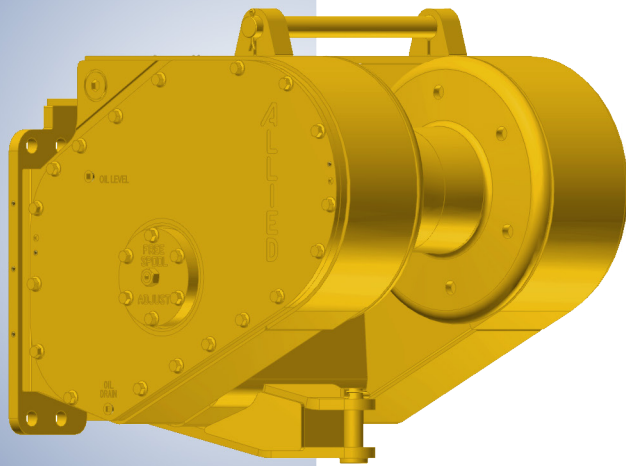




Parts Manual



Allied H4A

Hydraulic Winch

for Komatsu Dozers

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

Customer Edition

NOTE:

For winch models using internal options B, E, R, and Z, refer to manual 599015W.

For serial numbers prior to 1162, refer to manual 599015W.

A PRODUCT OF
Allied Systems
COMPANY

SHERWOOD, OREGON USA

P/N 599015W-KOMATSU

Printed in U.S.A. 3/2020

Safety Precautions

Read, understand and observe the Safety Summary on pages 1 through 3 to prevent injury to personnel and damage to equipment.

Winch serial number _____

Date put into service _____

NOTE: This publication may be translated to different languages for sole purpose of easy reference in non-English speaking locations.

Should there be differences in interpretations to the text, please refer to the English language edition published by Allied Systems Company as the controlling document.

Index

H4A Winch Parts for H4A Dozers

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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

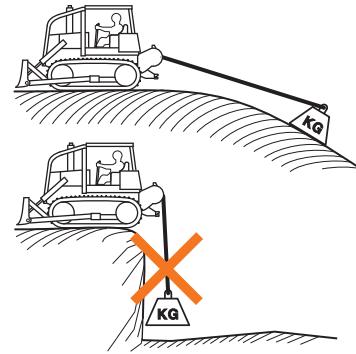
- Stay in the operator’s seat when operating the winch.
- Do not stand on the vehicle when operating the winch.
- Avoid winch operation near people or other machines.
- Never stand nor permit others to stand in the bight (loop) of a wire rope.

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

Hydraulic Hazards

- Wear personal protective equipment, such as gloves and safety glasses, whenever servicing or checking a hydraulic system.
- Assume that all hydraulic hoses and components are pressurized. Relieve all hydraulic pressure before disconnecting any hydraulic line.
- Never try to stop or check for a hydraulic leak with any part of your body; use a piece of cardboard to check for hydraulic leaks.
- Small hydraulic hose leaks are extremely dangerous, and can inject hydraulic oil under the skin, even through gloves.



DANGER

Injection hazard.

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

Use a piece of cardboard to check for hydraulic leaks.

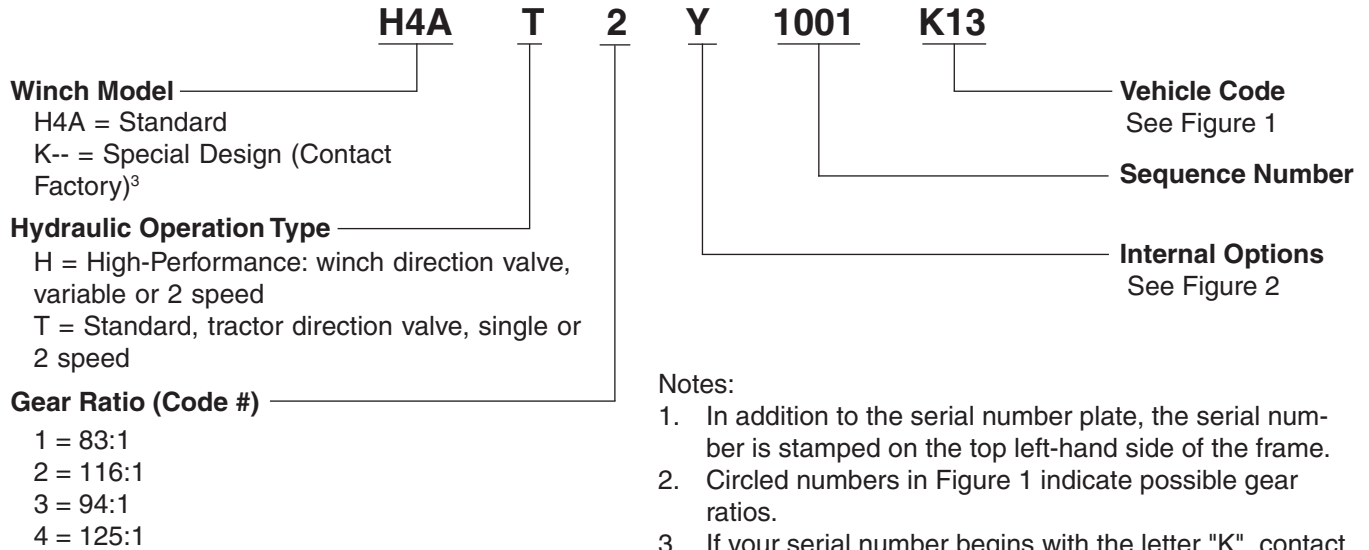
Maintenance Warnings

- Do not permit other people near the control area when you inspect or repair a machine.
- Never inspect, repair, or perform maintenance on a machine that is in motion.
- Inspect the winch before each use:
 - ... Make sure that the controls and instruments operate correctly.
 - ... Report the need for repairs immediately.
 - ... Do not work with a damaged or worn wire rope.
 - ... Do not use a winch that needs repairs.
 - ... If the wire rope and ferrule must be removed from the drum, make sure the end of the wire rope and ferrule are controlled when the ferrule is released. The end of the wire rope can suddenly move from the drum like a compressed spring when the ferrule is released, and cause an injury.
- Replace any parts only with genuine Allied Winch parts.
- Use only the lubricants listed in the Recommended Oil List. See page 8.



Unit Identification

Allied Winch Serial Number Nameplate Data For Dozer Mountings



Notes:

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

| C O D E | K Komatsu |
|------------------|---------------------|
| 13 | D37-D39X-22 ② |
| 14 | D39-23/24 ② ③ |

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

Circled numbers in Figure 1 indicate possible gear ratios.

| | Y | C |
|--|---|---|
| Freespool | X | |
| External (Pump) Hydraulics (Non-SCH) | X | |
| Power Forward & Reverse (PFR) | X | |
| Open Frame | X | |
| Integral Mounting Plate, Fairlead, Manual Freespool | | X |

Figure 2, Internal Options

NOTE:

For winch models using internal options B, E, R, and Z, refer to manual 599015W.

For serial numbers prior to 1162, refer to manual 599015W.

Using this Manual

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

1. Determine the function and application of the part required. Turn to the illustrated index page immediately behind the front cover, and select the most appropriate area.
2. Use the table of contents at the beginning of each chapter to determine the assembly which would normally contain the part required. Proceed then to locate the part on the assembly breakdown page.

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

1. Determine the assembly the required part is used on. Turn to the master index (which immediately follows the illustrated index).
2. Locate the assembly on which the required part is used, and turn to the page indicated for that assembly. Proceed to locate the part on the assembly breakdown page.

When the part number is known:

Use the numerical index to find the part number. Turn to the page listed and locate the part as indicated by the reference number.

General:

The assembly breakdowns include part numbers, descriptions, quantities required, keys and footnotes to help in selecting the correct parts.

Keys are used to show effective serial numbers for two or more similar assemblies, LH and RH assembly parts, etc. Select the appropriate key, "A," "B," "C," or "D" and the corresponding quantity column to find the required parts.

Indent dots are used to indicate assemblies and sub-parts of assemblies. No dot indicates the major assembly. Part descriptions which are indented with dots are sub-parts of the major assembly shown above.

Quantities shown are for one assembly. Note that when two assemblies are shown, but the quantity of the sub-parts is indicated as three, this means three per assembly, for a total of six. AR means As Required, and NSS indicates Not Sold Separately.

Serial numbers are shown to allow for the most current parts information to be incorporated into the parts manual. See page 4 for serial number information.

Abbreviations

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

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

Figure 3, Abbreviations

Oil Specifications

Oil Selection

| Winch Type | Winch Oil Capacity | Winch Housing Oil | Hydraulic Circuit Oil |
|---|--------------------|---|----------------------------------|
| SCH Model (Internal Option Code R) | 14 Gal (54L) | See Recommended Oils in Figure 5 (Winch housing is oil reservoir for pump) | |
| Non-SCH, Open Frame Model (Internal Option Code Y) | 4 Gal (15L) | See Recommended Oils in Figure 5 | Use Recommended Tractor Oil Only |

Figure 4 - Recommended Oils

| Recommended Oils* - General Conditions | | | |
|--|--------------------------------|---------------------------|-----------|
| Manufacturer | Oil Type | Ambient Temperature Range | |
| | | °F | °C |
| ExxonMobil | Mobil Fluid 424 (Factory fill) | -13 to 104 | -25 to 40 |
| John Deere | Hy-Gard™ | -13 to 122 | -25 to 50 |
| Chevron | 1000 THF | -13 to 104 | -25 to 40 |
| Caterpillar | Multipurpose Tractor Oil (MTO) | -13 to 104 | -25 to 40 |
| Case | Hy-Tran Ultra | -20 to 122 | -29 to 50 |
| Recommended Oils* - Low Temperature Conditions | | | |
| Manufacturer | Oil Type | Ambient Temperature Range | |
| | | °F | °C |
| ExxonMobil | Mobil Fluid LT | -40 to 86 | -40 to 30 |
| John Deere | Low Viscosity Hy-Gard | -40 to 86 | -40 to 30 |
| Chevron | THF W | -40 to 86 | -40 to 30 |

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

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

Figure 5, Recommended Oil List

Ordering Parts

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

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

Allied Systems Company
21433 SW Oregon Street
Sherwood, OR 97140 U.S.A.

Phone: 503-625-2560

Fax: 503-625-5132

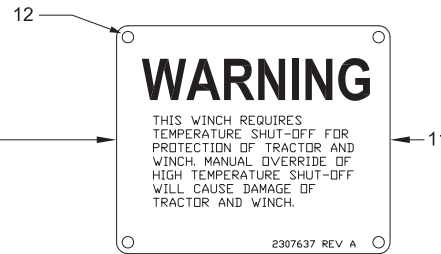
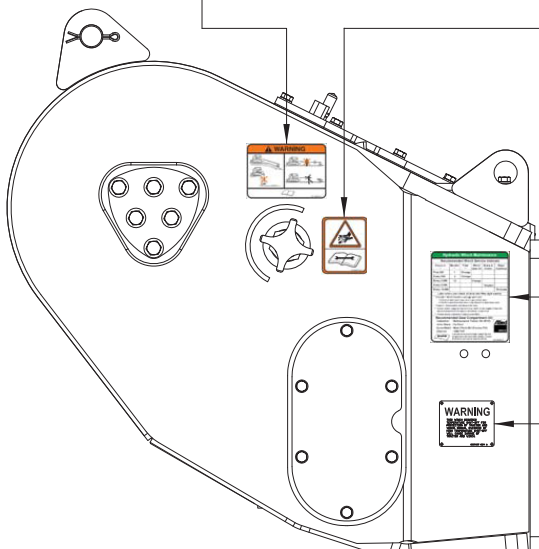
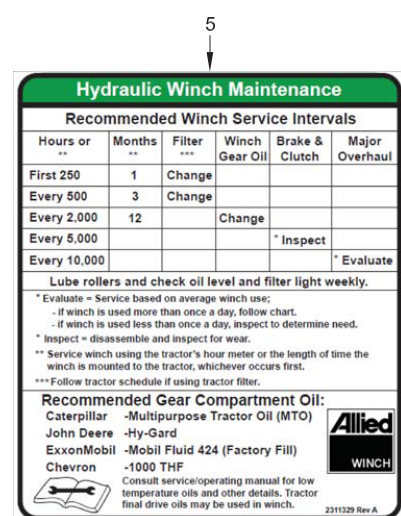
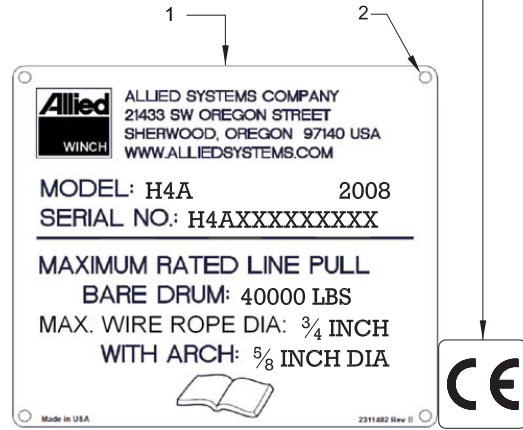
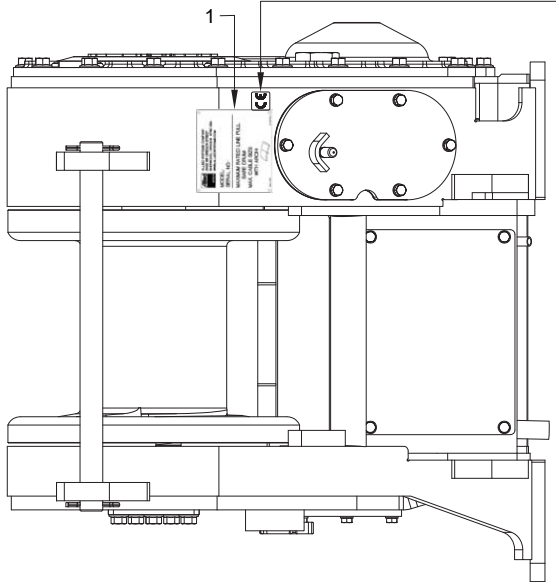
E-mail: parts@alliedsystems.com

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

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Nameplate & Decals

CONTACT ALLIED SYSTEMS WINCH DEPARTMENT IF THE CE MARK LABEL IS NEEDED.



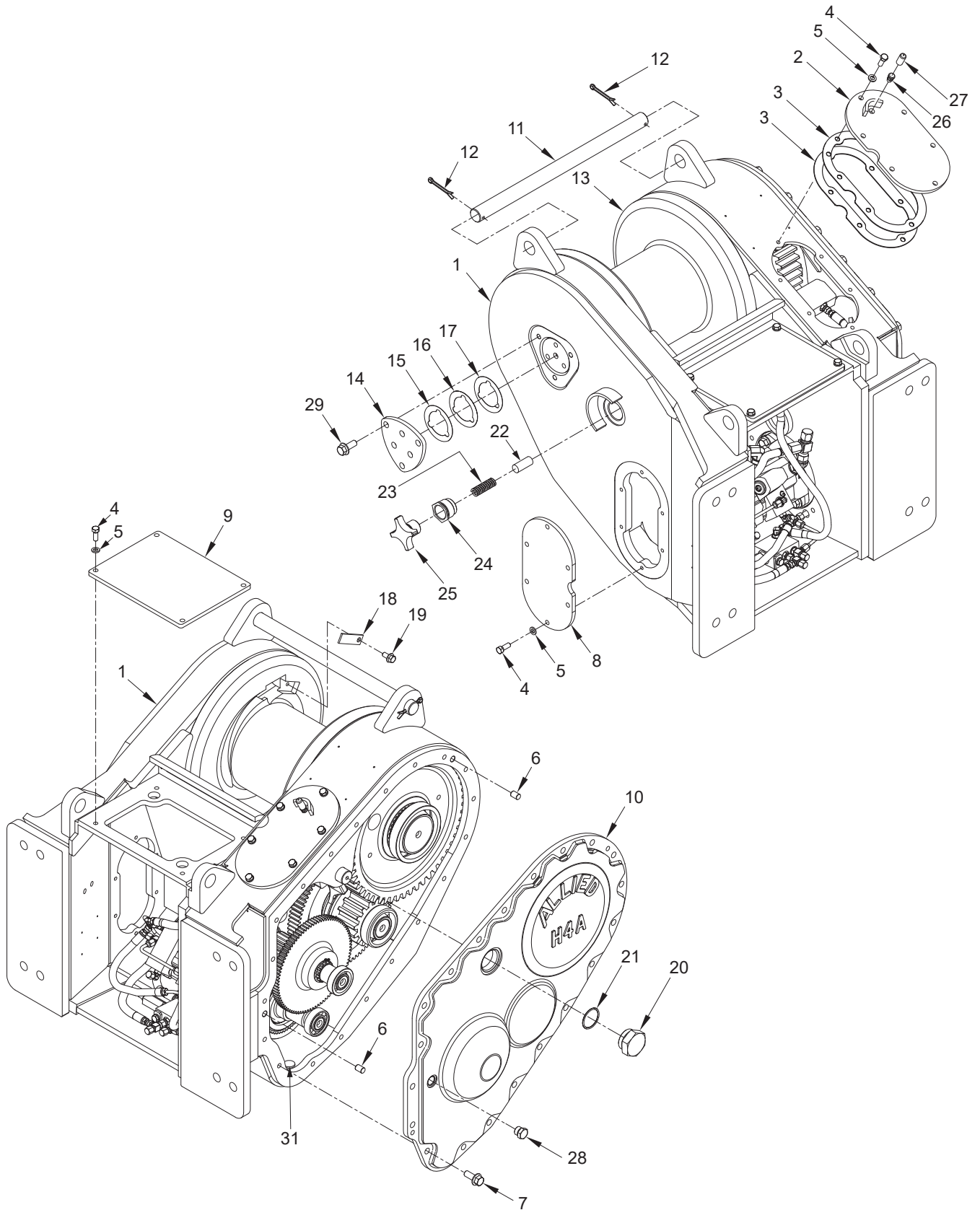
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|-------|-------------------------|------|----------|-----|--------------------|
| 1 | * | ----- | 1 Nameplate | 5 | 2311329 | 1 | Decal, Maintenance |
| 2 | 16602W | 4 | Screw | 11 | 2307637W | 1 | Plate, Warning* |
| 3 | 1321665W | 1 | Decal, Warning | 12 | 16602W | 4 | Screw |
| 4 | 2311330 | 1 | Decal, Load & Wire Rope | | | | |

