only.

Item	Part No.	Qty	Description	Item	Part No.	Qty	Description
<b>2314660</b>			<b>Rebuild Kit, Intermediate/ Drum Shaft &amp; Brake Assy</b>				
1	2312303	1	. Repair Kit, Bearing	10	30059W	2	. Cup, Bearing
2	250850	1	. Repair Kit, Spring	11	15862W	2	. O-Ring
3	250847	1	. Repair Kit, Lining	12	212380	1	. O-Ring
4	2300668W	1	. Cup, Bearing	13	230406W	2	. Bearing, Roller
5	2300669W	1	. Cone, Bearing	14	15881W	1	. O-Ring
6	30059W	2	. Cup, Bearing	15	44547W	1	. Seal, Oil
7	30080W	2	. Cone, Bearing	16	133927W	1	. Ring, Piston Seal
8	159940W	1	. O-Ring	17	90263W	1	. O-Ring
9	2302311W	2	. Cone, Bearing				

**Section 6**  
**Recommended Service Parts**



## H6H Hydraulic Winch Recommended Service Parts

The following pages list some of the service parts and kits that are available for your Allied H6H Winch. Page 1 through page 4 include lists of gaskets and seals. Keep these parts in stock at all times for regular maintenance. Order parts from the table based on your winch.

Page 4 and page 5 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 also contains a list of wire rope assemblies. Order parts as required and as relevant for your installation.

Page 6 contains a list of spare parts. Order parts or kits as required and as relevant for your installation.

Page 7 contains lists of operator controls components, and hose kits. Order parts or kits as required and as relevant for your installation.

Page 8 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>.**

<b>Gaskets &amp; Seals</b>	<b>Order as Required</b>
----------------------------	--------------------------

<b>Applies to: H6H Standard Winch mounted on Caterpillar DR Series II, III, D6T (C71)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
2312009	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	

<b>Applies to: H6H Standard Winch mounted on Caterpillar D6N (C81)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
2312009	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	
R15668	Seal Kit, Solenoid Cartridge Valve	1	Valve Manifold Assembly	

<b>Applies to: H6H Standard Winch mounted on Caterpillar D6N (C811)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
2312009	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	

<b>Gaskets &amp; Seals</b>	<b>Order as Required</b>
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<b>Applies to: H6H Standard Winch mounted on Caterpillar D6/D6XE BUILD 20A (C712)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
2312009	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	3	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	

<b>Applies to: H6H Standard Winch mounted on Caterpillar D5 BUILD 17 A/B (C812)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
2312009	Seal, Top	1	Frames/Covers	
2312208	Gasket, Hose Seal	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	3	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	

<b>Applies to: H6H Standard Winch mounted on Caterpillar 963D Track Loader (C963)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	
R15668	Seal Kit, Solenoid Cartridge Valve	1	Valve Manifold Assembly	



<b>Gaskets &amp; Seals</b>	<b>Order as Required</b>
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<b>Applies to: H6H Standard Winch mounted on Caterpillar D6K2 T4f (C805)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	3	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	
243815	Seal Kit, Counterbalance Valve (P/N 2312068)	1	CBR Manifold Assembly	
259258	Seal Kit (Buna), Relief Valve (P/N 2307438W)	2	CBR Manifold Assembly	

<b>Applies to: H6H High Performance Winch mounted on Caterpillar D6K2 T4f (C805)</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Quantity on Winch</b>	<b>See Parts Manual Page</b>	<b>Order Quantity</b>
2312045	Gasket, Top Right-Hand	1	Frames/Covers	
151646W	Gasket, Freespool	1	Frames/Covers	
252566	Seal Kit, Directional Valve (P/N 2311592)	1	Control Manifold Assembly	
2312111	Seal Kit, Cartridge Valve (P/N 2312073)	2	Control Manifold Assembly	
2312112	Seal Kit, Shuttle Valve (P/N 2312074)	1	Control Manifold Assembly	

**Motor, Reducer & Brake Assembly Rebuild Kit, P/N: 2314659**

**Applies to: All**  
**Service Interval: Every 5,000 Hours**

Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2314659	Rebuild Kit, Motor, Reducer & Brake Assembly			
203564	. O-Ring	2	Motor Shaft Group	
237349	. O-Ring	1	Motor Shaft Assembly	
313022W	. Adhesive	1	Motor Shaft Assembly	
230064W	. Adhesive	1	Motor Shaft Assembly	
2312302	. Kit, O-Ring	1	Brake, Dry Disc	
2313890	. O-Ring	1	Hydraulic Motor	
2313891 *b	. Kit, Shaft Seal	1	Hydraulic Motor	
2316156 *a	. Kit, Shaft Seal	1	Hydraulic Motors	