*Contact Factory

Section 1
Frames/Covers/Mounting Parts

Frame/Covers

Komatsu
Page 1 of 2



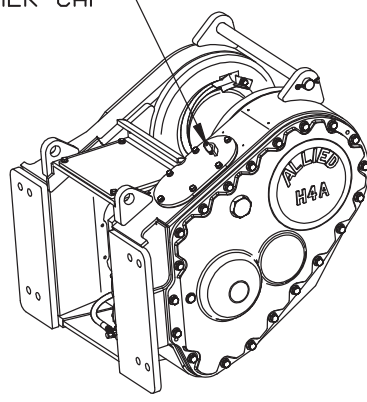
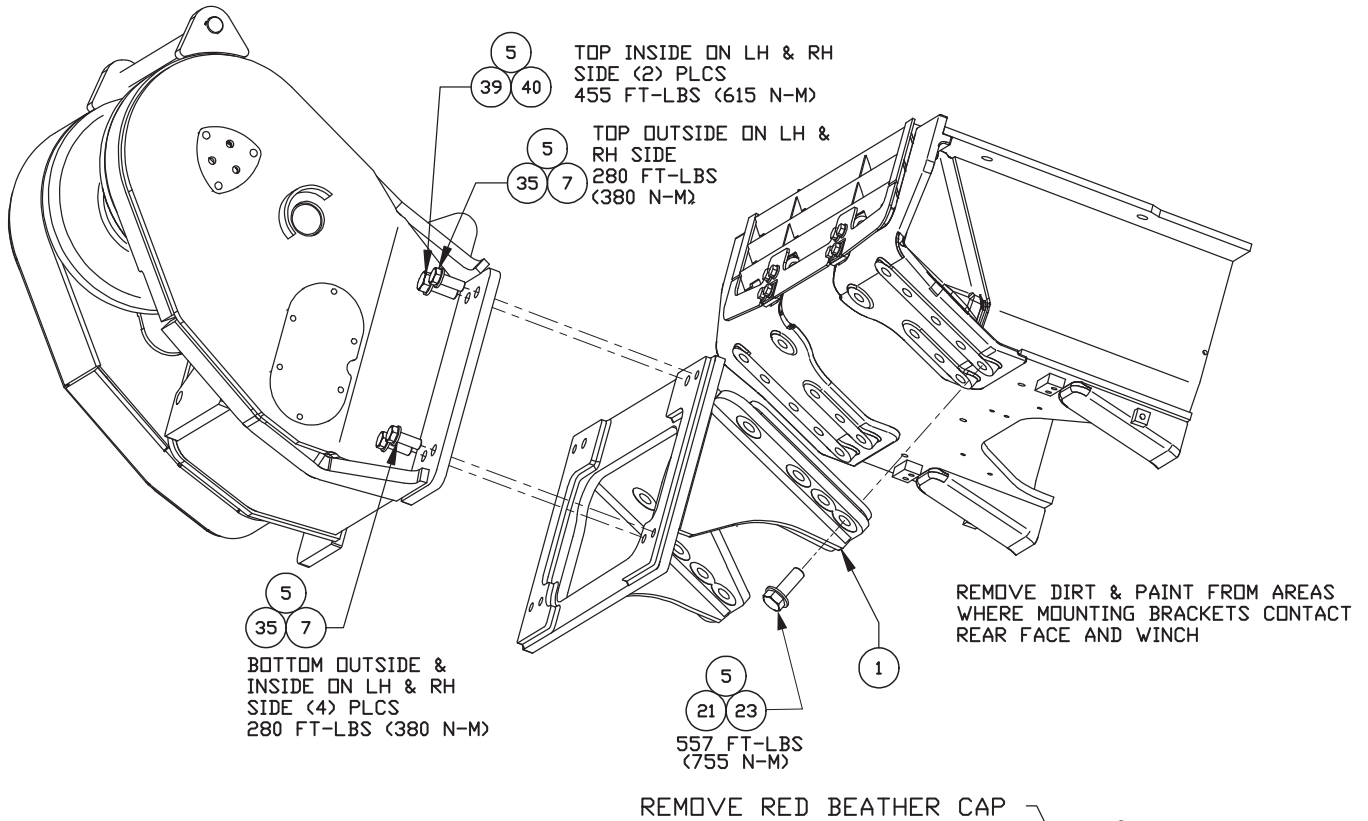
Frame/Covers

Komatsu
Page 2 of 2

| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|-------------|-----|---------------------------|------|----------------------|-----|------------------------|
| 1 | 2305645W | 1 | Frame | 17 | 2304124W | AR | Shim, .020 |
| 2 | 2305663W | 1 | Cover, Breather | 18 | 1314503W | 1 | Keeper, Ferrule |
| 3 | 2315377 | 2 | Gasket, Breather | 19 | 1348034W | 1 | Screw, Flange |
| 4 | 179443W | 16 | Capscrew | 20 | 2304174W | 1 | Plug, Freespool Shaft |
| 5 | 15156W | 16 | Washer | 21 | 16984W | 1 | O-Ring |
| 6 | 176208W | 2 | Pin | 22 | 2311889 | 1 | Pad, Freespool Drag |
| 7 | 2303848W | 20 | Screw, Flanged | 23 | 1314502W | 1 | Spring, Freespool Drag |
| 8 | *a 2304099W | 1 | Cover | 24 | 2300174W | 1 | Insert |
| 9 | 2305662W | 1 | Cover, Top | 25 | 1314547W | 1 | Knob, Freespool Drag |
| 10 | *a 2304092W | 1 | Cover, LH | 26 | 21420W | 1 | Plug, Breather |
| 11 | 2305020W | 1 | Bar, Tie (Except w/ Arch) | 27 | 2300962W | 1 | Cap, Breather |
| 12 | 15256W | 2 | Pin (Except w/Arch) | 28 | 14595W | 1 | Fitting, O-Ring |
| 13 | 2304069W | 1 | Drum | 29 | 2303848W | 16 | Screw, Flanged |
| 14 | 2304070W | 1 | Cover, Drum Shaft | 31 | R525293 | 1 | Magnet |
| 15 | 2304122W | AR | Shim, .005 | | | | |
| 16 | 2304123W | AR | Shim, .007 | | | | |
| | | | | *a | Use 313022W Adhesive | | |

Mounting Parts

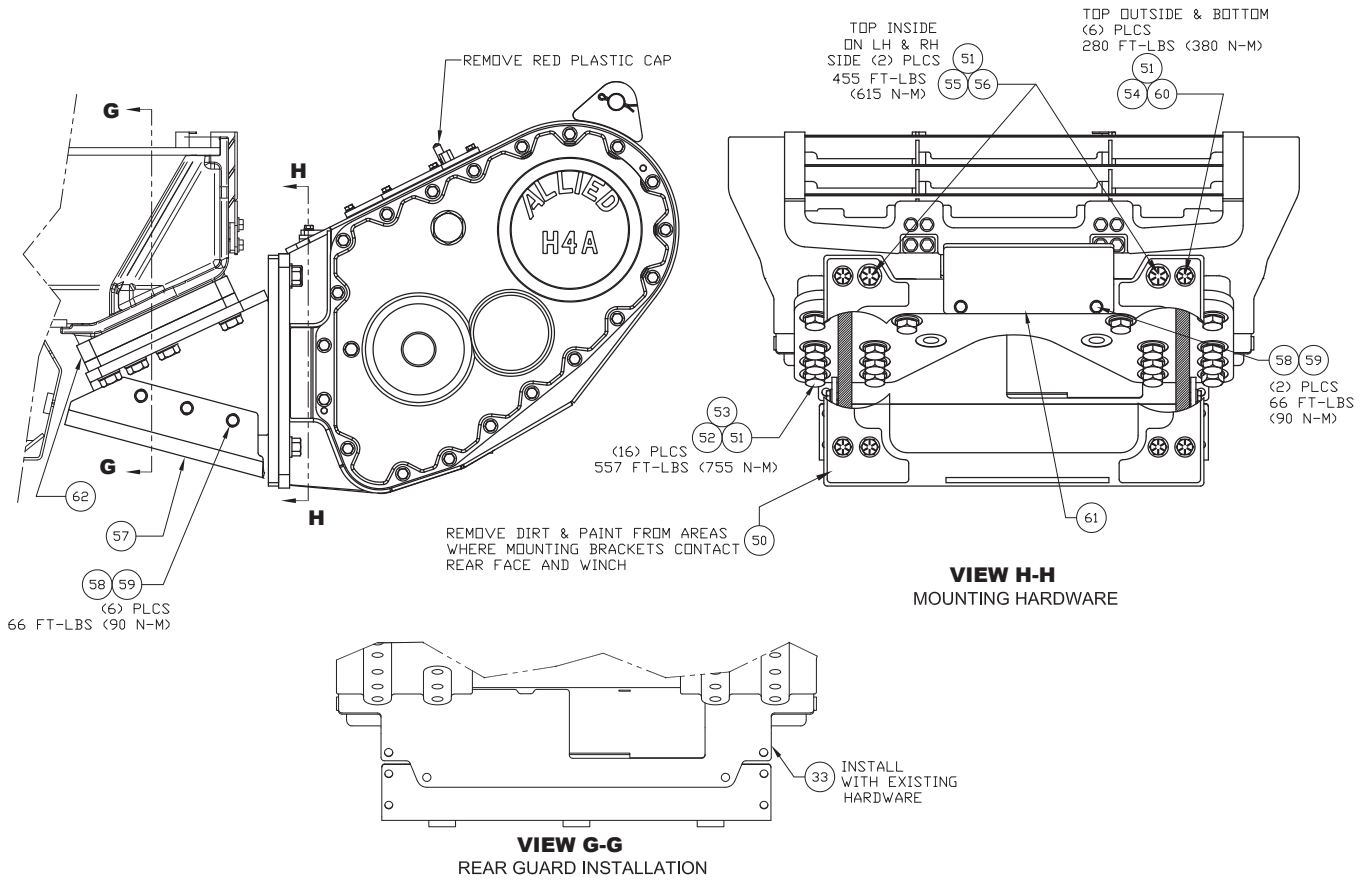
Komatsu D37-D39X-22 (H4AT2Y**K13)



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|-----|-------------------|------|----------|-----|-------------|
| 1 | 2307301W | 1 | Bracket, Mounting | 23 | 296434W | 16 | Washer |
| 5 | 318702W | AR | Threadlock | 35 | 221675W | 2 | Capscrew |
| 7 | 221777W | 6 | Washer | 39 | 221779W | 1 | Guard |
| 21 | 1308451W | 16 | Capscrew | 40 | 221672W | 8 | Capscrew |

Frame and Covers

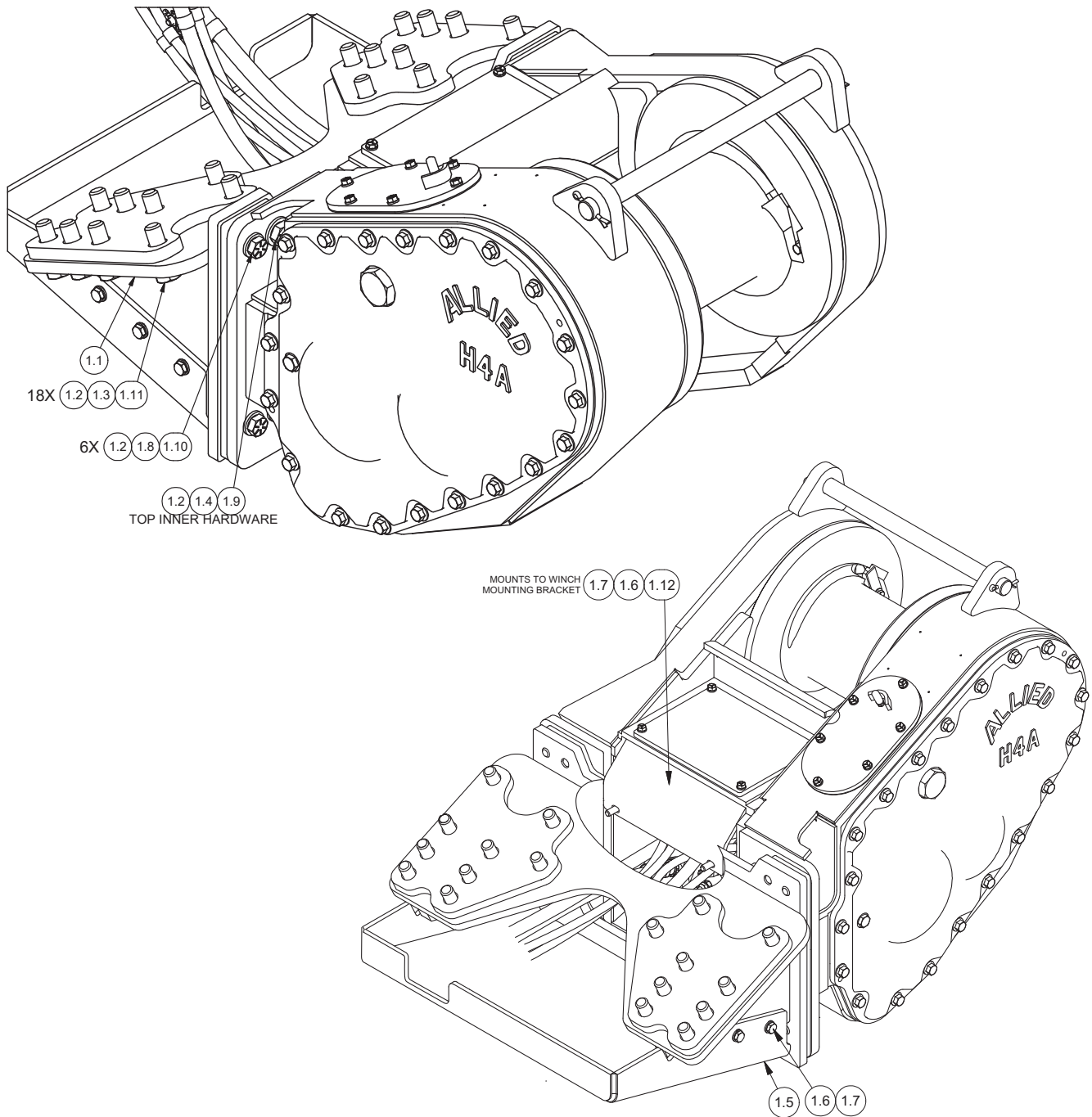
Komatsu D37-D39X-22 (H4AT2Y**K13)



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|-----------|-----|-------------------|------|----------|-----|-------------|
| 33 | 2311288 | 1 | Guard, Tractor | 56 | 221672W | 2 | Capscrew |
| 50 | 2314539 | 1 | Bracket, Mounting | 57 | 2311421 | 1 | Guard |
| 51 | 318702W | AR | Threadlock | 58 | 293646W | 8 | Capscrew |
| 52 | 293731W | 16 | Capscrew | 59 | 296422W | 8 | Washer |
| 53 | 296434W | 16 | Washer | 60 | 221777W | 6 | Washer |
| 54 | 221657W | 6 | Capscrew | 61 | 2314526 | 1 | Guard, Top |
| 55 | R13813326 | 2 | Washer | 62 | 2313037 | 2 | Plate |

Mounting Parts

Komatsu D37/39-23/24 (H4AT2Y**K14)



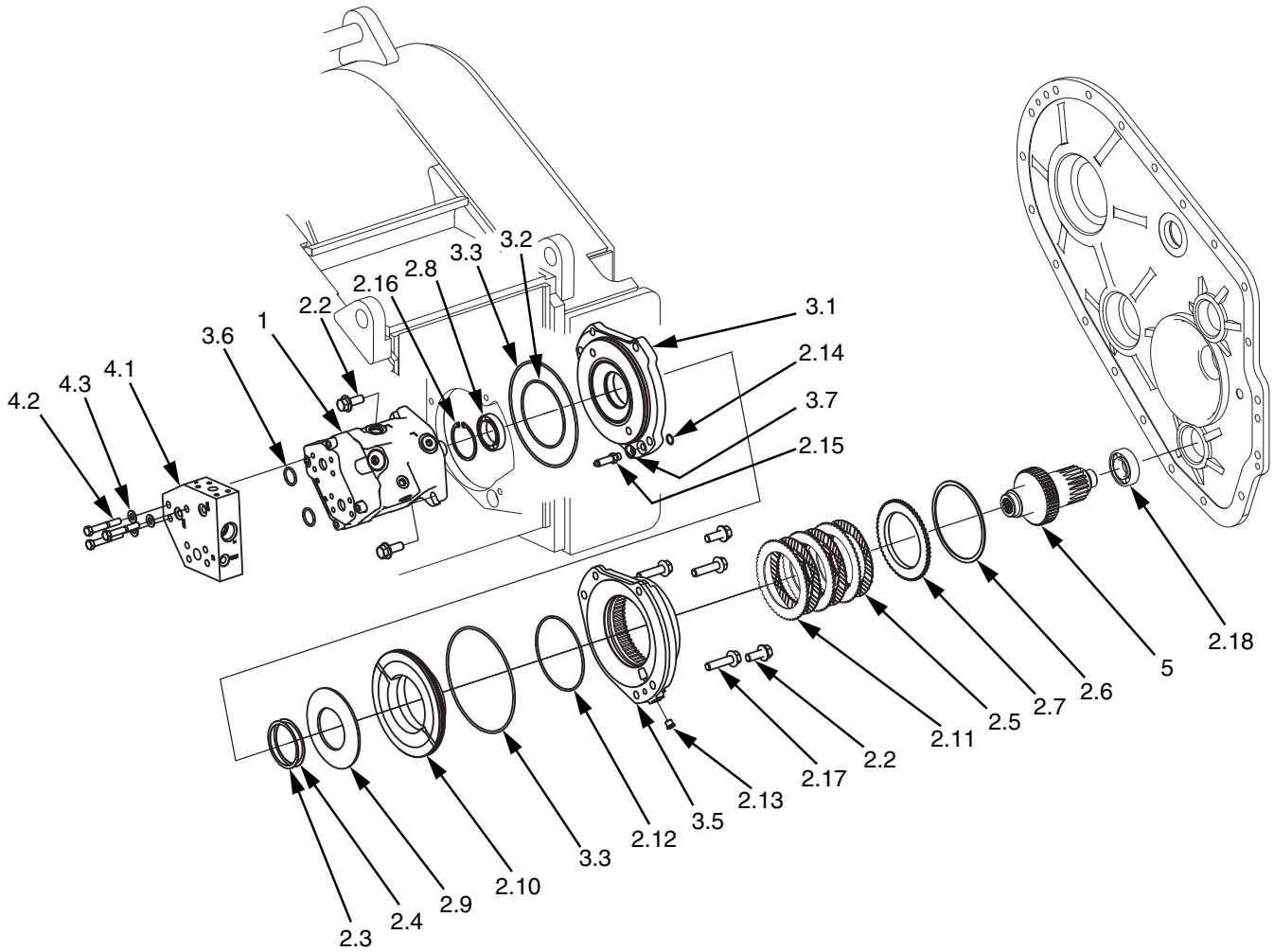
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|-----------|-----|-------------------|------|----------|-----|-------------|
| 1.1 | 2314539 | 1 | Bracket, Mounting | 1.7 | 296422W | 8 | Washer |
| 1.2 | 318702W | AR | Threadlock | 1.8 | 221777W | 6 | Washer |
| 1.3 | 296434W | 18 | Washer | 1.9 | 221672W | 2 | Capscrew |
| 1.4 | R13813326 | 2 | Washer | 1.10 | 221657W | 6 | Capscrew |
| 1.5 | 2314524 | 1 | Guard, Bottom | 1.11 | 1308451W | 18 | Capscrew |
| 1.6 | 293646W | 8 | Capscrew | 1.12 | 2314526 | 1 | Guard, Top |

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Section 2
Gear/Shaft Train

Motor Shaft Assembly

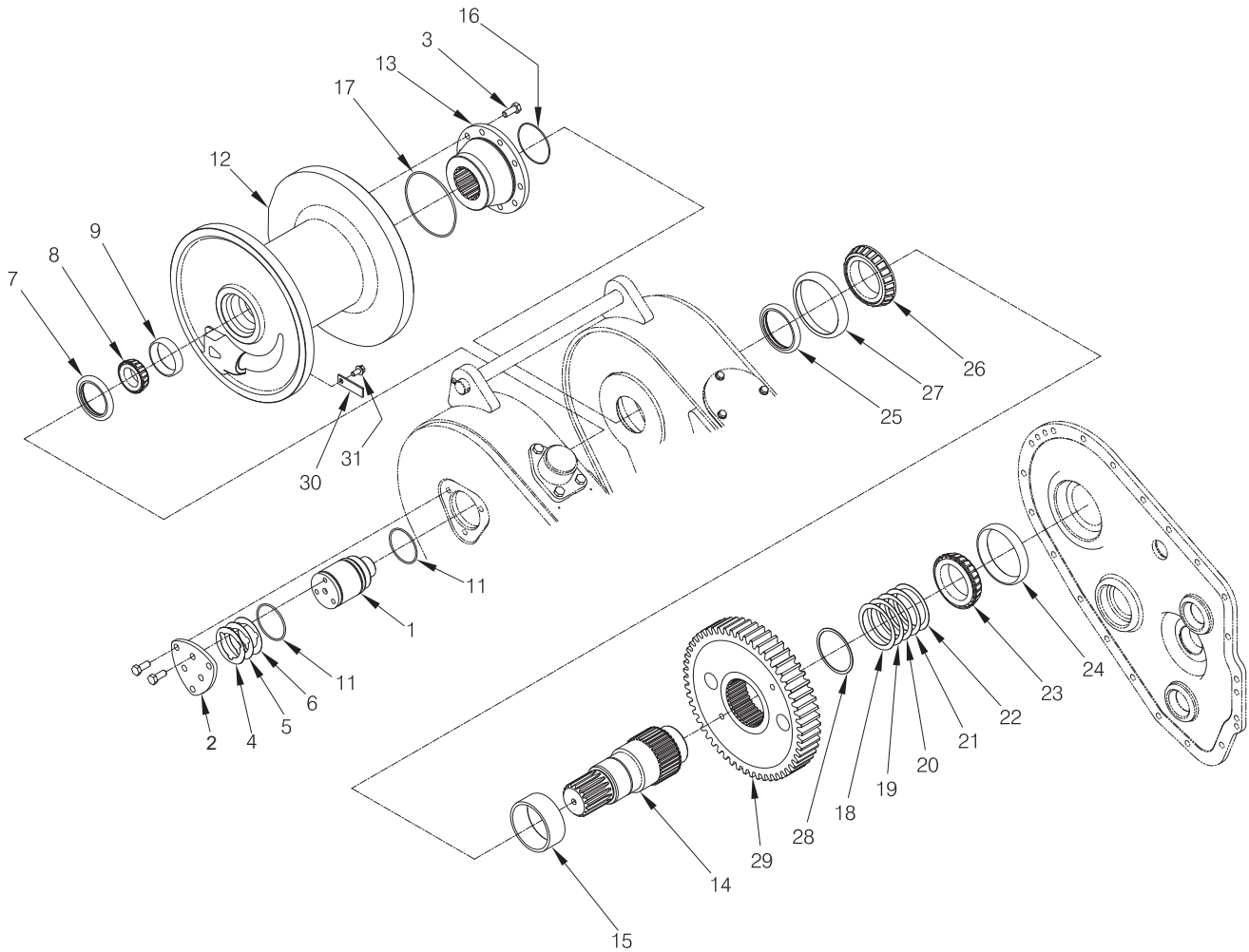
Komatsu D37-D39X-22 (H4AT2Y**K13), D37/39-23/24 (H4AT2Y**K14)



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|--------------|-----|----------------------|------|--------------|-----|--------------------------|
| 1 | *c 2303788W | 1 | Motor, Hydraulic | 3.2 | *b 15888W | 1 | O-Ring |
| 1 | *d 2314620 | 1 | Motor, Hydraulic | 3.3 | *a*b 2316507 | 2 | O-Ring |
| 2.2 | 2303848W | 4 | Screw, Flange | 3.5 | 2316526 | 1 | Housing, Brake |
| 2.3 | *a 2304711W | AR | Shim, 0.005" | 3.6 | *b 2304110W | 2 | O-Ring |
| 2.4 | *a 2304712W | AR | Shim, 0.007" | 3.7 | *b 17064 | 1 | O-Ring |
| 2.5 | *a 2304873W | 3 | Disc, Friction | 4.1 | 2307568W | 1 | Assy, Manifold |
| 2.6 | 334475W | 1 | Ring, Snap, Int | | 2307567W | 1 | . Manifold |
| 2.7 | 334442W | 1 | Plate, Pressure | | 222442W | 1 | . Fitting |
| 2.8 | *a 2300831W | 1 | Bearing, Ball | | 2310978 | 1 | . Orifice |
| 2.9 | 2303845W | 1 | Spring, Belleville | 4.2 | 180959W | 3 | Capscrew |
| 2.10 | 2316525 | 1 | Piston, Brake | 4.3 | 221767W | 3 | Washer |
| 2.11 | *a 2304874W | 3 | Plate, Separator | 5 | 2303835W | 1 | Motor Shaft, 21T (83:1) |
| 2.12 | *a*b 2316517 | 1 | O-Ring | 5 | 2311303 | 1 | Motor Shaft, 19T (94:1) |
| 2.13 | 222442W | 1 | Fitting | 5 | 2303829W | 1 | Motor Shaft, 16T (116:1) |
| 2.14 | *b 26883 | 1 | O-Ring | 5 | 2311305 | 1 | Motor Shaft, 15T (125:1) |
| 2.15 | 16547W | 1 | Fitting | | | | |
| 2.16 | 12921W | 1 | Snap Ring | | | | |
| 2.17 | 918906W | 3 | Screw | | | | |
| 2.18 | *a 41206W | 1 | Bearing, Ball | | | | |
| 3.1 | 2305651W | 1 | Motor Mounting Plate | | | | |

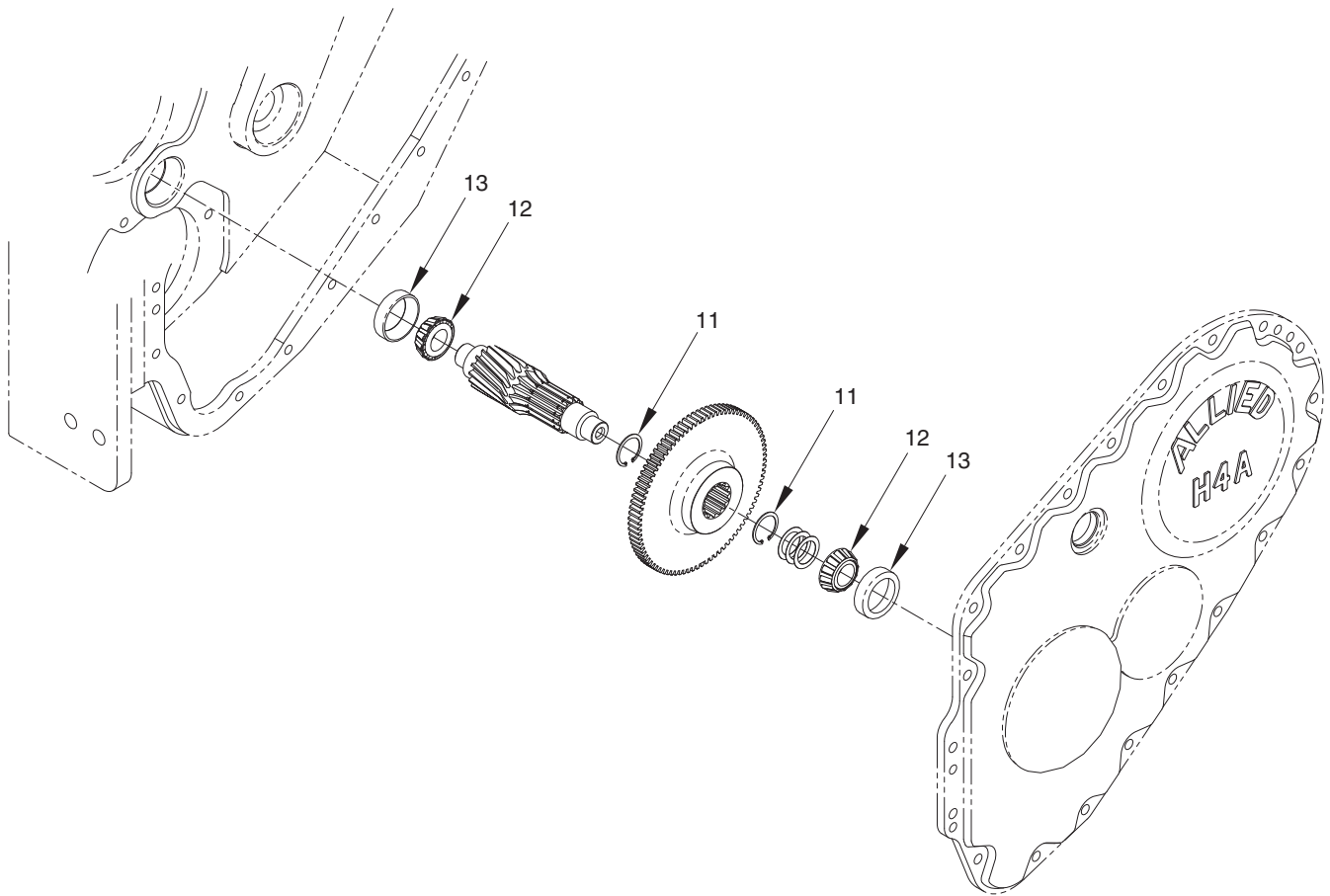
*a Included in Brake Kit 2306545W
 *b Included in Motor Shaft Rebuild Kit 2315351
 *c Used on Tractor Code K13 Only
 *d Used on Tractor Code K14 Only

Drum Shaft



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|-----|---------------|------|----------|-----|-----------------|
| 1 | 2305653W | 1 | Shaft, Drum | 18 | 1314470W | AR | Shim, .025 |
| 3 | 2303848W | 16 | Capscrew | 19 | 1314485W | AR | Shim, .015 |
| 4 | 2304122W | 1 | Shim, .005 | 20 | 1314486W | AR | Shim, .018 |
| 5 | 2304123W | 1 | Shim, .007 | 21 | 1314487W | AR | Shim, .020 |
| 6 | 2304124W | 6 | Shim, .020 | 22 | 1314488W | AR | Shim, .022 |
| 7 | 87355W | 1 | Seal, Oil | 23 | 1314483W | 1 | Cone, Bearing |
| 8 | 2303853W | 1 | Cone, Bearing | 24 | 30190W | 1 | Cup, Bearing |
| 9 | 2303854W | 1 | Cup, Bearing | 25 | R2109170 | 1 | Seal |
| 11 | 203525 | 2 | O-Ring | 26 | 2304126W | 1 | Cone, Bearing |
| 12 | 2304069W | 1 | Drum | 27 | 2304127W | 1 | Cup, Bearing |
| 13 | 2304060W | 1 | Adapter, Drum | 28 | 2304128W | 1 | Retaining Ring |
| 14 | 2304058W | 1 | Shaft, Drum | 29 | 2303827W | 1 | Gear, 55T |
| 15 | 2304125W | 1 | Spacer | 30 | 1314503W | 1 | Keeper, Ferrule |
| 16 | 46629W | 1 | O-Ring | 31 | 134803W | 1 | Capscrew |
| 17 | 15895W | 1 | O-Ring | | | | |

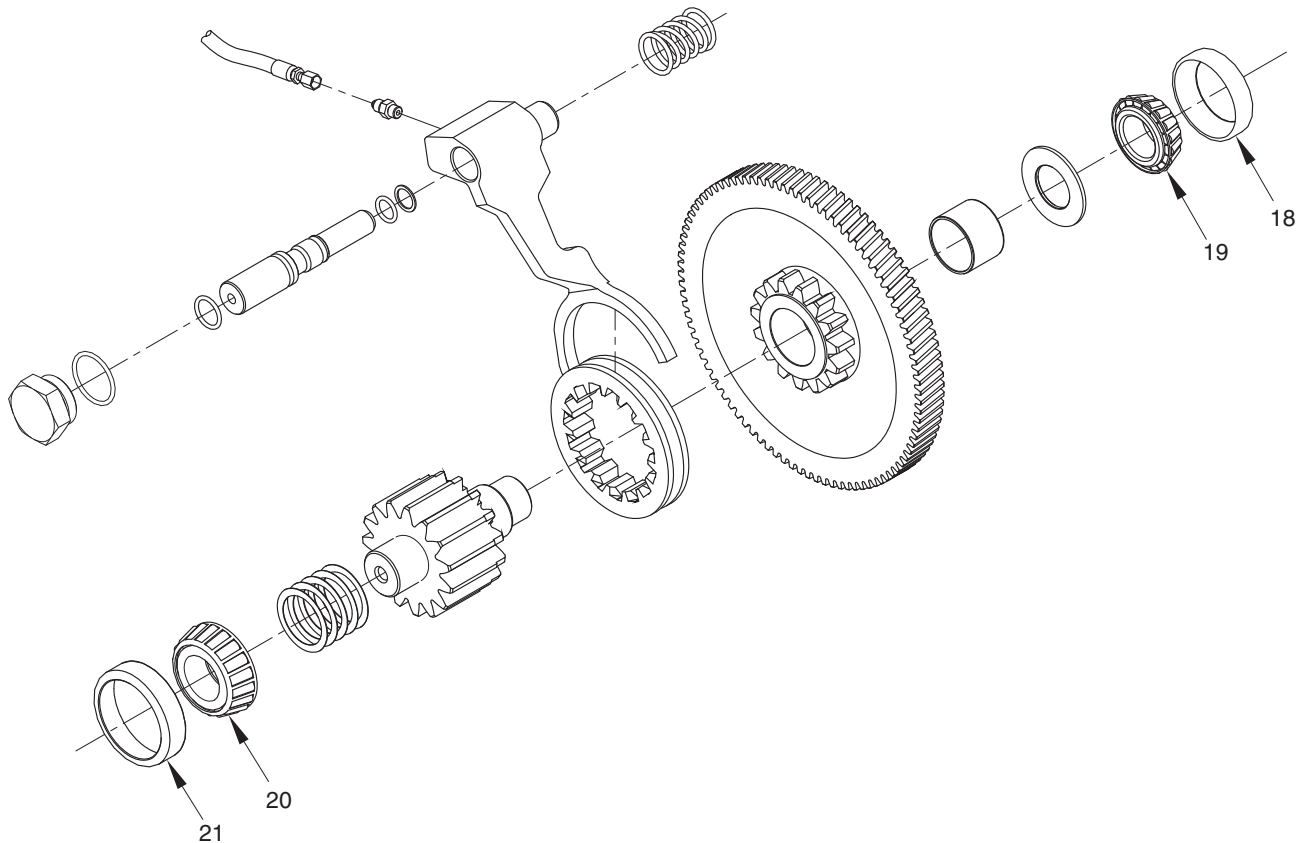
Shaft, Idler



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|-----|-------------------|------|-------------------------------|-----|------------------|
| 1 | 2305564W | 1 | Shaft, Idler, 16T | 8 | 2304199W | AR | Shim, .015 |
| 2 | 2304179W | 2 | Cone, Bearing | 9 | *a 2305566W | 1 | Gear, Idler, 88T |
| 3 | 2304180W | 2 | Cup, Bearing | | *b 2305565W | 1 | Gear, Idler, 83T |
| 5 | 12916W | 2 | Ring, Snap | | *c 2311304 | 1 | Gear, Idler, 85T |
| 6 | 2304197W | AR | Shim, .010 | | *d 2311306 | 1 | Gear, Idler, 89T |
| 7 | 2304198W | AR | Shim, .012 | | | | |
| | | | | *a | Used on 116:1 Gear Ratio Only | | |
| | | | | *b | Used on 83:1 Gear Ratio Only | | |
| | | | | *c | Used on 94:1 Gear Ratio Only | | |
| | | | | *d | Used on 125:1 Gear Ratio Only | | |

Intermediate Gear Shaft

With Freespool



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|----------|-----------------------|------|----------|-----|---------------------------|
| 6 | 16538W | 1 | Fitting | 21 | 2304171W | 1 | Collar, Freespool |
| 7 | 2304174W | 1 | Plug, Freespool Shaft | 22 | 2316504 | 1 | Assy, Gear, Intermed, 92T |
| 8 | 16984W | 1 | O-Ring | 22.1 | 2304181W | 1 | . Bushing |
| 9 | 2303825W | 1 | Shaft | 23 | 2305563W | 1 | Shaft, Freespool |
| 10 | 225262W | 1 | Cone, Bearing | 24 | 2303906W | 1 | Spring, Freespool |
| 11 | 230351W | 1 | Cup, Bearing | 25 | 2305562W | 1 | Fork, Freespool Shifter |
| 12 | * | 1314433W | AR Shim, .020 | 26 | 61056W | 1 | O-Ring |
| 13 | * | 1314434W | AR Shim, .022 | 27 | 2305580W | 1 | Assy, Hose |
| 14 | * | 1314435W | AR Shim, .025 | 28 | 100153W | 1 | O-Ring |
| 15 | * | 1314467W | AR Shim, .015 | 29 | 238671 | 1 | Ring, Backup |
| 16 | * | 1314468W | AR Shim, .018 | | | | |
| 18 | R1314774 | 1 | Cup, Bearing | | | | |
| 19 | R1314773 | 1 | Cone, Bearing | | | | |
| 20 | 2304172W | 1 | Washer, Thrust | | | | |

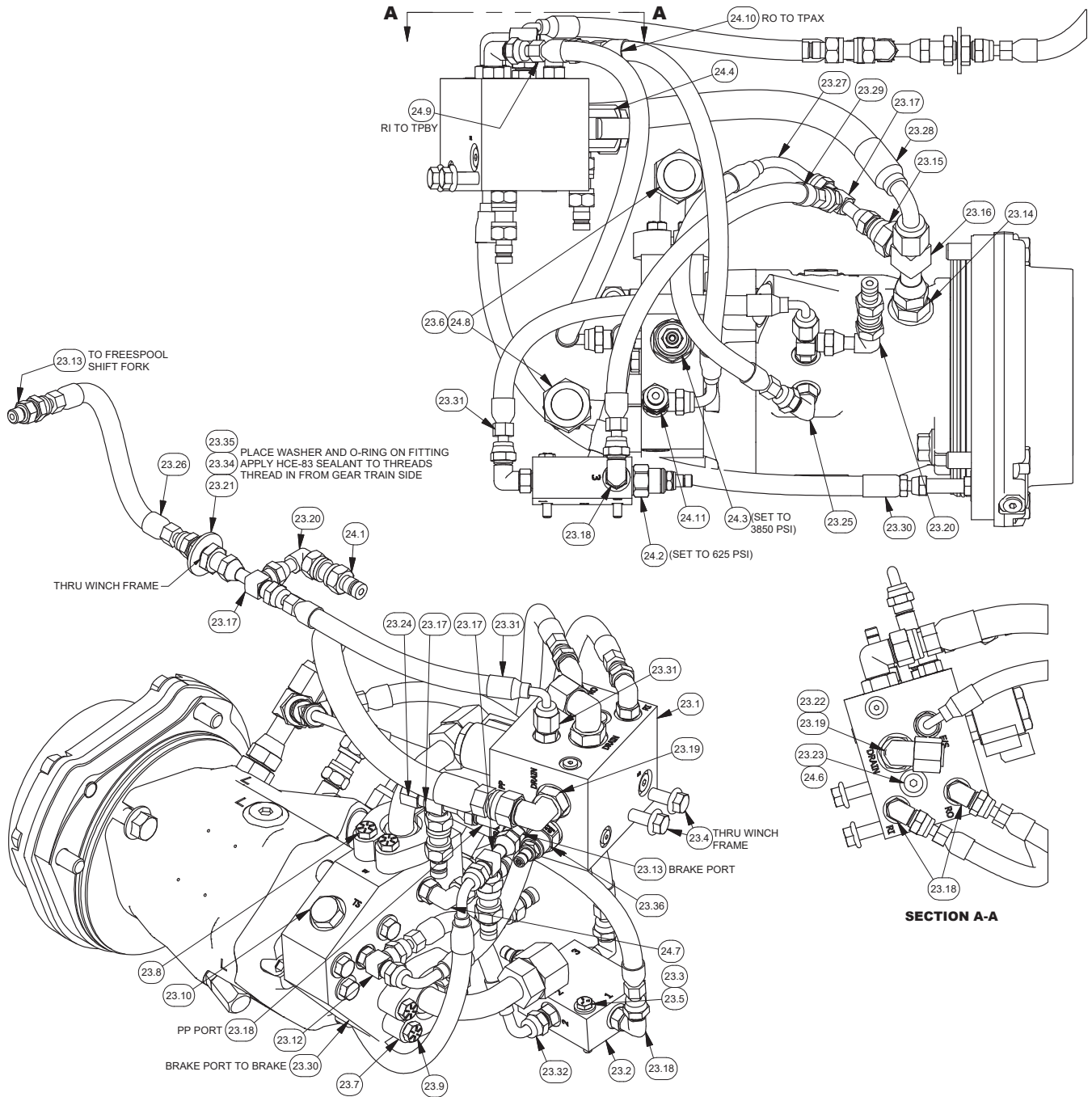
* Shim as required to achieve 0.002" to 0.005" bearing endplay.