\*a First used with S/N 1714

\*b Last used with S/N 1713

**Intermediate/Drum Shaft, and Brake Assembly Rebuild Kit, P/N: 2314660**

**Applies to: All**  
**Service Interval: Every 10,000 hours**

Allied P/N	Description	Quantity in Kit	See Parts Manual Page	Order Quantity
2314660	Rebuild Kit, Intermed./Drum Shaft, & Brake Assy			
2312303	. Repair Kit, Bearing	1	Brake, Dry Disc	
250850	. Repair Kit, Spring	1	Brake, Dry Disc	
250847	. Repair Kit, Lining	1	Brake, Dry Disc	
2300668W	. Cup, Bearing	1	Motor Shaft Group	
2300669W	. Cone, Bearing	1	Motor Shaft Group	
30059W	. Cup, Bearing	2	Shaft, Intermediate Gear	
30080W	. Cone, Bearing	2	Shaft, Intermediate Gear	
159940W	. O-Ring	1	Shaft, Intermediate Gear	
2302311W	. Cone, Bearing	2	Shaft, Intermediate Gear	
30059W	. Cup, Bearing	2	Shaft, Intermediate Gear	
15862W	. O-Ring	2	Shaft, Intermediate Gear	
212380	. O-Ring	1	Shaft, Intermediate Gear	
230406W	. Bearing, Roller	2	Shaft, Drum	
15881W	. O-Ring	1	Shaft, Drum	
44547W	. Seal, Oil	1	Shaft, Drum	
133927W	. Ring, Piston Seal	1	Shaft, Drum	
90263W	. O-Ring	1	Shaft, Drum	

<b>Wire Rope Assemblies</b>		<b>Order as Required</b>		
<b>Applies to: All</b>				
<b>Allied P/N</b>	<b>Description</b>	<b>Length</b>	<b>Will Fill Drum To:</b>	<b>Order Quantity</b>
WR6-275L	Wire Rope Assembly, 3/4"	275' (84 M)	2/3 Capacity (Recommended)	
WR6-413L	Wire Rope Assembly, 3/4"	413' (126 M)	Full Capacity	
WR7-198L	Wire Rope Assembly, 7/8"	198' (60 M)	2/3 Capacity (Recommended)	
WR7-297L	Wire Rope Assembly, 7/8"	297' (91 M)	Full Capacity	
WR8-154L	Wire Rope Assembly, 1"	154' (47 M)	2/3 Capacity (Recommended)	
WR8-230L	Wire Rope Assembly, 1"	230' (70 M)	Full Capacity	
YS6-275LWS	Wire Rope Assembly, 3/4"	275' (84 M)	2/3 Capacity (Recommended)	
YS6-413LWS	Wire Rope Assembly, 3/4"	413' (126 M)	Full Capacity	
YS7-198LWS	Wire Rope Assembly, 7/8"	198' (60 M)	2/3 Capacity (Recommended)	
YS7-297LWS	Wire Rope Assembly, 7/8"	297' (91 M)	Full Capacity	
YS8-154LWS	Wire Rope Assembly, 1"	154' (47 M)	2/3 Capacity (Recommended)	
YS8-230LWS	Wire Rope Assembly, 1"	230' (70 M)	Full Capacity	
YS8-154LOS	Wire Rope Assembly, 1"	154' (47 M)	2/3 Capacity (Recommended)	
YS8-230LOS	Wire Rope Assembly, 1"	230' (70 M)	Full Capacity	

Spare Parts		Order as Required			
Applies to:		See "Relevant for Installation" Column			
Allied P/N	Description	Quantity on Winch	Relevant for Installation	See Parts Manual Page	Order Quantity
2316125 *a 2313780 *b	Motor, Hydraulic	1	H6HT6B**C71	Motor Shaft Assembly	
2316121 *a 2313144 *b	Motor, Hydraulic	1	H6HT1B**C81 H6HT1B**C811	Motor Shaft Assembly	
2316118 *a 2311814 *b	Motor, Hydraulic	1	H6HT1B**C963	Motor Shaft Assembly	
2316926	Motor, Hydraulic	1	H6HT***C712	Motor Shaft Assembly	
2317119	Motor, Hydraulic	1	H6HH***C805	Motor Shaft Assembly	
2316120	Motor, Hydraulic	1	H6HT***C805	Motor Shaft Assembly	
2317872	Motor, Hydraulic	1	H6HT***C812	Motor Shaft Assembly	

\*a First used with S/N 1714

\*b Last used with S/N 1713

Operator Controls Components		Order as Required		
Applies to: All				
Allied P/N	Description	Quantity on Winch	Order Quantity	
2310013	Assembly, Switch (Yellow LED)	1		
2310504	Assembly, Switch (Red LED)	1		
2310506	Assembly, Switch (Red LED), Momentary	1		
2311072	Assembly, Switch (Green LED)	1		

Spare Parts		Order as Required			
Applies to:		See "Relevant for Installation" Column			
Allied P/N	Description	Quantity on Winch	Relevant for Installation	See Parts Manual Page	Order Quantity
2311883	Assembly, Reducer	1	H6HT***C805 H6HT1B**C81 H6HT1B**C811 H6HT***C812 H6HT1B**C963	Motor Shaft Assembly	
2312554	Assembly, Reducer	1	H6HT6B**C71 H6HT***C712	Motor Shaft Assembly	
2312965	Assembly, Reducer	1	H6HH***C805	Motor Shaft Assembly	
2312155	Assembly, Brake	1	All	Motor Shaft Assembly	
21420W	Plug, Breather	1	All	Frame/Covers	
2300962W	Cap, Breather	1	All	Frame/Covers	
95959W	Pin, Drawbar	1	All	Frame/Covers	
2303221W	Pin, Retaining	1	All	Frame/Covers	
2312099	Nut, Blind	2	All	Shaft, Drum	
2301783W	Keeper, Ferrule	1	All	Shaft, Drum	
328715W	Disc, Friction	7	All	Clutch Assembly	
283434W	Assembly, Gear	1	All	Shaft, Intermediate Gear	
2570W	Bushing	6	All	Fairlead, 3-Roller	
2570W	Bushing	8	All	Fairlead, 4-Roller	

Hose Kits		Order as Required			
Applies to:		See "Relevant for Installation" Column			
Allied P/N	Description	Quantity on Winch	Relevant for Installation	Order Quantity	
2314769	Hose Kit, Winch Hydraulics	1	Caterpillar DR Series II, III, D6T (C71)		
2317931	Hose Kit, Winch Hydraulics	1	Caterpillar D6/D6XE Build 20A (C712)		
2317932	Hose Kit, Winch Hydraulics	1	Caterpillar D6K2 T4f (C805)		
2314767	Hose Kit, Winch Hydraulics	1	Caterpillar D6N (C81)		
2314768	Hose Kit, Winch Hydraulics	1	Caterpillar D6N (C811)		
2317933	Hose Kit, Winch Hydraulics	1	Caterpillar D5 BUILD 17 A/B (C812)		
2317934	Hose Kit, Winch Hydraulics	1	Caterpillar 963D Track Loader (C963)		

**Tool Kits**

**Order these Tool Kits as required for installation, maintenance and service of your winch(es).**

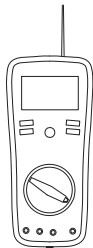
Allied P/N	Description	Order Quantity
588466	Socket Set, 3/8DR 3/8" to 7/8" STD/Deep, 22 PC	
588467	Socket Set, 1/2DR 3/8" to 1-1/4" STD/Deep, 30 PC	
588468	Socket Set, 3/4DR 7/8" to 2-3/8" STD, 29 PC	
588469	Wrench Set, 5/16" to 2-1/2", 31 PC	
588527	Hex Key Sets, .025" to 5/8", 18 PC	
588530	Socket 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**

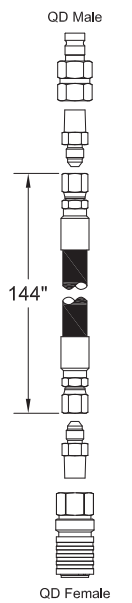
**Order these Tools as required for maintenance and service of your winch(es).**