Section 3
Hydraulics/Electrical/Controls

Hydraulic Group

Komatsu D37-D39X-22 (H4AT2Y**K13)

Page 1 of 3



Hydraulic Group

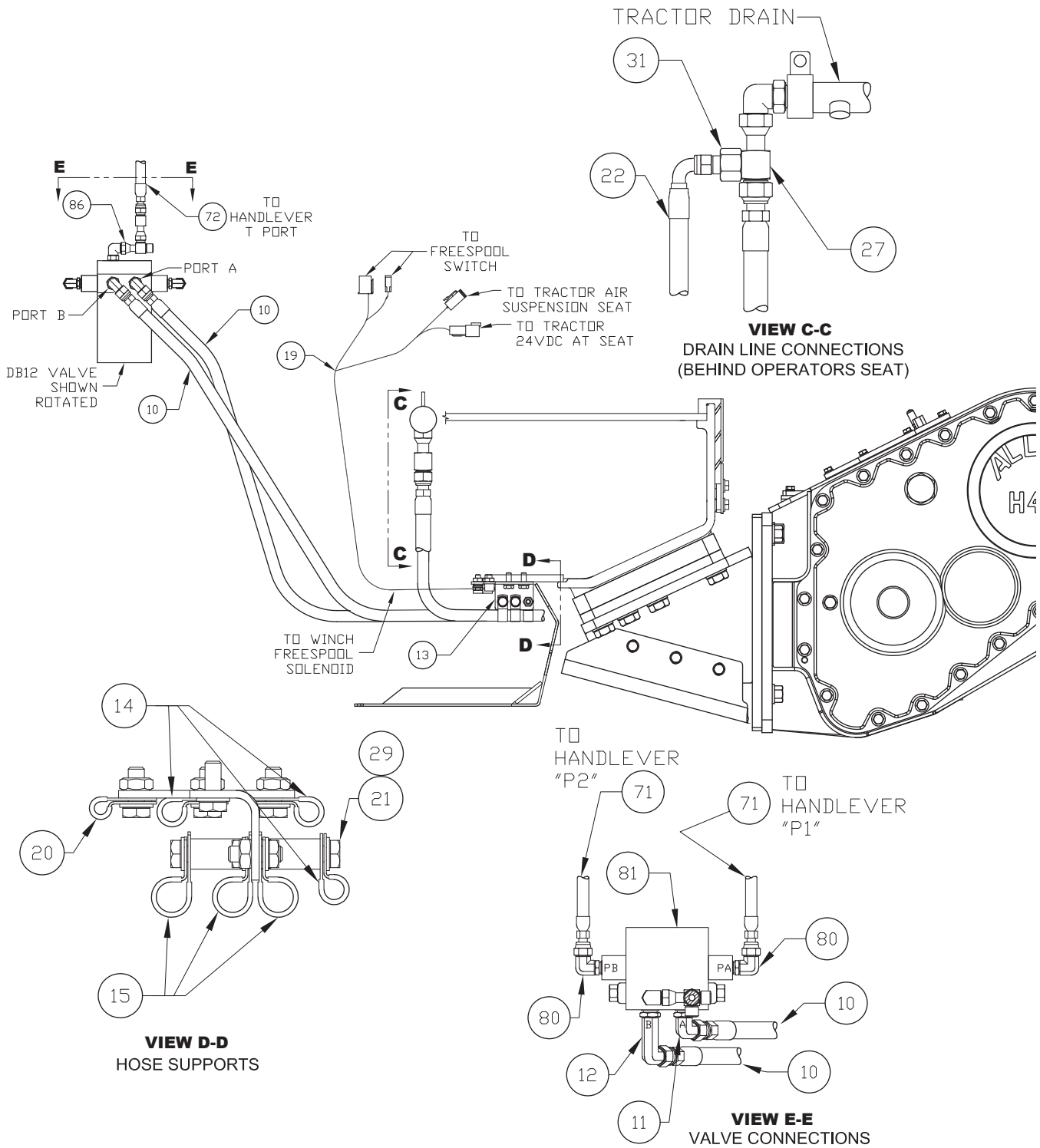
Komatsu D37-D39X-22 (H4AT2Y**K13)
Page 2 of 3

| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|-------|-----------|-----|--|-------|----------|-----|---------------------------------|
| 23.1 | 2311591 | 1 | Assy, Rescue Control Manifold (See p. 33) | 23.25 | 2311500 | 1 | Fitting Assembly |
| 23.2 | 248918 | 1 | Valve Body | 23.26 | 2311356 | 1 | Hose Assembly |
| 23.3 | 221763W | 2 | Washer | 23.27 | 2311235 | 1 | Hose Assembly |
| 23.4 | 398599W | 2 | Capscrew | 23.28 | 242111 | 1 | Hose Assembly |
| 23.5 | Y01C-0428 | 2 | Capscrew | 23.29 | 2311353 | 1 | Hose Assembly |
| 23.6 | 2311360 | 2 | Assy, Fitting w/O-Rings | 23.30 | 2311233 | 1 | Hose Assembly |
| 23.7 | 222535W | 4 | Fitting | 23.31 | 2311744 | 2 | Hose Assembly |
| 23.8 | Y17C-0624 | 4 | Capscrew | 23.32 | 2311234 | 1 | Hose Assembly |
| 23.9 | 221518W | 4 | Capscrew | 23.34 | 15178W | 1 | Washer |
| 23.10 | 210709 | 1 | Fitting | 23.35 | 211564 | 1 | O-Ring |
| 23.12 | R833400 | 2 | Fitting | 25.1 | 232984 | 2 | Fitting |
| 23.13 | 231439 | 4 | Fitting | 25.2 | 2310976 | 1 | Cartridge, Valve |
| 23.14 | R833114 | 1 | Fitting | | 2501643 | 1 | . Seal Kit |
| 23.15 | R833700 | 1 | Fitting | 25.3 | 2311130 | 1 | Cartridge, Pressure Reducing |
| 23.16 | R834052 | 1 | Fitting | | 234655 | 1 | . Seal Kit |
| 23.17 | 236855 | 4 | Fitting | 25.4 | 250365 | 1 | Cartridge, Valve |
| 23.18 | R833251 | 5 | Fitting | | 250589 | 1 | . Coil |
| 23.19 | 231452 | 2 | Fitting | | 250590 | 1 | . Seal Kit |
| 23.20 | R833800 | 2 | Fitting | 25.5 | 254002 | 6 | Fitting |
| 23.21 | R834100 | 1 | Fitting | 25.6 | 2310634 | 6 | Nipple |
| 23.22 | R834253 | 1 | Fitting | 25.8 | 231821 | 2 | Fitting |
| 23.23 | 222442W | 1 | Fitting | | 232382 | 1 | . O-Ring |
| 23.24 | 232984 | 1 | Fitting | 25.9 | 209423 | 1 | Fitting |
| | | | | 25.10 | 15961W | 1 | Fitting |
| | | | | 25.12 | 231439 | 1 | Fitting |

Hydraulic/Electrical Installation

Komatsu D37-D39X-22 (H4AT2Y**K13)

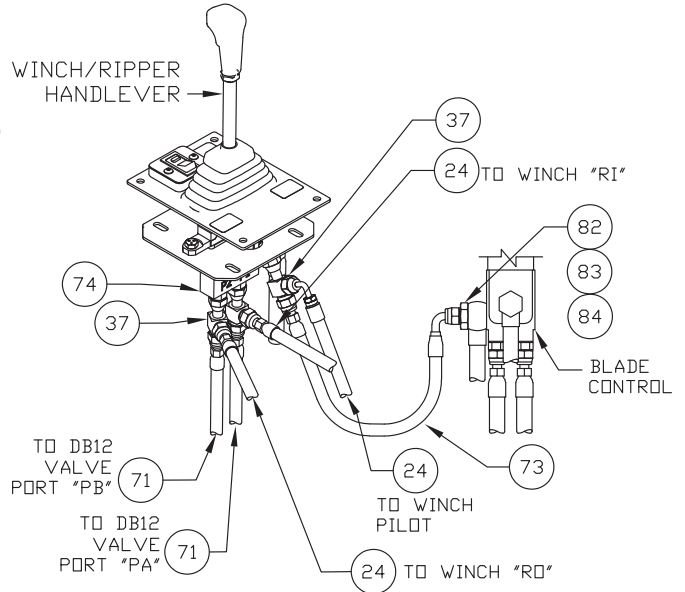
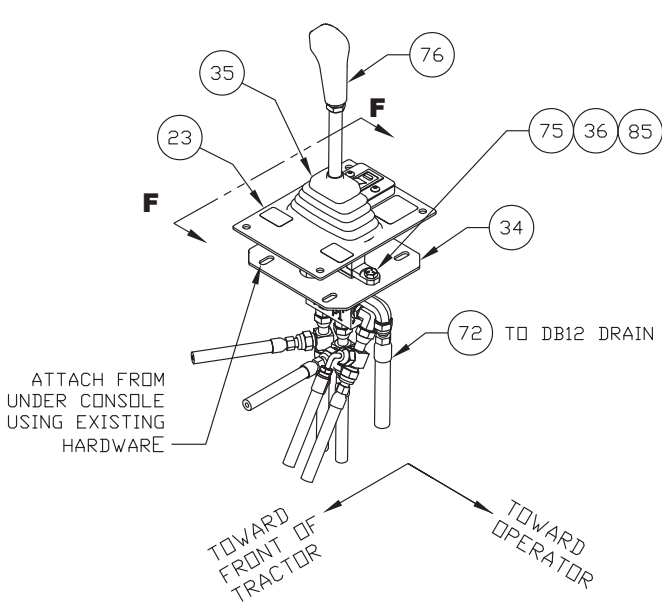
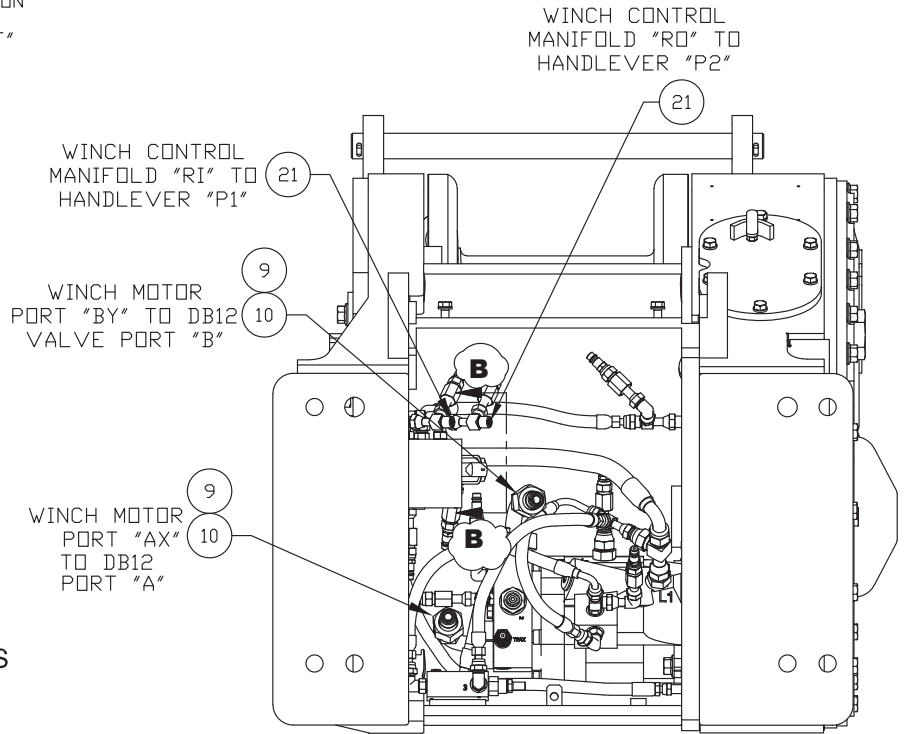
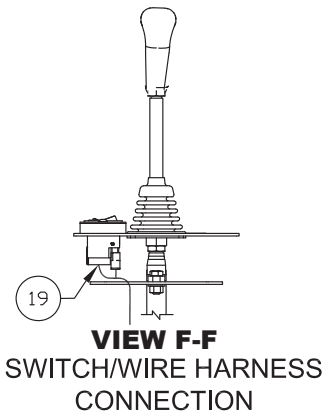
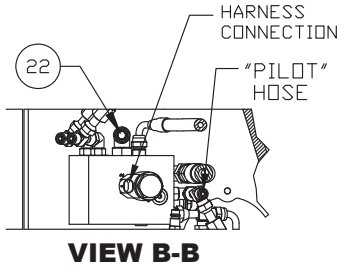
Page 1 of 3



Hydraulic/Electrical Installation

Komatsu D37-D39X-22 (H4AT2Y**K13)

Page 2 of 3



Hydraulic/Electrical Installation

Komatsu D37-D39X-22 (H4AT2Y**K13)

Page 3 of 3

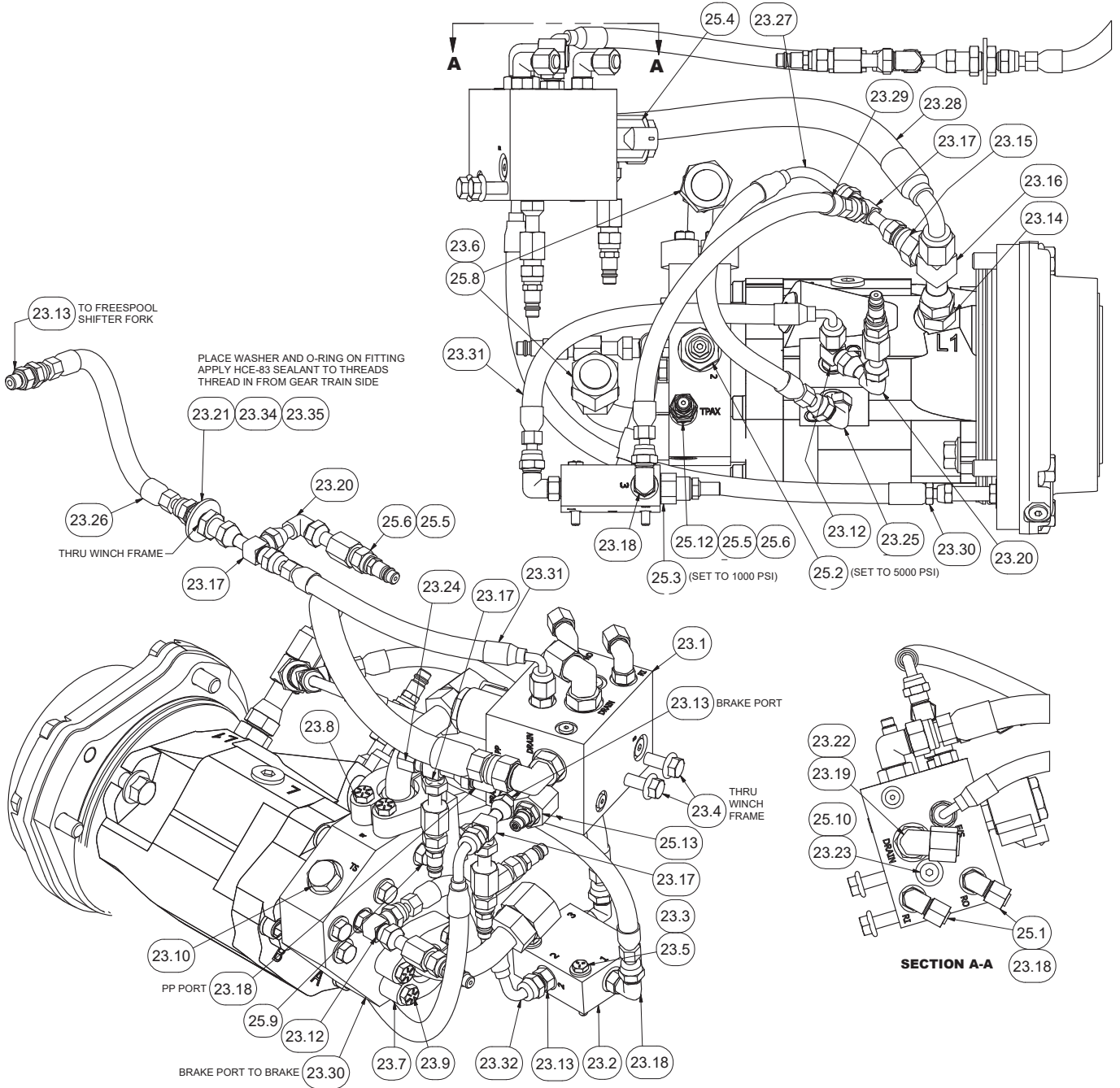
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|-----------|-----|------------------------|------|-------------|-----|-----------------------------------|
| 4 | 137852W | 10 | Cable Tie | 37 | 236855 | 3 | Fitting |
| 9 | 2307958W | 2 | Fitting | 71 | 2313929 | 2 | Hose Assembly |
| 10 | 2311300 | 2 | Hose Assembly | 72 | 2313314 | 1 | Hose Assembly |
| 11 | 2311440 | 1 | Fitting | 73 | 2313147 | 1 | Hose Assembly |
| 12 | 2311441 | 1 | Fitting | 74 | 2313146 | 1 | Control Lever Assy (See p. 32) |
| 13 | 2312503 | 1 | Bracket Weldment | | | | |
| 14 | 209579 | 3 | Clip, Insul | 75 | Y27E-06 | 2 | Washer |
| 15 | 209695 | 3 | Clamp | 76 | 2311043 | 1 | Knob, Handlever |
| 19 | 2312501 | 1 | Harness | 77 | R13813295 | 4 | Capscrew |
| 20 | R13801359 | 1 | Clip, Insul | 78 | 296418W | 4 | Washer |
| 21 | 293628W | 9 | Capscrew | 79 | 2311041 | 4 | Ring |
| 22 | 2311289 | 1 | Hose Assembly | 80 | 2311285 | 2 | Fitting |
| 23 | 2311409 | 1 | Lever Assy (See p. 34) | 81 | 2311036 | 1 | Valve Assembly |
| 24 | 2311290 | 3 | Hose Assembly | 82 | 2311047 | 1 | Fitting |
| 27 | R834055 | 1 | Fitting | 83 | 2311045 | 2 | O-Ring |
| 28 | 15052W | 1 | Nut | 84 | Y098629-012 | 1 | O-Ring |
| 29 | 296420W | 9 | Washer | 85 | 16598W | 2 | Capscrew |
| 31 | 2307958W | 1 | Fitting | 86 | 231955 | 2 | Fitting |
| 33 | 2311288 | 1 | Guard, Tractor | | | | |
| 34 | 2311281 | 1 | Plate | | | | |
| 35 | 2311042 | 1 | Boot, Handlever | | | | |
| 36 | 221707W | 2 | Hex Nut | | | | |

Intentionally Blank

Hydraulic Group

Komatsu D37/39-23/24 (H4AT2Y**K14)

Page 1 of 2



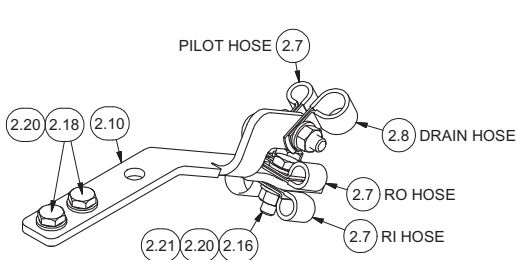
Hydraulic Group
Komatsu D37/39-23/24 (H4AT2Y**K14)
Page 1 of 2

| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|-------|-----------|-----|--|-------|----------|-----|---------------------------------|
| 23.1 | 2311591 | 1 | Assy, Rescue Control Manifold (See p. 33) | 23.25 | 2311500 | 1 | Fitting Assembly |
| 23.2 | 248918 | 1 | Valve Body | 23.26 | 2311356 | 1 | Hose Assembly |
| 23.3 | 221763W | 2 | Washer | 23.27 | 2311235 | 1 | Hose Assembly |
| 23.4 | 398599W | 2 | Capscrew | 23.28 | 242111 | 1 | Hose Assembly |
| 23.5 | Y01C-0428 | 2 | Capscrew | 23.29 | 2311353 | 1 | Hose Assembly |
| 23.6 | 2311360 | 2 | Assy, Fitting w/O-Rings | 23.30 | 2311233 | 1 | Hose Assembly |
| 23.7 | 222535W | 4 | Fitting | 23.31 | 2311744 | 2 | Hose Assembly |
| 23.8 | Y17C-0624 | 4 | Capscrew | 23.32 | 2311234 | 1 | Hose Assembly |
| 23.9 | 221518W | 4 | Capscrew | 23.34 | 15178W | 1 | Washer |
| 23.10 | 210709 | 1 | Fitting | 23.35 | 211564 | 1 | O-Ring |
| 23.12 | R833400 | 2 | Fitting | 25.1 | 232984 | 2 | Fitting |
| 23.13 | 231439 | 4 | Fitting | 25.2 | 2310976 | 1 | Cartridge, Valve |
| 23.14 | R833114 | 1 | Fitting | 25.3 | 2311130 | 1 | Cartridge, Pressure Reducing |
| 23.15 | R833700 | 1 | Fitting | 25.4 | 250365 | 1 | Cartridge, Valve |
| 23.16 | R834052 | 1 | Fitting | | 250589 | 1 | . Coil |
| 23.17 | 236855 | 4 | Fitting | | 250590 | 1 | . Seal Kit |
| 23.18 | R833251 | 5 | Fitting | 25.5 | 254002 | 6 | Fitting |
| 23.19 | 231452 | 2 | Fitting | 25.6 | 2310634 | 6 | Nipple |
| 23.20 | R833800 | 2 | Fitting | 25.8 | 231821 | 2 | Fitting |
| 23.21 | R834100 | 1 | Fitting | | 232382 | 1 | . O-Ring |
| 23.22 | R834253 | 1 | Fitting | 25.9 | 209423 | 1 | Fitting |
| 23.23 | 222442W | 1 | Fitting | 25.10 | 15961W | 1 | Fitting |
| 23.24 | 232984 | 1 | Fitting | 25.12 | 231439 | 1 | Fitting |

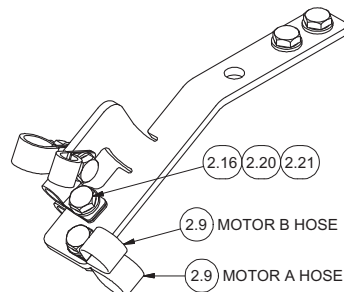
Hydraulic/Electrical Installation

Komatsu D39-23/24 (H4AT2Y**K14)

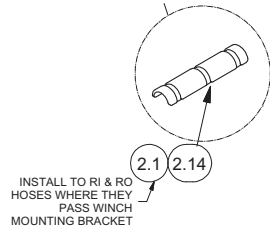
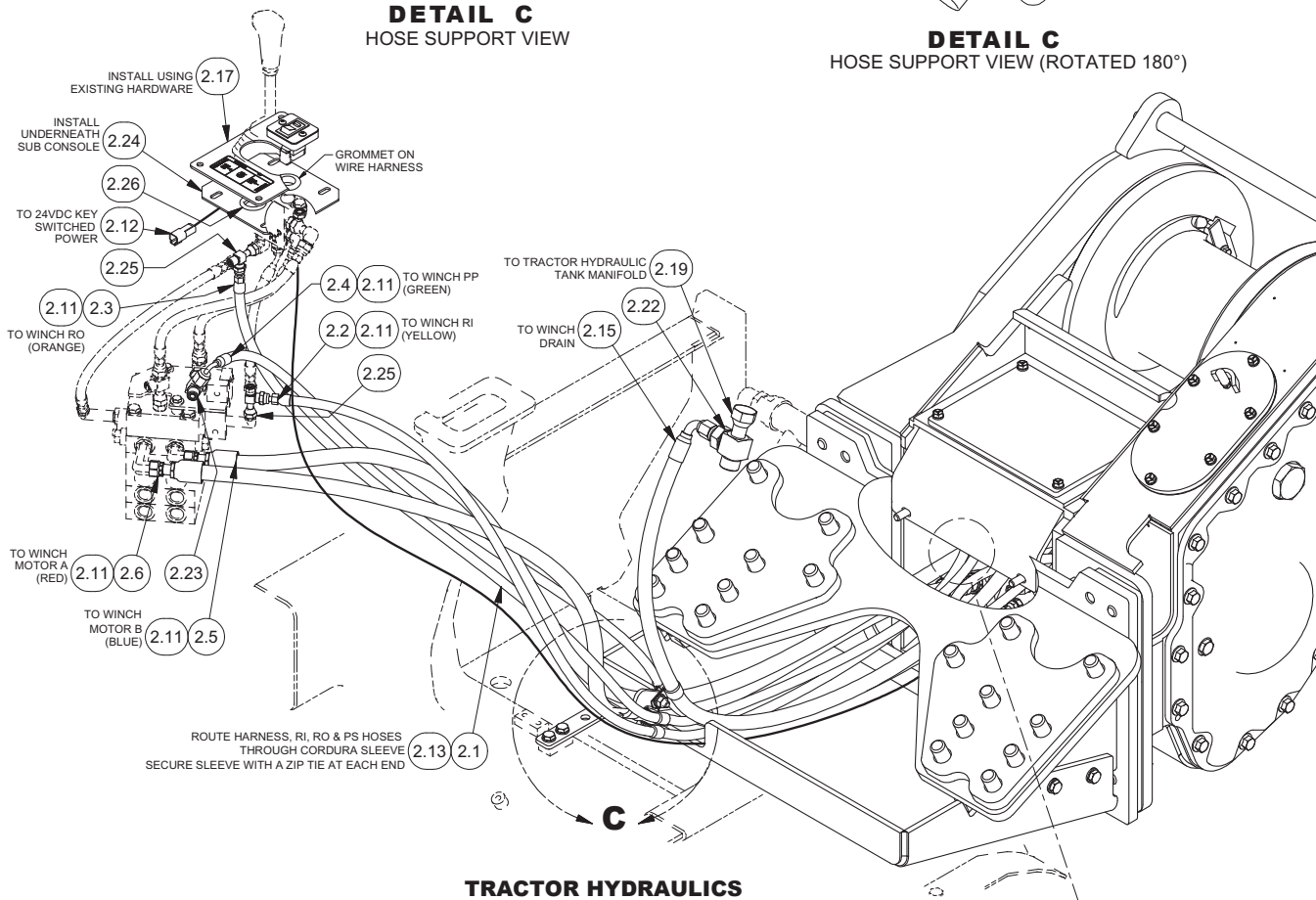
Page 1 of 2



DETAIL C
HOSE SUPPORT VIEW



DETAIL C
HOSE SUPPORT VIEW (ROTATED 180°)



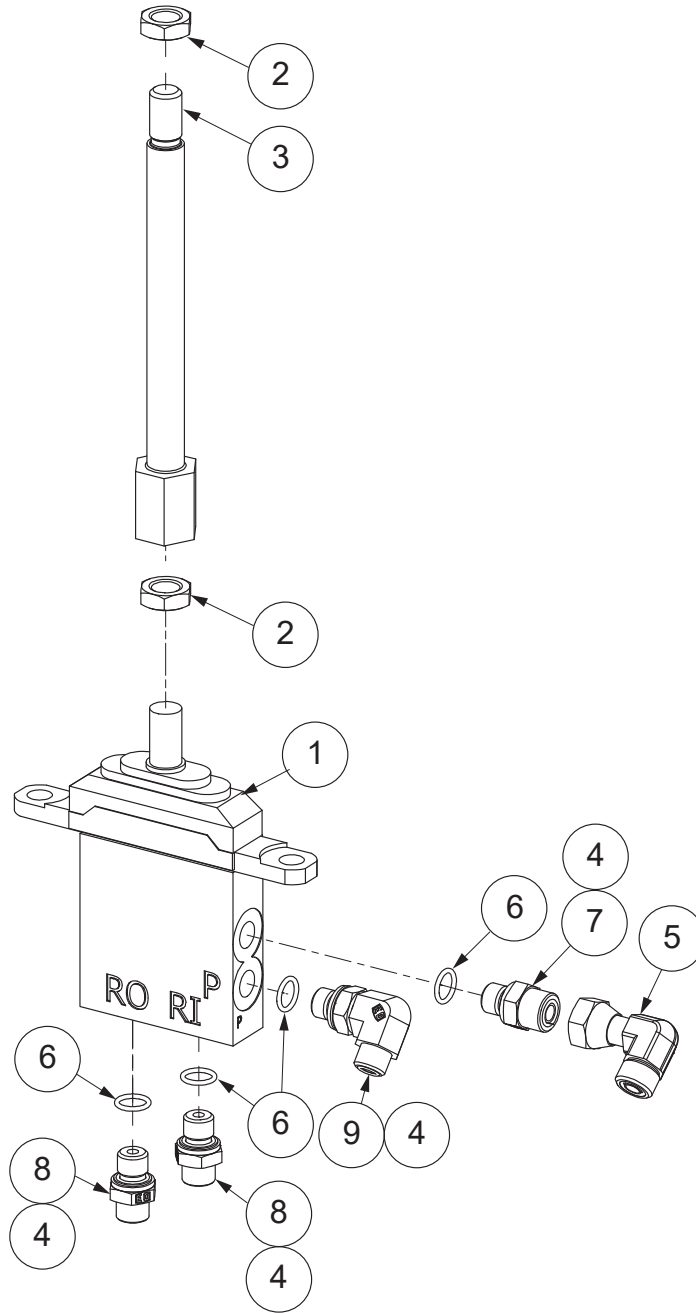
Hydraulic/Electrical Installation

Komatsu D39-23/24 (H4AT2Y**K14)

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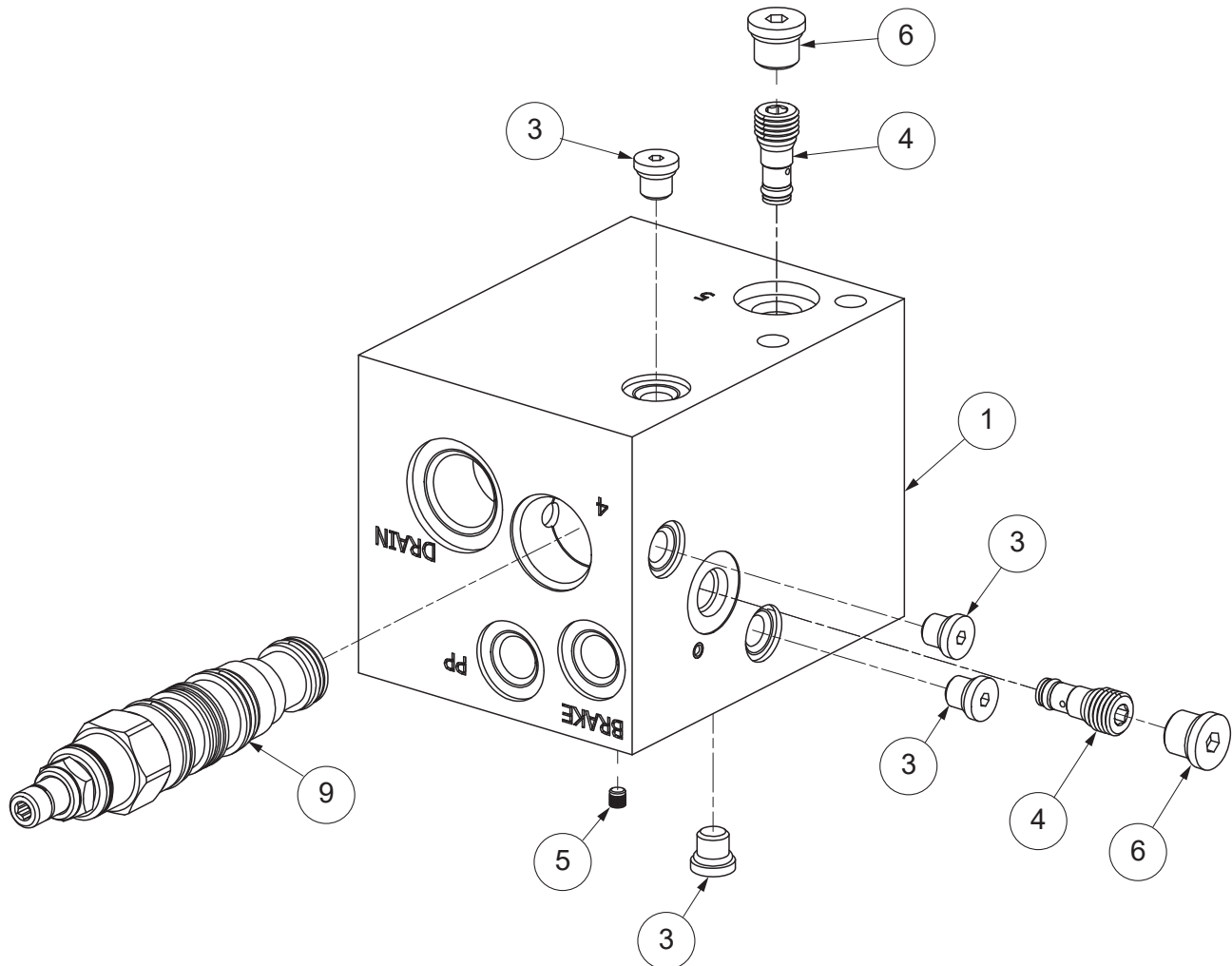
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|------------|-----|------------------------|------|-----------|-----|------------------------|
| 2.1 | 137852W | 10 | Cable Tie | 2.15 | 2311289 | 1 | Hose Assembly |
| 2.2 | 2314545 | 1 | Hose Assembly | 2.16 | R13811210 | 3 | Capscrew |
| 2.3 | 2314546 | 1 | Hose Assembly | 2.17 | 2311409 | 1 | Lever Assy (See p. 34) |
| 2.4 | 2314547 | 1 | Hose Assembly | 2.18 | 236805 | 2 | Capscrew |
| 2.5 | 2314548 | 1 | Hose Assembly | 2.19 | R834055 | 1 | Fitting |
| 2.6 | 2314549 | 1 | Hose Assembly | 2.20 | 296420W | 8 | Washer |
| 2.7 | 209579 | 3 | Clip, Insul | 2.21 | 292655W | 3 | Nut |
| 2.8 | 209695 | 1 | Clamp | 2.22 | 2307958W | 1 | Fitting |
| 2.9 | 209696 | 2 | Clamp | 2.23 | 231955 | 1 | Fitting |
| 2.10 | 2314527 | 1 | Plate, Support Hose | 2.24 | 2314583 | 1 | Control Lever Mounting |
| 2.11 | 2304988W | 1 | Kit, Tie Strap | 2.25 | 236855 | 2 | Fitting |
| 2.12 | 2314589 | 1 | Harness, Wire, Tractor | 2.26 | R1933988 | 1 | Button, Plug |
| 2.13 | R13846 | 2' | Sleeve, Cordura | | | | |
| 2.14 | HSP0000004 | 1 | Hose Protector | | | | |

Control Lever Assembly



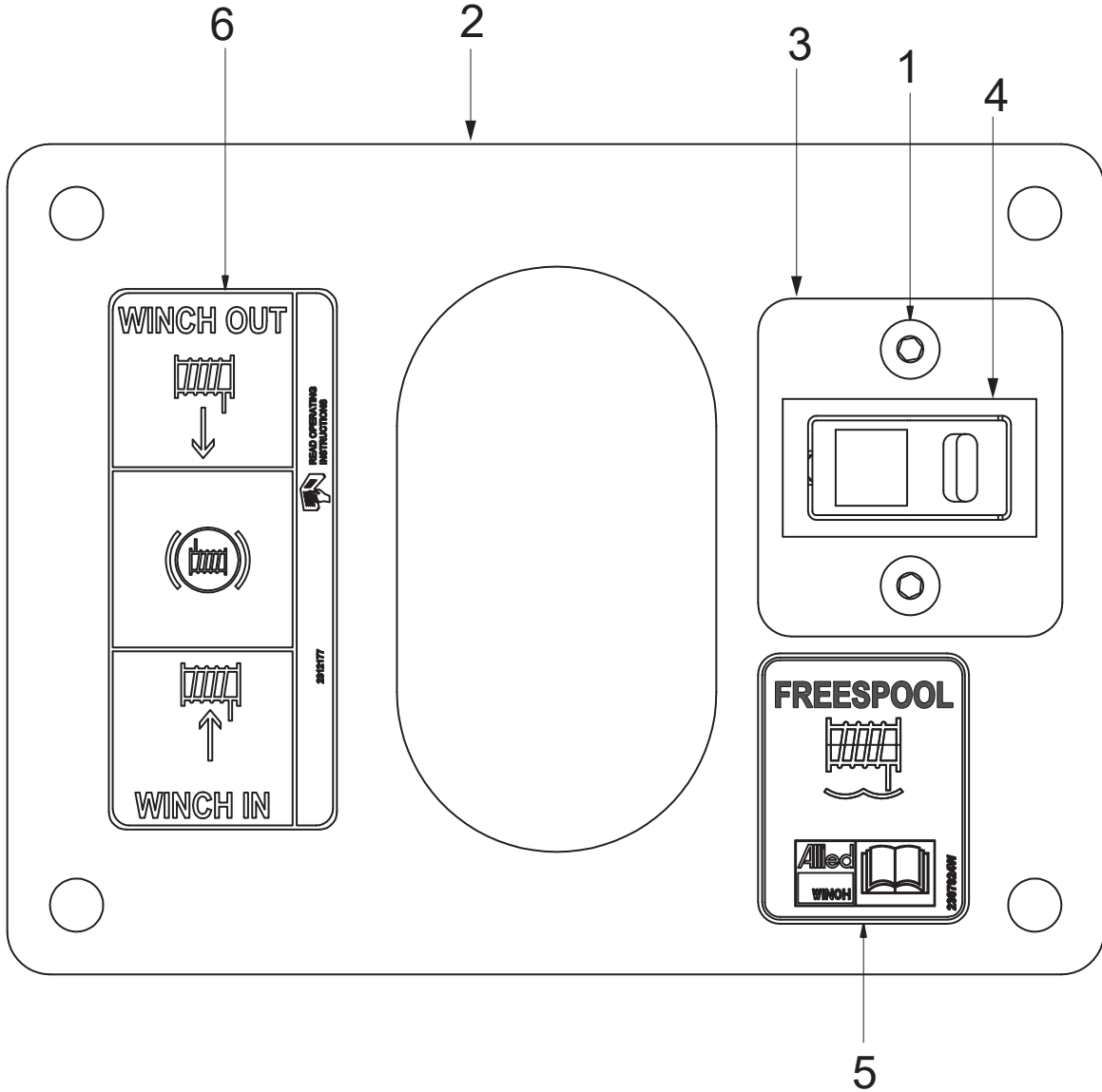
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------------|-----|-------------------------------|------|----------|-----|-------------|
| | 2313146 | | Control Lever Assembly | | | | |
| 1 | 2311044 | 1 | . Valve, Pilot | 7 | 249005 | 1 | . Fitting |
| 2 | 296133W | 2 | . Jam Nut | 8 | 248854 | 2 | . Fitting |
| 3 | 2311280 | 1 | . Rod, Lever | 9 | 2313145 | 1 | . Fitting |
| 5 | R833801 | 1 | . Fitting | | | | |
| 6 | 211564 | 4 | . O-Ring | | | | |

Rescue Control Manifold



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------------|-----|---------------------------------------|------|----------|-----|---------------------|
| | 2311591 | | Assy, Manifold, Rescue Control | | | | |
| 1 | 2311590 | 1 | . Manifold, Control | 5 | 2307480W | 2 | . Plug, Expansion |
| 3 | 242230 | 4 | . Fitting | 6 | 235387 | 2 | . Fitting |
| 4 | 2307227W | 2 | . Valve, Shuttle | 9 | 2311592 | 1 | . Directional Valve |
| | 2307231W | 1 | .. Seal Kit | | 252566 | 1 | .. Seal Kit |

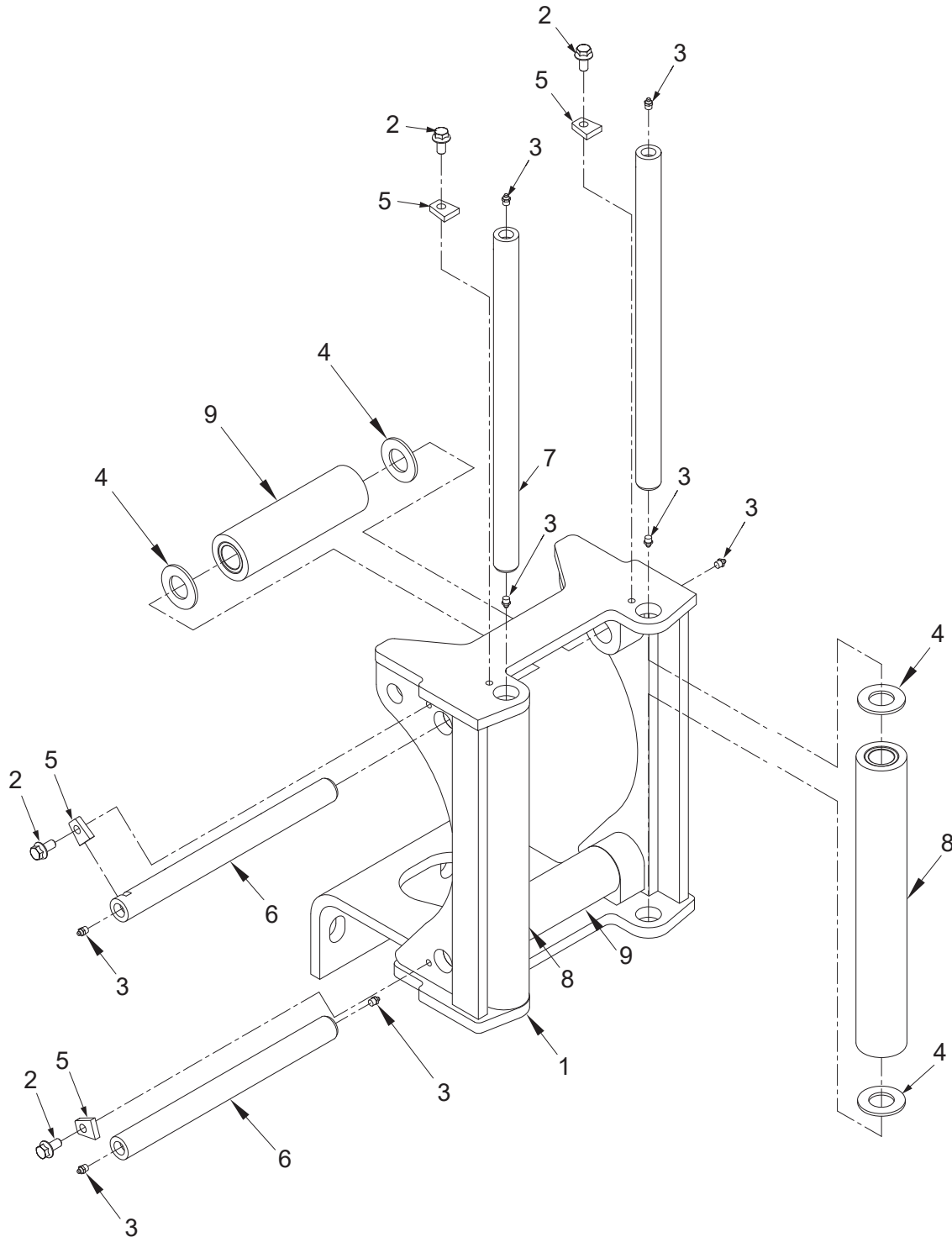
Lever Assembly



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------------|-----|------------------------------|------|----------|-----|-------------|
| | 2311409 | | Lever Assembly | | | | |
| 1 | Y25G-0408 | 2 | . Capscrew | | | | |
| 2 | 2311406 | 1 | . Handlever Mounting | | | | |
| 3 | 2307643W | 1 | . Plate | | | | |
| 4 | 2310017 | 1 | . Switch, Yellow LED | | | | |
| 5 | 2312177 | 1 | . Decal, Winch In, Winch Out | | | | |
| 6 | 2307924W | 1 | . Decal, Switch Panel | | | | |