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

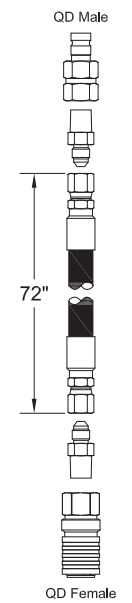


QD Male

144"

QD Female

**70381**  
Kit, Hose Assembly, W/QD Both Ends




QD Male

72"

QD Female

**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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129563W	71	3.16	15178W	77	1.8	177192W	33	1.8
129563W	75	3.16	15178W	83	1.7	177192W	35	1.8
129563W	78	3.16	15178W	87	1.7	177192W	35	1.8
129563W	80	1.68	15178W	95	1.7	177192W	35	1.8
129563W	89	1.36	15178W	101	1.8	177192W	37	1.8
129563W	91	1.49	15272W	13	2.4	177192W	37	1.8
129563W	95	26	15272W	15	2.4	177192W	37	1.8
1321665W	9	1	15272W	121	16	177192W	37	1.8
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215064	50	2.6	221767W	87	1.14	229448	83	1.3
219288	89	1.45	221767W	95	4	230064W	17	1.11
220000W	53	2.42	221767W	101	1.18	230064W	19	11
220000W	80	1.44	221775W	23	1.33	230064W	25	
220000W	91	1.24	221775W	27	1.29	230064W	30	17
221336W	120	12	221777W	33	1.9	230064W	90	1.44
221577W	45	4	221777W	33	1.9	230064W	90	
221690W	17	1.5	221777W	33	1.9	230064W	130	4
221703W	79	1.6	221777W	35	1.9	230064W	140	
221716W	33	1.3	221777W	35	1.9	2300668W	47	16
221716W	33	1.3	221777W	35	1.9	2300668W	134	4
221716W	33	1.3	221777W	37	1.9	2300668W	140	
221716W	35	1.3	221777W	37	1.9	2300669W	47	17
221716W	35	1.3	221777W	37	1.9	2300669W	134	5
221716W	35	1.3	221777W	37	1.9	2300669W	140	
221716W	37	1.3	221780W	17	1.3	2300783W	25	1.31
221716W	37	1.3	221780W	19	3	2300783W	29	8
221716W	37	1.3	221780W	23	1.38	2300783W	90	1.25
221716W	37	1.3	221780W	27	1.31	2300962W	13	3.12
221717W	44	16	221780W	29	12	2300962W	15	3.12
221720W	23	1.41	222443W	107	6	2300962W	143	
221720W	27	1.34	222713W	41	10	2301529W	23	1.26
221720W	29	13	223453W	23	1.27	2301529W	27	1.27
221721W	17	1.14	223453W	27	1.32	2301529W	29	5
221725W	17	1.9	223453W	29	6	2301706W	120	5
221725W	19	9	223872	103	41	2301706W	120	20
221725W	23	1.30	225065W	19	5	2301706W	121	4
221725W	27	1.33	226374W	121	12	2301706W	122	3
221725W	29	10	226374W	122	10	2301706W	123	4

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2301718W	121	8	230407W	38	19	2307239W	75	3.8
2301718W	123	8	230407W	39	19	2307239W	78	3.8
2301721W	121	11	230407W	40	19	2307239W	102	3.7
2301721W	122	9	2304803W	44	15	2307241W	63	1.32
2301721W	123	11	2305096W	44	7	2307241W	66	8
2301721W	124	9	2305097W	44	2	2307241W	71	3.11
2301722W	121	3	2305099W	44	3	2307241W	75	3.11
2301722W	123	3	2305541W	23	1.2	2307241W	78	3.11
2301724W	122	8.1	2305541W	27	1.2	2307241W	85	1.32
2301726W	121	9	2305617W	24	1.63	2307241W	89	1.32
2301726W	122	8	2305617W	25	1.63	2307241W	102	3.8
2301726W	123	9	2305617W	90	1.38	2307242W	102	3.9
2301726W	124	8	2305620W	24	1.13	2307438W-3500	105	3
2301727W	121	1	2305620W	90	1.9	2307438W-3500	117	3
2301727W	123	1	2305715W	17	23.6	2307438W-3500	118	3
2301731W	121		2305715W	19	23.6	2307438W-3500	118	8
2301732W	123		2305715W	23	17.3	2307438W-3600	118	8
2301748W	120		2305715W	27	17.3	2307438W-4100	105	9
2301749W	120	1	2305715W	29	30.6	2307438W-4250	117	8
2301783W	45	15	2305956W	44	12	2307625W	51	2.31
2301783W	143		2306151W	63	1.31	2307625W	59	2.23
2301907W	120	2	2306151W	66	7	2307625W	63	1.4
2301910W	120	7	2306151W	71	3.9	2307625W	65	14
2301919W	120	14	2306151W	75	3.9	2307625W	69	1.4
2301920W	120	13	2306151W	78	3.9	2307625W	69	2.9
2301924W	120	19	2306151W	85	1.31	2307625W	73	1.4
2301925W	120	15	2306151W	89	1.31	2307625W	73	2.10
2301961W	122	1.2	2306421W	17	1.7	2307625W	77	1.4
2301961W	122	8.2	2306421W	19	7	2307625W	77	2.10
2301961W	124	1.2	2306836W	25	1.64	2307625W	83	1.4
2301961W	124	8.2	2306857W	25	1.62	2307625W	87	1.4
2302120W	120	11	2306858W	25	1.6	2307625W	95	9
2302311W	44	17	2307054W	55	1.17	2307625W	101	1.4
2302311W	134	9	2307054W	98	30	2307625W	108	2
2302311W	140		2307104W	97	14	2307625W	109	2
2302624W	44	9	2307121W	53	2.23	2307625W	110	2
2302625W	44	11	2307121W	80	1.52	2307625W	113	3
2303221W	13	2.2	2307121W	91	1.41	2307695W	125	2.1
2303221W	15	2.2	2307122W	53	2.24	2307696W	125	2.5
2303221W	143		2307122W	80	1.51	2307702W	27	1.1
2303992W	38	13	2307122W	91	1.40	2307702W	29	1
2303992W	39	13	2307238W	71	3.1	2307833W	79	1.3
2303992W	40	13	2307238W	75	3.10			
230406W	45	3	2307238W	78	3.10			
230406W	134	13	2307238W	102	3.6			

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2307834W	104	1	2310920	75	3.13	2311819	47	
2307835W	79		2310920	78	3.13	2311855	38	1
2307835W	104	1.1	2310920	85	1.34	2311855	39	1
2307890W	24	1.4	2310920	89	1.34	2311855	40	1
2307893W	24	1.46	2311072	55	1.15	2311856	38	2
2307894W	25	1.42	2311072	92	5	2311856	39	2
2307895W	24	1.24	2311072	98	28	2311856	40	2
2307896W	24	1.23	2311072	142		2311857	47	1
2307897W	79	1.4	2311251	41	9	2311869	38	18
2307898W	125	2.4	2311500	113	2	2311869	39	18
2307904W	71	3.17	2311550	80	1.54	2311869	40	18
2307904W	75	3.17	2311550	90	1.47	2311880	39	10
2307904W	78	3.17	2311550	91	1.47	2311880	40	10
2307904W	85	1.37	2311572	71	3.2	2311883	33	3
2307905W	79	1.22	2311572	75	3.2	2311883	143	
2307906W	79	1.21	2311572	78	3.2	2311883	33	3
2307911W	25	1.7	2311572	85	1.27	2311883	35	3
2307958W	51	2.45	2311572	89	1.27	2311903	38	11
2307958W	79	1.71	2311592	106	2	2311903	39	11
2307958W	93	1.15	2311592	111	2	2311903	40	11
2310013	55	1.13	2311655	38	7	2311903	41	
2310013	57	2	2311655	39	7	2311904	41	1
2310013	81	2	2311655	40	7	2311905	39	21
2310013	92	2	2311683	38	5	2311905	40	21
2310013	98	27	2311683	39	5	2311906	41	6
2310013	103	23	2311683	40	5	2311907	41	2
2310013	142		2311684	38	15	2311917	47	14
2310181	105	8	2311684	39	15	2311918	47	15
2310181	117	4	2311684	40	15	2312006	13	13.6
2310181	118	4	2311687	38	20	2312009	137	
2310414	103	24	2311687	39	20	2312009	137	
2310504	55	1.14	2311687	40	20	2312009	137	
2310504	57	3	2311718	105		2312009	138	
2310504	81	3	2311718	107	1	2312009	138	
2310504	92	3	2311718	112	1	2312018	47	9
2310504	98	29	2311718	114	1	2312029	41	3
2310504	103	22	2311718	115	1	2312036	47	7
2310506	81	4	2311718	116	1	2312039	38	4
2310726	120	17	2311719	105	1	2312039	39	4
2310891	45	18	2311770	106		2312039	40	4
2310919	71	3.12	2311770	108	1	2312041	33	1.4
2310919	75	3.12	2311770	109	1	2312041	35	1.4
2310919	78	3.12	2311770	110	1	2312041	35	1.4
2310919	85	1.33	2311771	106	1	2312041	37	1.4
						2312041	37	1.4