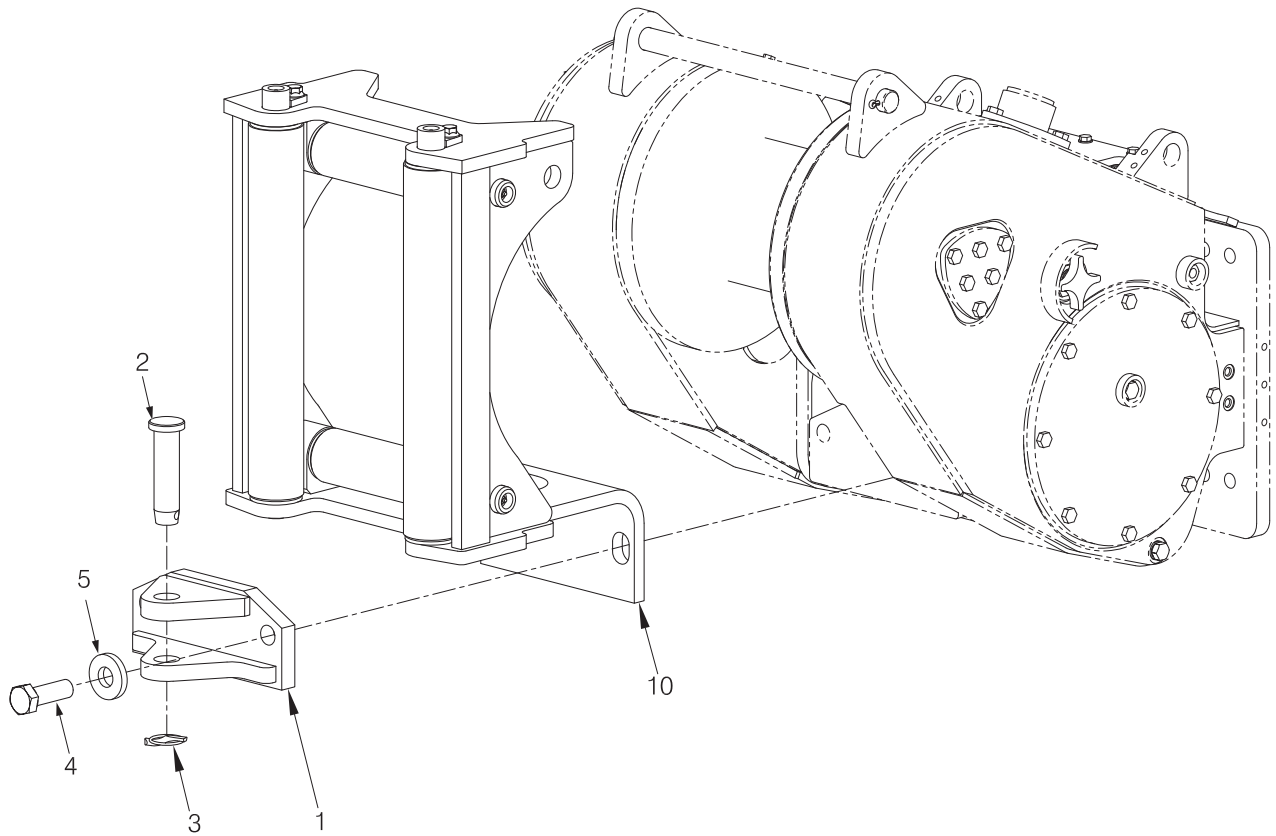
Section 4
Optional Equipment

Fairlead Assembly



| Item | Part No. | Qty | Description | Item | Part No. | Qty A/B | Description |
|------|-----------------|-----|---------------------------|------|----------|---------|--------------------|
| | 2305252W | | Assembly, Fairlead | | | | |
| 1 | 2305251W | 1 | . Frame | 7 | 2303754W | 2 | . Shaft |
| 2 | 398817W | 4 | . Flangescrew | 8 | 2303755W | 2 | . Assembly, Roller |
| 3 | 16001W | 8 | . Fitting, Lube | | 59419W | 2 | .. Bushing |
| 4 | 344825W | 8 | . Washer | 9 | 2301708W | 2 | . Assembly, Roller |
| 5 | 2303815W | 4 | . Keeper | | 59419W | 2 | .. Bushing |
| 6 | 2305249W | 2 | . Shaft | | | | |

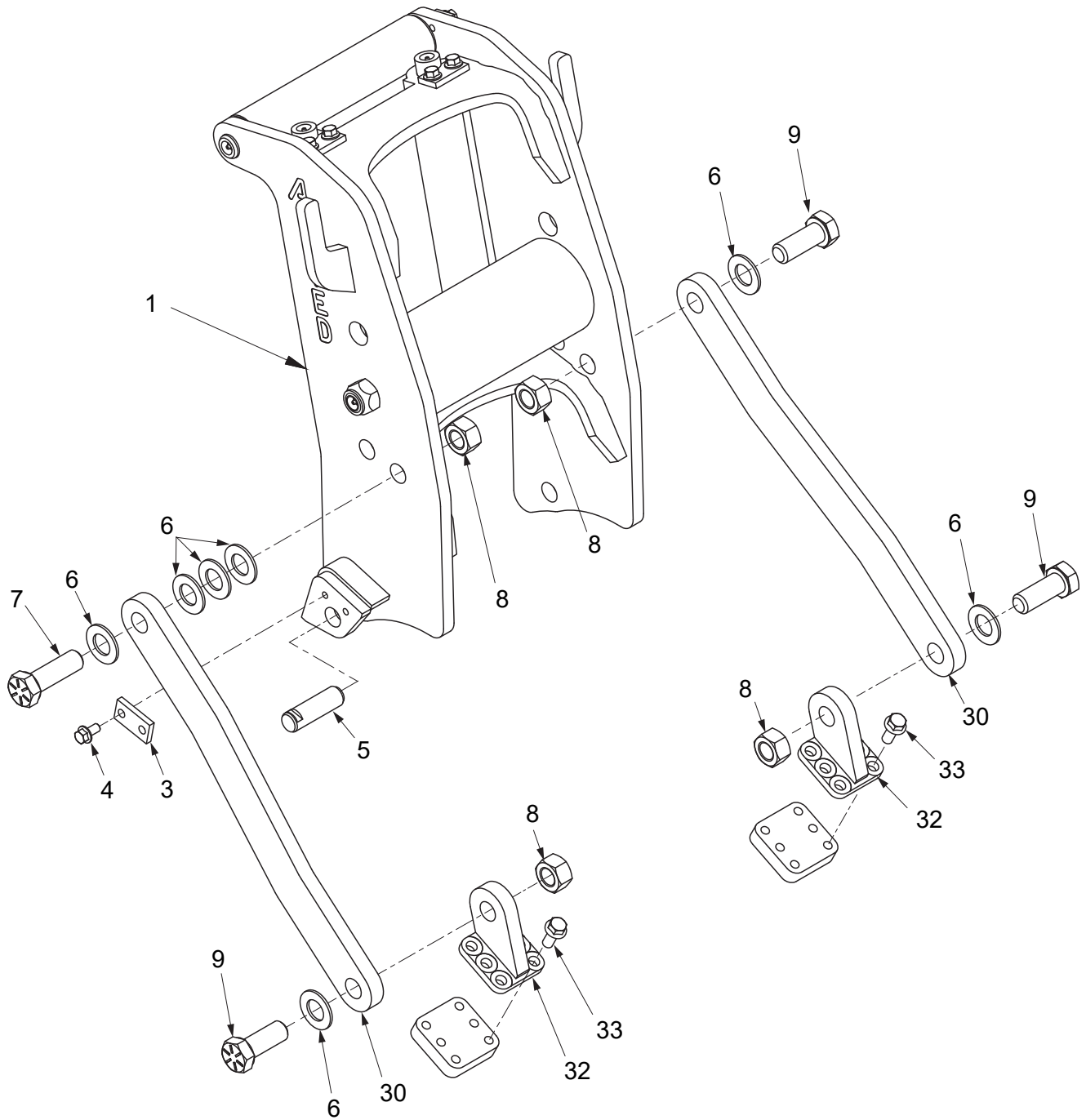
Fairlead/Drawbar Installation



- A. Fairlead Installation with Drawbar
- B. Fairlead Installation ONLY
- C. Drawbar Installation ONLY

| Item | Part No. | Description | Qty | A | B | C | Item | Part No. | Description | Qty | A | B | C |
|------|----------|----------------|-----|----|---|----|------|----------|-------------------------|-----|----|----|---|
| 1 | 2304155W | Drawbar | 1 | -- | 1 | | | 221694W | Capscrew | 2 | -- | -- | |
| 2 | 2304161W | Pin, Drawbar | 1 | -- | 1 | 5 | 5 | 2305256W | Washer | 2 | 2 | -- | |
| 3 | 2303221W | Pin, Retaining | 1 | -- | 1 | | | 221780W | Washer | -- | -- | 2 | |
| 4 | 221686W | Capscrew | -- | 2 | 2 | 10 | 10 | 2305252W | Assy Fairlead (See 4-6) | 1 | 1 | -- | |

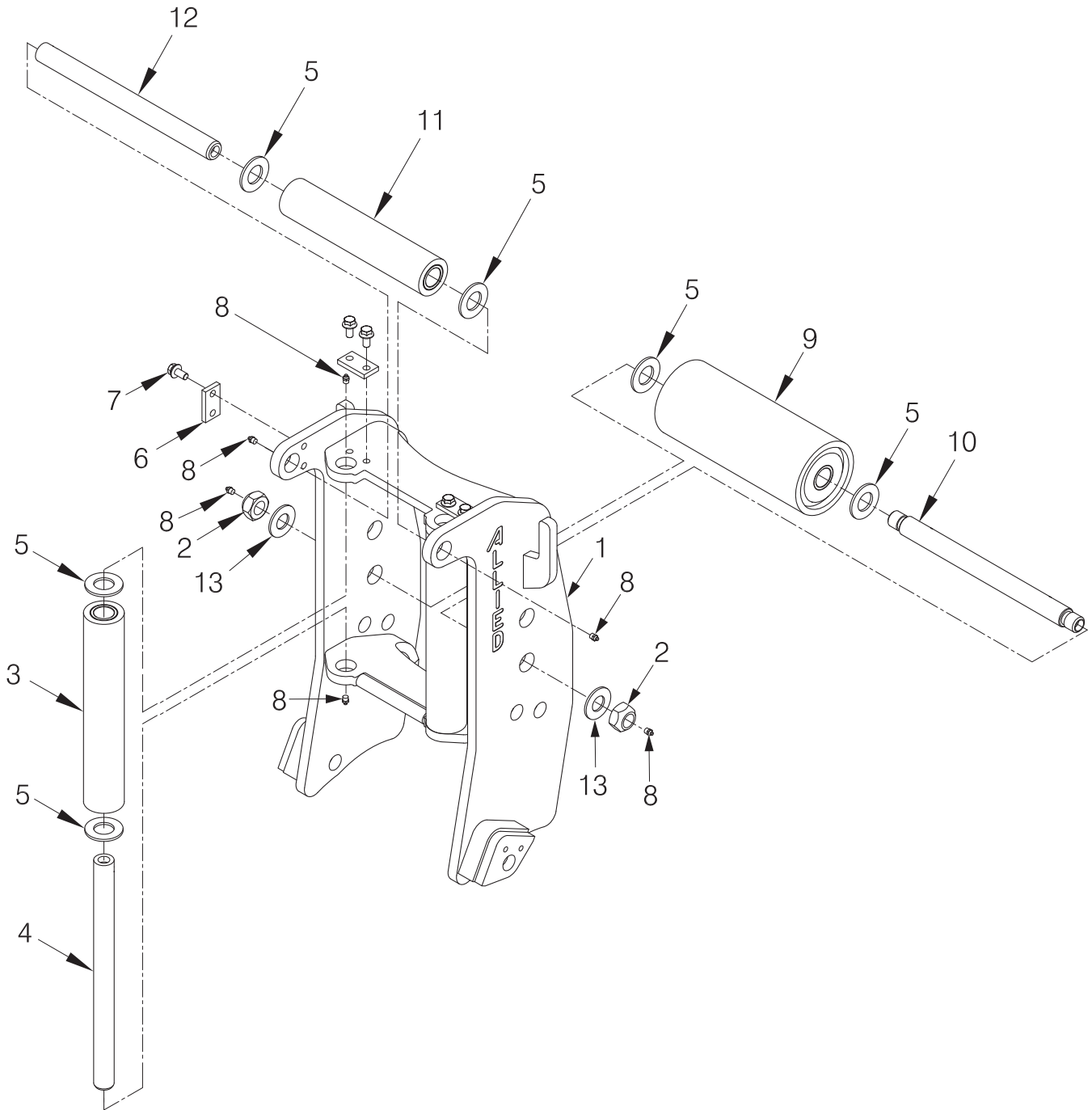
Arch Installation



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------|-----|------------------------|------|----------|-----|--------------------|
| 1 | 2305145W | 1 | Assy, Arch (See p. 39) | 30 | 2312995 | 2 | Bar, Support, Arch |
| 2 | 93166W | 2 | Keeper | 32 | 2312997 | 2 | Ear, Arch |
| 3 | 398817W | 4 | Screw, Flange | 33 | 918085W | 12 | Screw, Flange |
| 4 | 1314629W | 2 | Pin | | | | |
| 5 | 225851 | 7 | Washer | | | | |
| 6 | 2300478W | 1 | Capscrew | | | | |
| 7 | 221372W | 4 | Locknut | | | | |
| 8 | 2305268W | 3 | Capscrew | | | | |
| 9 | | | | | | | |

*a Use 318702W Thread Lock

Arch Assembly



| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|-----------------|-----|-----------------------|------|----------|-----|-------------------|
| | 2305145W | | Assembly, Arch | | | | |
| 1 | 2305142W | 1 | . Frame, 4 Roller | 10 | 2300948W | 1 | . Shaft |
| 2 | 221724W | 2 | . Hex Nut | 11 | 344826W | 1 | . Roller Assembly |
| 3 | 342448W | 2 | . Roller Assembly | 12 | 344835W | 1 | . Shaft |
| 4 | 342447W | 2 | . Shaft | 13 | 225851 | 1 | . Washer |
| 5 | 344825W | 8 | . Washer | | | | |
| 6 | 93166W | 3 | . Keeper | | | | |
| 7 | 398817W | 6 | . Screw, Flange | | | | |
| 8 | 16001W | 8 | . Fitting, Lube | | | | |
| 9 | 2300125W | 1 | . Roller | | | | |

*a Use 318702W Thread Lock

*b Use only if required to protect threads.

Wire Rope Assemblies

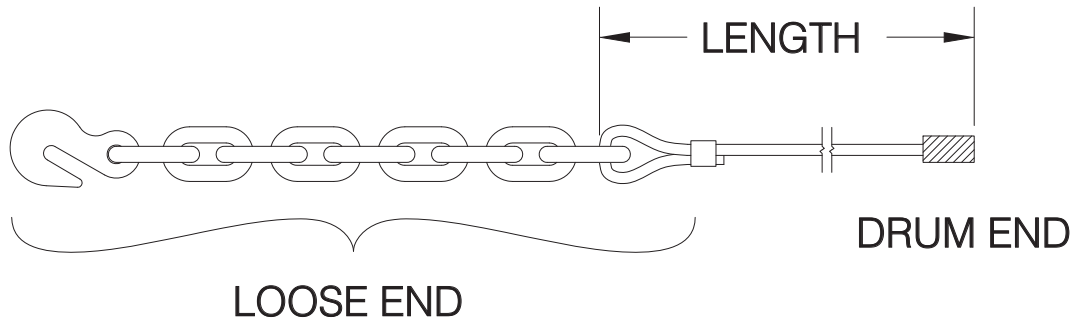


Figure A

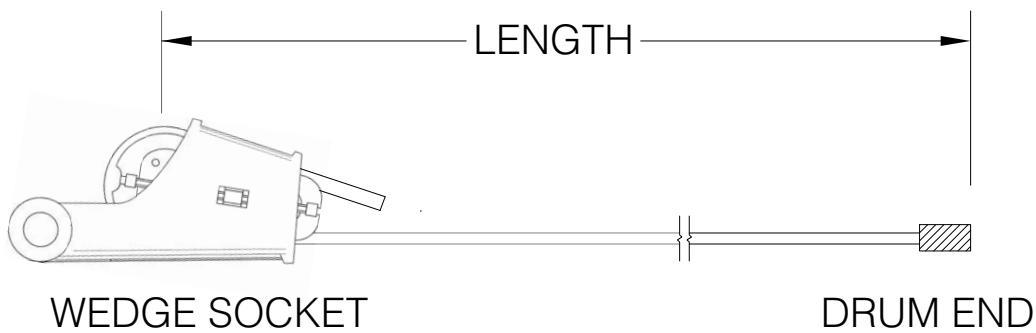


Figure B

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

⚠ CAUTION

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

| Part No. | Wire Diameter | Length FT (M) | Part No. | Wire Diameter | Length FT (M) |
|------------|---------------|---------------|------------|---------------|---------------|
| WR4-279B | *b 1/2" | 279 (85)* | YS6-195BWS | *c 3/4" | 195 (59)** |
| WR4-422B | *b 1/2" | 422 (129)** | | | |
| WR5-183B | *b 5/8" | 183 (56)* | | | |
| WR5-277B | *b 5/8" | 277 (84)** | | | |
| WR6-129B | *b 3/4" | 129 (39)* | | | |
| WR6-129BLP | *a 3/4" | 129 (39)* | | | |
| WR6-195B | *b 3/4" | 195 (59)** | | | |
| WR6-195BLP | *a 3/4" | 195 (59)** | | | |

* Length to fill drum up to 2/3 capacity (recommended)
 ** Length to fill drum to full capacity
 *a Does not include tail chain and hook
 *b WR series wire rope (illustrated in Figure A)
 *c YS series wire rope (illustrated in Figure B)

Section 5

Recommended Service Parts, Intervals and Kits

The following pages list some of the service parts and kits that are available for your Allied H4A Winch.

Page 83 shows the recommended service intervals and service kits for the H4A winch. Kits are shown on pages 84-87.

Page 88 lists gaskets and seals. Keep these parts in stock at all times for regular maintenance. Order parts from the table based on your winch.

Page 88 and page 89 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 89 also contains a list of operator controls components. Order parts or kits as required and as relevant for your installation.

Page 90 contains lists of wire rope assemblies and general spare parts. Order parts as required and as relevant for your installation.

Page 91 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>.

Recommended Winch Service Intervals and Kits

Follow the service schedule recommended here to help keep dozer 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.

| 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 dozer's hour meter or the length of time the winch is mounted to the dozer, whichever occurs first.