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2312045	137		2312155	37	1.1	2312353	69	1.14
2312045	138		2312155	37	1.1	2312353	73	1.14
2312045	138		2312155	143		2312353	77	1.14
2312045	138		2312168	120	18	2312353	101	1.14
2312045	139		2312177	103	25	2312357	73	2.3
2312045	139		2312208	137		2312357	77	2.3
2312046	13	13.5	2312208	137		2312358	63	1.22
2312059	47	11	2312208	137		2312358	65	26
2312060	47	12	2312208	138		2312358	69	2.12
2312061	47	10	2312208	138		2312358	73	2.5
2312064	45	20	2312212	59	2.32	2312358	77	2.5
2312068	105	2	2312212	63	1.13	2312358	83	1.22
2312068	117	2	2312212	69	1.17	2312358	87	1.22
2312068	118	2	2312212	73	1.17	2312358	89	1.22
2312069	69	2.15	2312212	77	1.17	2312358	95	21
2312073	106	3	2312212	83	1.13	2312437	121	17
2312073	111	3	2312212	87	1.13	2312437	123	17
2312074	106	4	2312212	95	15	2312442	38	6
2312074	111	4	2312212	101	1.17	2312442	39	6
2312089	30	8	2312269	44	14	2312442	40	6
2312090	30	6	2312280	44	13	2312486	13	3.14
2312095	69	2.14	2312302	130	5	2312486	15	3.14
2312099	143		2312302	140		2312487	47	5
2312111	106		2312303	134	1	2312488	44	20
2312111	111		2312303	140		2312488	47	3
2312111	137		2312350	51	2.35	2312554	35	3
2312111	137		2312350	59	2.30	2312554	143	
2312111	137		2312350	63	1.11	2312554	37	3
2312111	138		2312350	69	1.15	2312580	13	2.3
2312111	138		2312350	73	1.15	2312580	121	18
2312111	138		2312350	77	1.15	2312580	122	16
2312111	139		2312350	83	1.11	2312580	123	18
2312111	139		2312350	87	1.11	2312580	124	16
2312112	106		2312350	89	1.11	2312628	59	2.35
2312112	111		2312350	95	12	2312628	65	31
2312112	137		2312350	101	1.15	2312628	69	1.19
2312112	137		2312351	63	1.19	2312628	73	1.22
2312112	137		2312351	73	2.4	2312628	77	1.22
2312112	138		2312351	77	2.4	2312628	87	1.43
2312112	138		2312351	83	1.19	2312628	95	27
2312112	138		2312351	87	1.19	2312628	101	1.22
2312112	139		2312351	89	1.19	2312816	107	
2312112	139		2312351	95	13	2312878	59	2.31
2312155	33	1.1	2312351	101	2.7	2312878	69	1.16

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2312878	101	1.16	2313639	63	1.17	2314162	59	2.6
2312908	69	2.13	2313639	65	25	2314162	73	2.11
2312908	73	2.2	2313639	89	1.17	2314162	77	2.11
2312908	77	2.2	2313639	95	20	2314162	83	1.24
2312908	108		2313780	33	2	2314162	101	2.12
2312928	33	4	2313780	142		2314231	85	1.26
2312928	33	4	2313843	83	1.16	2314231	89	1.26
2312928	35	4	2313844	63	1.12	2314242	101	2.3
2312928	35	4	2313844	83	1.12	2314242	118	
2312928	37	4	2313844	89	1.12	231439	38	3
2312928	40		2313844	95	14	231439	39	3
2312940	117	1	2313890	33		231439	40	3
2312940	118	1	2313890	33		231439	59	2.29
2312941	117		2313890	33		231439	63	1.10
2312965	143		2313890	35		231439	65	24
2312965	37	3	2313890	35		231439	69	1.11
2312966	37	4	2313890	37		231439	73	1.11
2312966	39		2313890	37		231439	77	1.11
2312977	38	21	2313890	130	6	231439	83	1.10
2313026	38		2313891	33		231439	87	1.10
2313036	44	8	2313891	130	7	231439	95	19
2313039	33	5	2313891	140		231439	101	1.11
2313043	101	2.1	2313943	111	1	231439	108	8
2313043	109		2313944	111		231439	109	6
2313045	101	2.8	2313944	113	1	231439	110	5
2313113	80	1.49	2313948	65	4	231439	113	7
2313113	81		2313948	101	2.4	2314422	71	3.7
2313114	81	5	2313948	114	6	2314422	75	3.7
2313122	23	17.4	2313948	115	6	2314422	78	3.7
2313135	80	1.48	2313948	116	6	2314422	85	1.30
2313136	57	1	2313959	112		2314422	89	1.30
2313136	81	1	2313960	63	1.23	2314423	71	3.6
2313136	92	1	2313960	83	1.23	2314423	75	3.6
2313137	75	3.18	2313960	89	1.23	2314423	78	3.6
2313137	78	3.18	2313960	95	10	2314423	85	1.29
2313137	85	1.38	2313960	113		2314423	89	1.29
2313137	89	1.38	2313961	90	1.39	231443	125	2.2
2313138	80	1.55	2313961	91	1.39	231444	52	1.11
2313143	33		2313978	91	4	231450	52	1.26
2313144	142		2313978	92		2314627	50	2.4
2313200	80	1.50	2313979	57	4	2314628	50	2.3
2313200	91	1.37	2313979	92	4	2314637	56	2.13
2313380	13	13.3	2313984	106		231465	108	7
2313617	59	2.2	2314097	122	4	231465	110	7

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2314655	53	2.18	2314768	85		2316070	103	20
2314655	57		2314768	87		2316077	99	29
2314659	33		2314768	89		2316081	102	3.3
2314659	33		2314768	90		2316101	99	32
2314659	33		2314768	91		2316102	99	33
2314659	35		2314768	93		2316103	99	34
2314659	35		2314768	143		2316104	99	35
2314659	37		2314769	51		2316105	99	36
2314659	37		2314769	59		2316108	59	
2314659	47		2314769	60		2316108	63	1.24
2314659	130		2314769	143		2316108	87	1.24
2314659	140		2314965	73	2.1	2316108	95	5
2314660	44		2314965	77	2.1	2316109	59	
2314660	47		2314965	116		2316109	63	1.25
2314660	134		2315005	9	2	2316109	87	1.25
2314660	140		2315544	122	1.1	2316109	95	6
2314664	60	2.9	2315544	124	1.1	2316118	35	2
2314690	59	2.5	2315544	124	8.1	2316118	142	
2314690	73	2.12	2315545	122	1	2316120	142	
2314690	77	2.12	2315545	124	1	2316121	142	
2314690	83	1.25	2315546	122	2	2316125	35	2
2314690	101	2.13	2315546	124	2	2316125	142	
2314691	59	2.1	2315548	122		2316147	35	
2314691	115		2315549	124		2316151	35	
2314696	51	2.37	2315555	122	7	2316156	35	
231470	79	1.10	2315555	124	7	2316156	35	
2314727	63	1.18	2315574	71	3.1	2316156	37	
2314727	83	1.18	2315574	78	3.1	2316156	37	
2314727	87	1.18	2315593	103	21	2316156	130	7
2314727	95	1	2315641	63	1.16	2316156	140	
2314727	114		2315641	65	28	2316162	13	3.6
2314735	90	1.3	2315641	89	1.16	2316491	47	
2314739	60	2.13	2315641	95	23	2316736	63	1.26
2314742	90	1.19	2315725	66	10	2316737	63	1.27
2314743	60	2.14	2315725	96	6	2316925	37	
2314753	50	2.1	2315880	19	4	2316926	37	2
2314754	50	2.2	2316022	33		2316926	142	
2314767	24		2316040	30	1	2317048	63	1.38
2314767	69		2316041	30	2	2317103	37	
2314767	73		2316042	30	3	2317119	37	2
2314767	75		2316050	101	2.15	2317119	142	
2314767	77		2316050	102	2.15	2317137	21	1.19
2314767	78		2316059	103	10	2317138	21	1.2
2314767	79		2316061	30	4	2317676	66	3