*** Follow dozer schedule if using dozer filter.

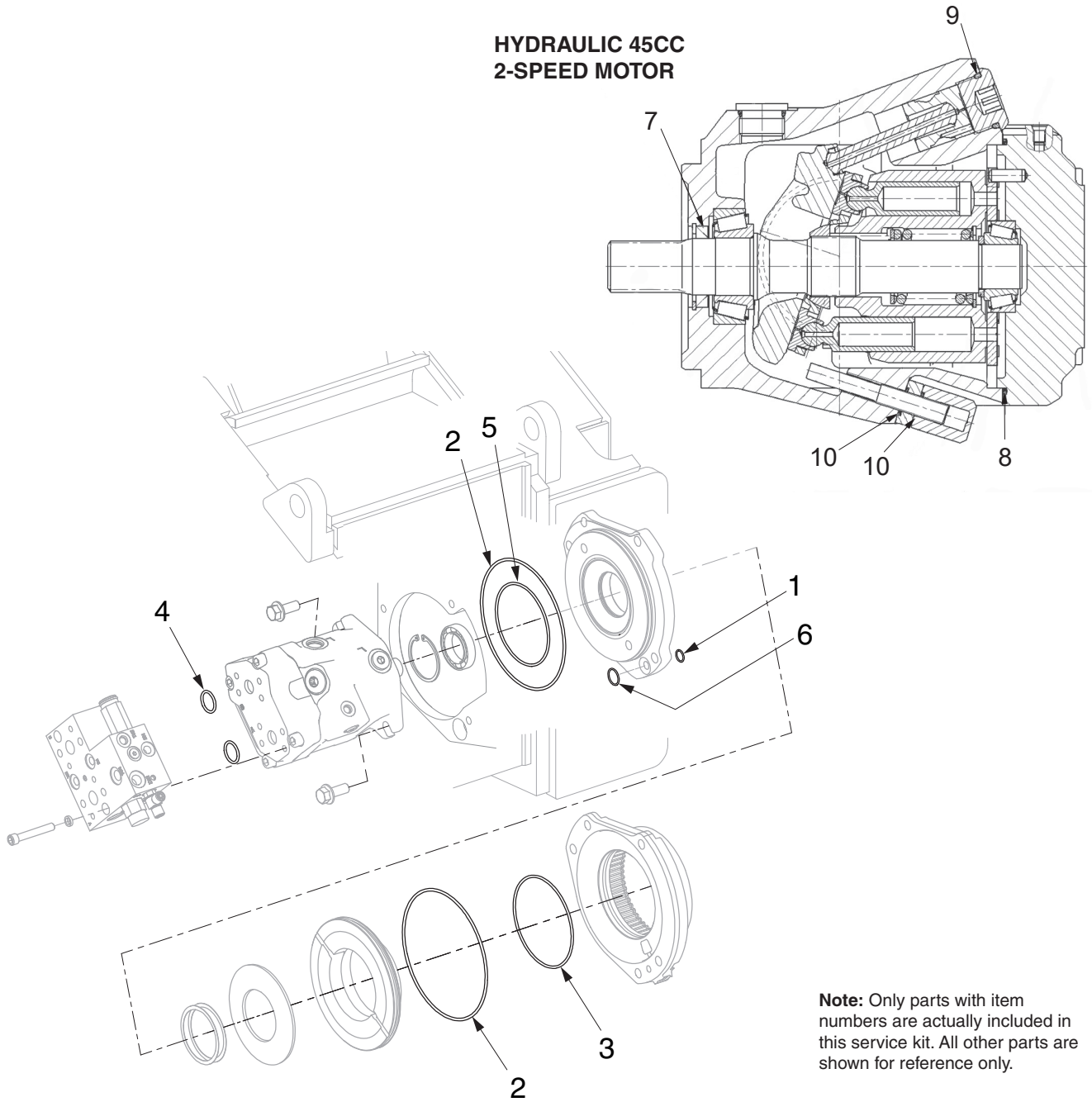
Table 1 Recommended Winch Service Intervals

| Service Kits for H4A Winches | | | |
|---|--|---------------------|---|
| Service Description | Kit Description | Winch Serial Number | Kit Part# |
| Filter change | Filter kit | All | Refer to dozer operator and service manuals |
| Complete oil change (every 1,000 hours) | N/A | All | Check our website for current operator's and service manuals for appropriate oils |
| Clutch and brake overhaul (every 5,000 hours) | Motor, reducer & brake assembly rebuild kit | All | 2312857 |
| Major overhaul (every 10,000 hours) | Intermediate/drum shaft & brake assembly rebuild kit | All | 2311896 |

Table 2 Routine Maintenance Kits

Motor Shaft Rebuild Kit: 2315351

Standard Winches without Self-Contained Hydraulics (Non-SCH)



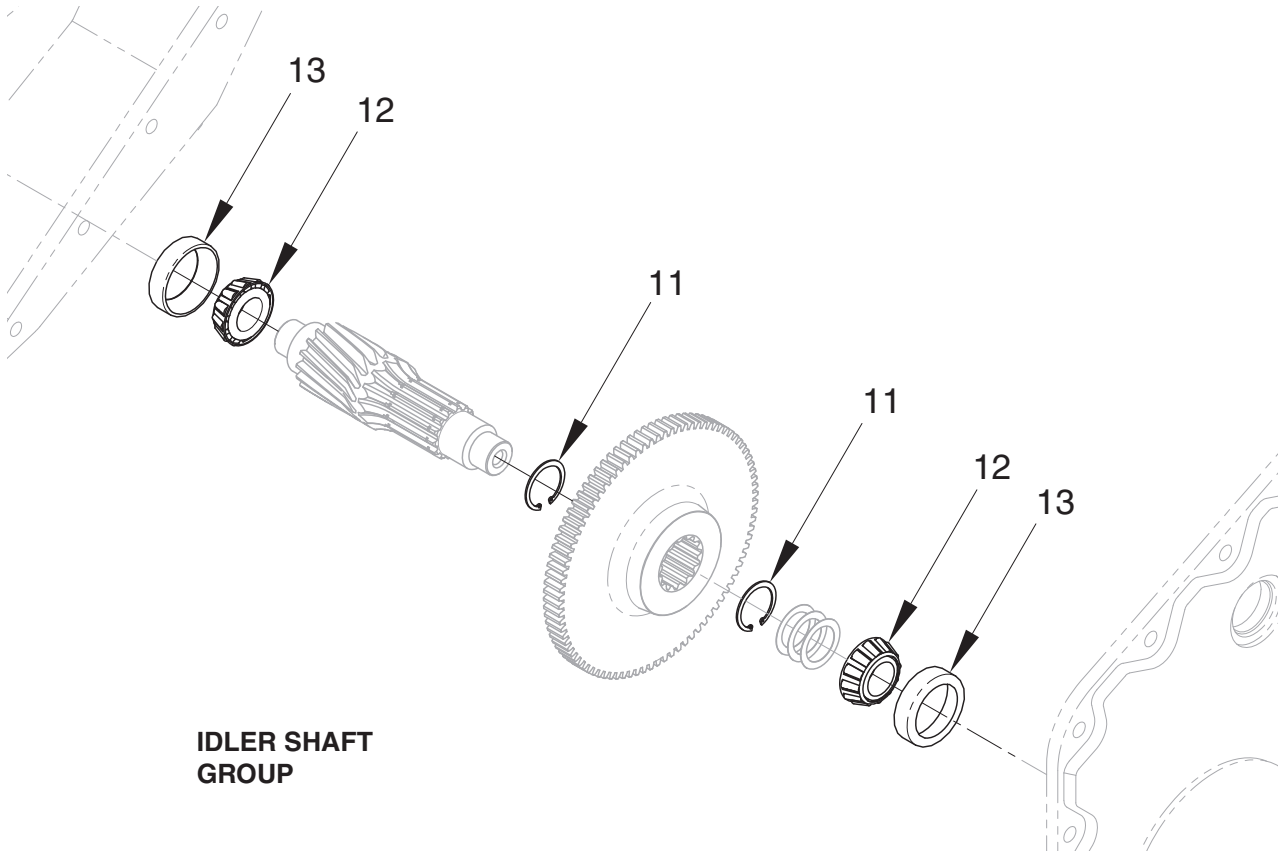
Note: Only parts with item numbers are actually included in this service kit. All other parts are shown for reference only.

MOTOR & BRAKE GROUP

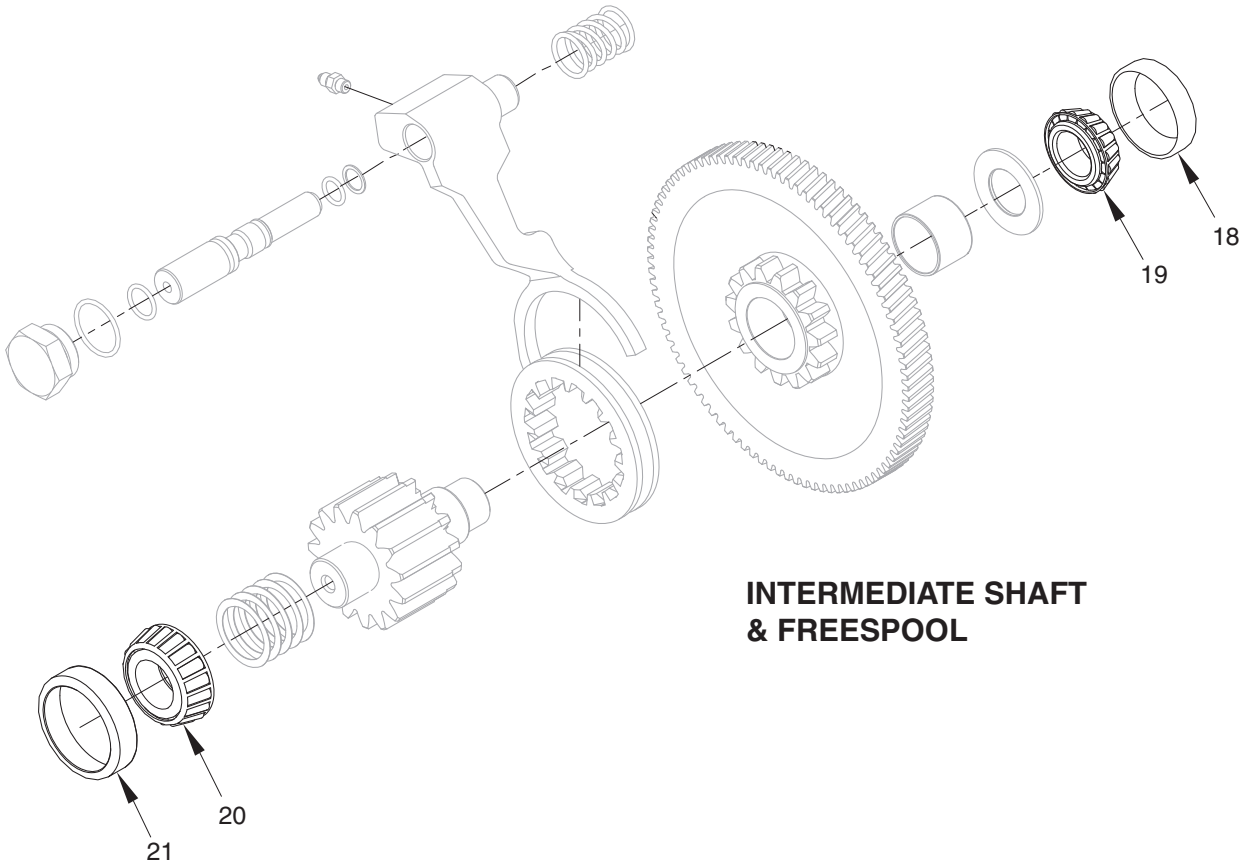
| Item | Part No. | Qty | Description | Item | Part No. | Qty | Description |
|------|----------------|----------|---------------------------------|------|----------|-----|---------------|
| | 2315351 | 1 | Rebuild Kit, Motor Shaft | | | | |
| 1 | 26883 | 1 | . O-Ring | 7 | 2305760W | 1 | . Seal, Shaft |
| 2 | 2316507 | 2 | . O-Ring | 8 | 2305761W | 1 | . O-Ring |
| 3 | 2316517 | 1 | . O-Ring | 9 | 2305762W | 1 | . O-Ring |
| 4 | 2304110W | 2 | . O-Ring | 10 | 2305763W | 2 | . O-Ring |
| 5 | 15888W | 1 | . O-Ring | | | | |
| 6 | 17064 | 1 | . O-Ring | | | | |

Motor, Idler, Intermediate & Drum Shaft Rebuild Kit: 2315288

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IDLER SHAFT GROUP

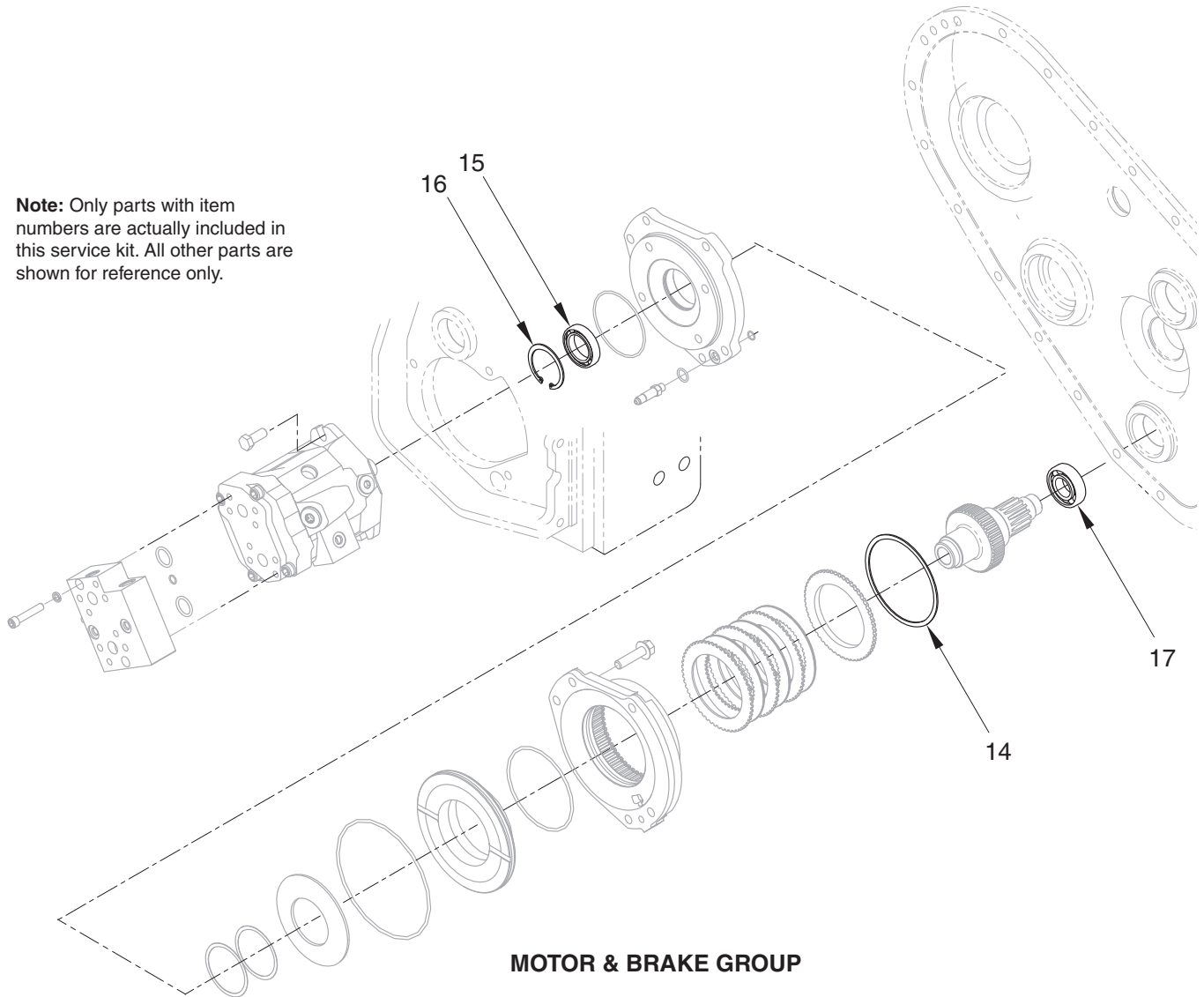


INTERMEDIATE SHAFT & FREESPOOL

Motor, Idler, Intermediate & Drum Shaft Rebuild Kit: 2315288

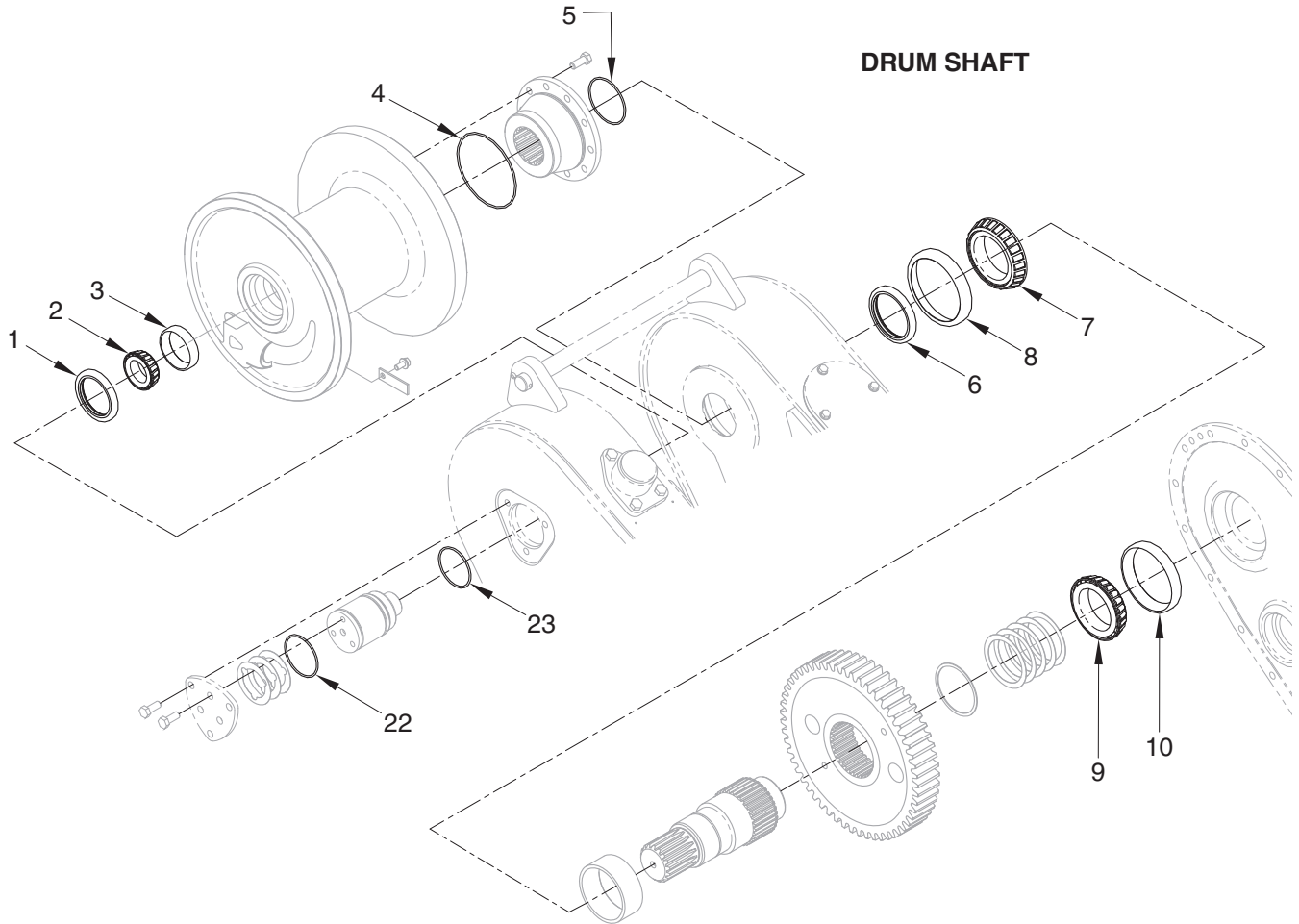
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Note: Only parts with item numbers are actually included in this service kit. All other parts are shown for reference only.