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2317866	96	2	232984	77	2.7	24257	59	2.34
2317867	97	16	232984	83	1.21	24257	69	1.21
2317868	97	17	232984	87	1.21	24257	73	1.21
2317872	142		232984	95	25	24257	77	1.21
2317878	98	25	232984	101	2.6	24257	83	1.15
2317880	98	26	234191	71	3.5	24257	101	1.21
2317931	143		234191	75	3.5	242596	60	2.15
2317932	52		234191	78	3.5	242596	75	3.22
2317932	65		234191	85	1.28	242596	78	3.22
2317932	66		234191	89	1.28	242596	99	38
2317932	143		234191	101	2.14	242596	102	3.10
2317933	95		234509	57	5	242597	60	2.16
2317933	96		235387	101	2.10	242597	75	3.23
2317933	97		235387	105	5	242597	78	3.23
2317933	143		235387	111	5	242597	99	37
2317934	99		235387	112	5	242597	102	3.11
2317934	101		235387	114	5	242598	60	2.17
2317934	102		235387	115	4	242598	75	3.24
2317934	143		235387	117	5	242598	78	3.24
231820	63	1.28	235387	118	5	242598	85	1.42
231820	66	2	235527	75	3.1	242598	89	1.42
231820	96	3	235536	51	2.36	242598	99	39
231821	101	2.16	236855	51	2.30	242598	102	3.12
231955	51	2.33	236855	59	2.3	242629	79	1.11
231955	79	1.14	236855	63	1.20	242629	93	1.16
231955	93	1.13	236855	65	29	243057	90	1.48
231955	99	30	236855	77	2.6	243502	89	1.46
231955	108	6	236855	79	1.9	243506	89	1.47
231955	113	8	236855	83	1.20	243815	105	
232382	101		236855	87	1.20	243815	117	
232383	63		236855	95	24	243815	118	
232383	66		236855	101	2.2	243815	137	
232383	96		236893	102	3.2	243815	137	
232960	60	2.19	237349	33	1.5	243815	137	
232960	63	1.41	237349	33	1.5	243815	138	
232960	66	6	237349	35	1.5	243815	138	
232960	75	3.21	237349	35	1.5	243815	138	
232960	78	3.21	237349	37	1.5	243815	139	
232960	85	1.41	237349	37	1.5	249072	51	2.34
232960	89	1.41	237349	130	2	249465	79	1.19
232960	96	5	237349	140		249465	90	1.18
232960	102	3.5	239147W	38	12	249465	93	1.18
232984	59	2.4	239147W	39	12	250589	79	
232984	63	1.21	239147W	40	12	250589	104	1.2



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250850	140		283432W	44	8A	296422W	19	23.4
252566	106		283434W	44	8	296422W	23	17.2
252566	111		283434W	143		296422W	24	1.59
252566	137		292527W	30	14	296422W	27	17.2
252566	137		292527W	103	14	296422W	29	30.5
252566	138		292655W	25	1.43	296422W	30	13
252566	138		292656W	47	8	296422W	44	21
252566	138		292656W	56	2.17	296422W	45	22
252566	139		292660W	19	14	296422W	47	4
252566	139		293628W	41	8	296422W	56	2.14
252605	79	1.12	293645W	13	3.15	296422W	90	1.28
254680	79	1.18	293645W	13	13.1	296422W	103	13
254680	90	1.17	293645W	15	3.15	296430W	23	1.37
254680	91	1.17	293645W	47	6	296430W	25	1.37
254680	93	1.17	293646W	17	23.5	296430W	27	1.3
255101	99	40	293646W	19	23.5	296430W	29	3
2570W	121	2	293646W	23	17.1	296434W	19	16
2570W	121	10	293646W	27	17.1	296434W	21	1.8
2570W	122	1.3	293646W	29	30.7	296434W	30	15
2570W	122	8.3	293646W	56	2.15	296438W	30	11
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259258	105		293729W	21	1.6	30080W	134	7
259258	117		293729W	30	16	30080W	140	
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259258	118		296420W	41	7	313022W	140	
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259258	137		296420W	63	1.2	318702W	19	12
259258	137		296420W	65	16	318702W	21	1.18
259258	137		296420W	69	1.2	318702W	23	
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