Motor, Idler, Intermediate & Drum Shaft Rebuild Kit: 2315288

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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 |
|------|----------------|----------|--|------|----------|-----|-----------------------|
| | 2315288 | 1 | Motor, Idler, Intermediate & Drum Shaft Rebuild Kit | | | | |
| 1 | 87355W | 1 | . Seal, Oil | 13 | 2304180W | 2 | . Cup, Roller Bearing |
| 2 | 2303853W | 1 | . Bearing Cone | 14 | 334475W | 1 | . Ring, Snap, Int |
| 3 | 2303854W | 1 | . Bearing Cup | 15 | 2300831W | 1 | . Bearing, Ball |
| 4 | 15895W | 1 | . O-Ring | 16 | 12921W | 1 | . Snap Ring |
| 5 | 46629W | 1 | . O-Ring | 17 | 41206W | 1 | . Bearing, Ball |
| 6 | R2109170 | 1 | . Seal | 18 | R1314774 | 1 | . Bearing Cup |
| 7 | 2304126W | 1 | . Bearing Cone | 19 | R1314773 | 1 | . Bearing Cone |
| 8 | 2304127W | 1 | . Bearing, Cup | 20 | 225262W | 1 | . Bearing Cone |
| 9 | 1314483W | 1 | . Bearing Cone | 21 | 230351W | 1 | . Bearing Cup |
| 10 | 30190W | 1 | . Bearing Cup | 22 | 15881W | 1 | . O-Ring |
| 11 | 12916W | 2 | . Snap Ring | 23 | 203525 | 1 | . O-Ring |
| 12 | 2304179W | 2 | . Cone, Roller Bearing | | | | |

| Gaskets & Seals | | Order as Required | | |
|-----------------|--|-------------------|--------------------------------|----------------|
| Allied P/N | Description | Quantity on Winch | See Parts Manual Page | Order Quantity |
| 2315377 | Gasket, Breather Cover | 1 | Frames and Covers | |
| 209744 | O-Ring, Plug | 2 | | |
| 16984W | O-Ring, Plug | 1 | | |
| 2311041 | Ring | 4 | 4 to 5 Spool Valve Conversion | |
| 252563 | Seal Kit, Directional Cartridge Valve | 1 | Motor Valve Assembly H4AH*Y | |
| 2307221W | Vent Cap Seal, Directional Cartridge Valve | 1 | | |
| 2307172W | Seal Kit, Sequence Valve | 1 | | |
| 2307171W | Seal Kit, Shuttle Valve | 2 | | |

Motor Shaft Rebuild Kit, P/N: 2315351
Applies to: All
Service Interval: Every 5,000 Hours

| Allied P/N | Description | Quantity in Kit | See Parts Manual Page | Order Quantity |
|----------------|---------------------------------|-----------------|----------------------------------|----------------|
| 2315351 | Rebuild Kit, Motor Shaft | | | |
| 26883 | . O-Ring | 1 | Motor & Brake Group (Non-SCH) | |
| 2316507 | . O-Ring | 2 | | |
| 2316517 | . O-Ring | 1 | | |
| 2304110W | . O-Ring | 2 | | |
| 15888W | . O-Ring | 1 | | |
| 17064 | . O-Ring | 1 | | |
| 2305760W | . Seal, Shaft | 1 | Hydraulic 45CC 2 Speed Motor | |
| 2305761W | . O-Ring | 1 | | |
| 2305762W | . O-Ring | 1 | | |
| 2305763W | . O-Ring | 2 | | |

Motor, Idler, Intermediate and Drum Shaft Assembly Rebuild Kit, P/N: 2315288**Service Interval: Every 10,000 hours**

| Allied P/N | Description | Quantity in Kit | See Parts Manual Page | Order Qty |
|----------------|---|-----------------|--------------------------------|-----------|
| 2315288 | Rebuild Kit, Motor, Idler, Intermediate and Drum Shaft | | | |
| 12916W | . Ring, Snap | 2 | Idler Shaft Group | |
| 2304179W | . Cone, Bearing | 2 | | |
| 2304180W | . Cup, Bearing | 2 | | |
| R1314774 | . Cup, Bearing | 1 | Intermediate Shaft & Freespool | |
| R1314773 | . Cone, Bearing | 1 | | |
| 225262W | . Cone, Bearing | 1 | | |
| 230351W | . Cup, Bearing | 1 | | |
| 334475W | . Ring, Snap | 1 | Motor & Brake Group | |
| 2300831W | . Bearing, Ball | 1 | | |
| 12921W | . Ring, Snap | 1 | | |
| 41206W | . Bearing, Ball | 1 | | |
| 87355W | . Seal, Oil | 1 | Drum Shaft Group | |
| 2303853W | . Cone, Bearing | 1 | | |
| 2303854W | . Cup, Bearing | 1 | | |
| 15895W | . O-Ring | 1 | | |
| 46629W | . O-Ring | 1 | | |
| R2109170 | . Seal, Oil | 1 | | |
| 2304126W | . Cone, Bearing | 1 | | |
| 2304127W | . Cup, Bearing | 1 | | |
| 1314483W | . Cone, Bearing | 1 | | |
| 30190W | . Cup, Bearing | 1 | | |
| 15881W | . O-Ring | 1 | | |
| 203525 | . O-Ring | 1 | | |

| Wire Rope Assemblies | | Order as Required | | |
|----------------------|---------------------------------|-------------------|----------------------------|-----------|
| Allied P/N | Description | Length | Will Fill Drum To: | Order Qty |
| WR4-279B | Wire Rope Assembly, 1/2" | 279 (85) | 2/3 Capacity (Recommended) | |
| WR4-422B | Wire Rope Assembly, 1/2" | 422 (129) | Full Capacity | |
| WR5-183B | Wire Rope Assembly, 5/8" | 183 (56) | 2/3 Capacity (Recommended) | |
| WR5-277B | Wire Rope Assembly, 5/8" | 277 (84) | Full Capacity | |
| WR6-129B | Wire Rope Assembly, 3/4" | 129 (39) | 2/3 Capacity (Recommended) | |
| WR6-195B | Wire Rope Assembly, 3/4" | 195 (59) | Full Capacity | |
| WR6-129BLP | Wire Rope Assembly w/Loop, 3/4" | 129 (39) | 2/3 Capacity (Recommended) | |
| WR6-195BLP | Wire Rope Assembly w/Loop, 3/4" | 195 (59) | Full Capacity | |
| YS6-129BWS | Wire Rope Assembly, 3/4" | 129 (39) | 2/3 Capacity (Recommended) | |
| YS6-195BWS | Wire Rope Assembly, 3/4" | 195 (59) | Full Capacity | |

LP = Loop

WS = Wedge socket

| Spare Parts | | Order as Required | | |
|-------------|-----------------------------|-------------------|-------------------------------|-----------|
| Allied P/N | Description | Qty on Winch | See Parts Manual Page | Order Qty |
| 2303788W | Motor, Hydraulic | 1 | Motor & Brake Group | |
| 2304873W | Plate, Friction | 3 | | |
| 2314620 | Motor, Hydraulic (K14 Only) | 1 | | |
| 21420W | Plug, Breather | 1 | Frame/Covers | |
| 2304161W | Pin, Drawbar | 1 | Fairlead/Drawbar Installation | |
| 2303221W | Pin, Retaining | 1 | | |
| 59419W | Bushing | 8 | | |
| 134803W | Capscrew | 1 | Drum Shaft Group | |
| 1314503W | Keeper, Ferrule | 1 | | |

Tool Kits

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

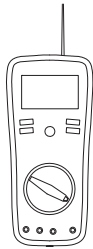
| Allied P/N | Description | Order Quantity |
|------------|--|----------------|
| 588466 | Socket Set, 3/8DR 3/8" to 7/8" STD/Deep, 22 PC | |
| 588467 | Socket Set, 1/2DR 3/8" to 1-1/4" STD/Deep, 30 PC | |
| 588468 | Socket Set, 3/4DR 7/8" to 2-3/8" STD, 29 PC | |
| 588469 | Wrench Set, 5/16" to 2-1/2", 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

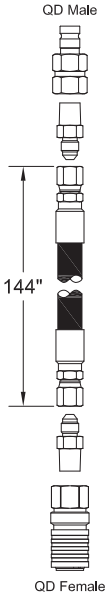
Order these Tools as required for maintenance and service of your winch(es).

| 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

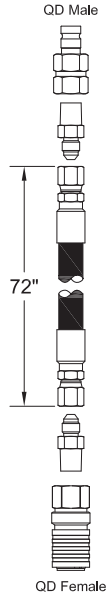


QD Male

144"

QD Female

70381
Kit, Hose Assembly, W/QD Both Ends

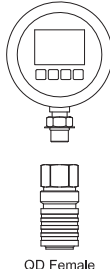


QD Male

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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| 17064 | 43 | 6 | 242111 | 29 | 23.28 | 2311300 | 26 | 10 |
| 26883 | 17 | 2.14 | 242230 | 33 | 3 | 2311303 | 17 | 5 |
| 26883 | 43 | 1 | 248854 | 32 | 8 | 2311304 | 19 | |
| 203525 | 18 | 11 | 248918 | 23 | 23.2 | 2311305 | 17 | 5 |
| 203525 | 46 | 23 | 248918 | 29 | 23.2 | 2311306 | 19 | |
| 209423 | 23 | 25.9 | 249005 | 32 | 7 | 2311329 | 8 | 5 |
| 209423 | 29 | 25.9 | 250365 | 23 | 25.4 | 2311330 | 8 | 4 |
| 209579 | 26 | 14 | 250365 | 29 | 25.4 | 2311353 | 23 | 23.29 |
| 209579 | 31 | 2.7 | 250589 | 23 | | 2311353 | 29 | 23.29 |
| 209695 | 26 | 15 | 250589 | 29 | | 2311356 | 23 | 23.26 |
| 209695 | 31 | 2.8 | 250590 | 23 | | 2311356 | 29 | 23.26 |
| 209696 | 31 | 2.9 | 250590 | 29 | | 2311360 | 23 | 23.6 |
| 210709 | 23 | 23.1 | 252566 | 33 | | 2311360 | 29 | 23.6 |
| 210709 | 29 | 23.1 | 254002 | 23 | 25.5 | 2311406 | 34 | 2 |
| 211564 | 23 | 23.35 | 254002 | 29 | 25.5 | 2311409 | 26 | 23 |
| 211564 | 29 | 23.35 | 2310017 | 34 | 4 | 2311409 | 31 | 2.17 |
| 211564 | 32 | 6 | 2310634 | 23 | 25.6 | 2311409 | 34 | |
| 225851 | 38 | 6 | 2310634 | 29 | 25.6 | 2311421 | 13 | 57 |
| 225851 | 39 | 13 | 2310976 | 23 | 25.2 | 2311440 | 26 | 11 |
| 231439 | 23 | 23.13 | 2310976 | 29 | 25.2 | 2311441 | 26 | 12 |
| 231439 | 23 | 25.12 | 2310978 | 17 | | 2311500 | 23 | 23.25 |
| 231439 | 29 | 23.13 | 2311036 | 26 | 81 | 2311500 | 29 | 23.25 |
| 231439 | 29 | 25.12 | 2311041 | 26 | 79 | 2311590 | 33 | 1 |
| 231452 | 23 | 23.19 | 2311042 | 26 | 35 | 2311591 | 23 | 23.1 |
| 231452 | 29 | 23.19 | 2311043 | 26 | 76 | 2311591 | 29 | 23.1 |
| 231821 | 23 | 25.8 | 2311044 | 32 | 1 | 2311591 | 33 | |
| 231821 | 29 | 25.8 | 2311045 | 26 | 83 | 2311592 | 33 | 9 |
| 231955 | 26 | 86 | 2311047 | 26 | 82 | 2311744 | 23 | 23.31 |
| 231955 | 31 | 2.23 | 2311130 | 23 | 25.3 | 2311744 | 29 | 23.31 |
| 232382 | 23 | | 2311130 | 29 | 25.3 | 2311889 | 11 | 22 |
| 232382 | 29 | | 2311233 | 23 | 23.3 | 2312177 | 34 | 5 |
| 232984 | 23 | 23.24 | 2311233 | 29 | 23.3 | 2312501 | 26 | 19 |
| 232984 | 23 | 25.1 | 2311234 | 23 | 23.32 | 2312503 | 26 | 13 |
| 232984 | 29 | 23.24 | 2311234 | 29 | 23.32 | 2312995 | 38 | 30 |
| 232984 | 29 | 25.1 | 2311235 | 23 | 23.27 | 2312997 | 38 | 32 |
| 234655 | 23 | | 2311235 | 29 | 23.27 | 2313037 | 13 | 62 |
| 235387 | 33 | 6 | 2311280 | 32 | 3 | 2313145 | 32 | 9 |
| 236805 | 31 | 2.18 | 2311281 | 26 | 34 | 2313146 | 26 | 74 |
| 236855 | 23 | 23.17 | 2311285 | 26 | 80 | 2313146 | 32 | |
| 236855 | 26 | 37 | 2311288 | 13 | 33 | 2313147 | 26 | 73 |
| 236855 | 29 | 23.17 | 2311288 | 26 | 33 | 2313314 | 26 | 72 |
| 236855 | 31 | 2.25 | 2311289 | 26 | 22 | 2313929 | 26 | 71 |
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| 2314526 | 14 | 1.12 | 1314503W | 18 | 30 | 221694W | 37 | |
| 2314527 | 31 | 2.1 | 1314547W | 11 | 25 | 221707W | 26 | 36 |
| 2314539 | 13 | 50 | 1314629W | 38 | 5 | 221724W | 39 | 2 |
| 2314539 | 14 | 1.1 | 1321665W | 8 | 3 | 221763W | 23 | 23.3 |
| 2314545 | 31 | 2.2 | 1348034W | 11 | 19 | 221763W | 29 | 23.3 |
| 2314546 | 31 | 2.3 | 134803W | 18 | 31 | 221767W | 17 | 4.3 |
| 2314547 | 31 | 2.4 | 137852W | 26 | 4 | 221777W | 12 | 7 |
| 2314548 | 31 | 2.5 | 137852W | 31 | 2.1 | 221777W | 13 | 60 |
| 2314549 | 31 | 2.6 | 14595W | 11 | 28 | 221777W | 14 | 1.8 |
| 2314583 | 31 | 2.24 | 15052W | 26 | 28 | 221779W | 12 | 39 |
| 2314589 | 31 | 2.12 | 15156W | 11 | 5 | 221780W | 37 | |
| 2314620 | 17 | 1 | 15178W | 23 | 23.34 | 222442W | 17 | 2.13 |
| 2315288 | 46 | | 15178W | 29 | 23.34 | 222442W | 17 | |
| 2315351 | 43 | | 15256W | 11 | 12 | 222442W | 23 | 23.23 |
| 2315377 | 11 | 3 | 15881W | 46 | 22 | 222442W | 29 | 23.23 |
| 2316504 | 20 | 22 | 15888W | 17 | 3.2 | 222535W | 23 | 23.7 |
| 2316507 | 17 | 3.3 | 15888W | 43 | 5 | 222535W | 29 | 23.7 |
| 2316507 | 43 | 2 | 15895W | 18 | 17 | 225262W | 20 | 10 |
| 2316517 | 17 | 2.12 | 15895W | 46 | 4 | 225262W | 46 | 20 |
| 2316517 | 43 | 3 | 15961W | 23 | 25.1 | 2300125W | 39 | 9 |
| 2316525 | 17 | 2.1 | 15961W | 29 | 25.1 | 2300174W | 11 | 24 |
| 2316526 | 17 | 3.5 | 16001W | 36 | 3 | 2300478W | 38 | 7 |
| 2501643 | 23 | | 16001W | 39 | 8 | 2300831W | 17 | 2.8 |
| 100153W | 20 | 28 | 16538W | 20 | 6 | 2300831W | 46 | 15 |
| 12916W | 19 | 5 | 16547W | 17 | 2.15 | 2300948W | 39 | 10 |
| 12916W | 46 | 11 | 16598W | 26 | 85 | 2300962W | 11 | 27 |
| 12921W | 17 | 2.16 | 16602W | 8 | 2 | 2301708W | 36 | 9 |
| 12921W | 46 | 16 | 16602W | 8 | 12 | 2303221W | 37 | 3 |
| 1308451W | 12 | 21 | 16984W | 11 | 21 | 230351W | 20 | 11 |
| 1308451W | 14 | 1.11 | 16984W | 20 | 8 | 230351W | 46 | 21 |
| 1314433W | 20 | 12 | 176208W | 11 | 6 | 2303754W | 36 | 7 |
| 1314434W | 20 | 13 | 179443W | 11 | 4 | 2303755W | 36 | 8 |
| 1314435W | 20 | 14 | 180959W | 17 | 4.2 | 2303788W | 17 | 1 |
| 1314467W | 20 | 15 | 21420W | 11 | 26 | 2303815W | 36 | 5 |
| 1314468W | 20 | 16 | 221372W | 38 | 8 | 2303825W | 20 | 9 |
| 1314470W | 18 | 18 | 221518W | 23 | 23.9 | 2303827W | 18 | 29 |
| 1314483W | 18 | 23 | 221518W | 29 | 23.9 | 2303829W | 17 | 5 |
| 1314483W | 46 | 9 | 221657W | 13 | 54 | 2303835W | 17 | 5 |
| 1314485W | 18 | 19 | 221657W | 14 | 1.1 | 2303845W | 17 | 2.9 |
| 1314486W | 18 | 20 | 221672W | 12 | 40 | 2303848W | 11 | 7 |
| 1314487W | 18 | 21 | 221672W | 13 | 56 | 2303848W | 11 | 29 |
| 1314488W | 18 | 22 | 221672W | 14 | 1.9 | 2303848W | 17 | 2.2 |
| 1314502W | 11 | 23 | 221675W | 12 | 35 | 2303848W | 18 | 3 |

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| 2303853W | 46 | 2 | 2305020W | 11 | 11 | 296420W | 26 | 29 |
| 2303854W | 18 | 9 | 2305142W | 39 | 1 | 296420W | 31 | 2.2 |
| 2303854W | 46 | 3 | 2305145W | 38 | 1 | 296422W | 13 | 59 |
| 2303906W | 20 | 24 | 2305145W | 39 | | 296422W | 14 | 1.7 |
| 2304058W | 18 | 14 | 2305249W | 36 | 6 | 296434W | 12 | 23 |
| 2304060W | 18 | 13 | 2305251W | 36 | 1 | 296434W | 13 | 53 |
| 2304069W | 11 | 13 | 2305252W | 36 | | 296434W | 14 | 1.3 |
| 2304069W | 18 | 12 | 2305252W | 37 | 10 | 30190W | 18 | 24 |
| 2304070W | 11 | 14 | 2305256W | 37 | 5 | 30190W | 46 | 10 |
| 2304092W | 11 | 10 | 2305268W | 38 | 9 | 318702W | 12 | 5 |
| 2304099W | 11 | 8 | 2305562W | 20 | 25 | 318702W | 13 | 51 |
| 2304110W | 17 | 3.6 | 2305563W | 20 | 23 | 318702W | 14 | 1.2 |
| 2304110W | 43 | 4 | 2305564W | 19 | 1 | 334442W | 17 | 2.7 |
| 2304122W | 11 | 15 | 2305565W | 19 | | 334475W | 17 | 2.6 |
| 2304122W | 18 | 4 | 2305566W | 19 | 9 | 334475W | 46 | 14 |
| 2304123W | 11 | 16 | 2305580W | 20 | 27 | 342447W | 39 | 4 |
| 2304123W | 18 | 5 | 2305645W | 11 | 1 | 342448W | 39 | 3 |
| 2304124W | 11 | 17 | 2305651W | 17 | 3.1 | 344825W | 36 | 4 |
| 2304124W | 18 | 6 | 2305653W | 18 | 1 | 344825W | 39 | 5 |
| 2304125W | 18 | 15 | 2305662W | 11 | 9 | 344826W | 39 | 11 |
| 2304126W | 18 | 26 | 2305663W | 11 | 2 | 344835W | 39 | 12 |
| 2304126W | 46 | 7 | 2305760W | 43 | 7 | 398599W | 23 | 23.4 |
| 2304127W | 18 | 27 | 2305761W | 43 | 8 | 398599W | 29 | 23.4 |
| 2304127W | 46 | 8 | 2305762W | 43 | 9 | 398817W | 36 | 2 |
| 2304128W | 18 | 28 | 2305763W | 43 | 10 | 398817W | 38 | 4 |
| 2304155W | 37 | 1 | 2307227W | 33 | 4 | 398817W | 39 | 7 |
| 2304161W | 37 | 2 | 2307231W | 33 | | 41206W | 17 | 2.18 |
| 2304171W | 20 | 21 | 2307301W | 12 | 1 | 41206W | 46 | 17 |
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