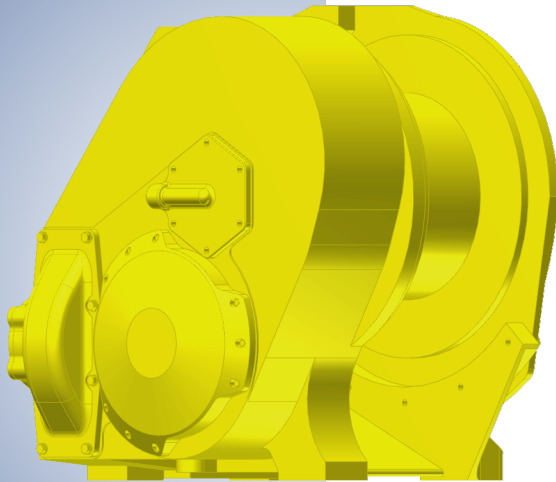




Parts Manual



Allied W400 Series Winch

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

CUSTOMER EDITION

A PRODUCT OF
Allied Systems
COMPANY

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Safety Precautions

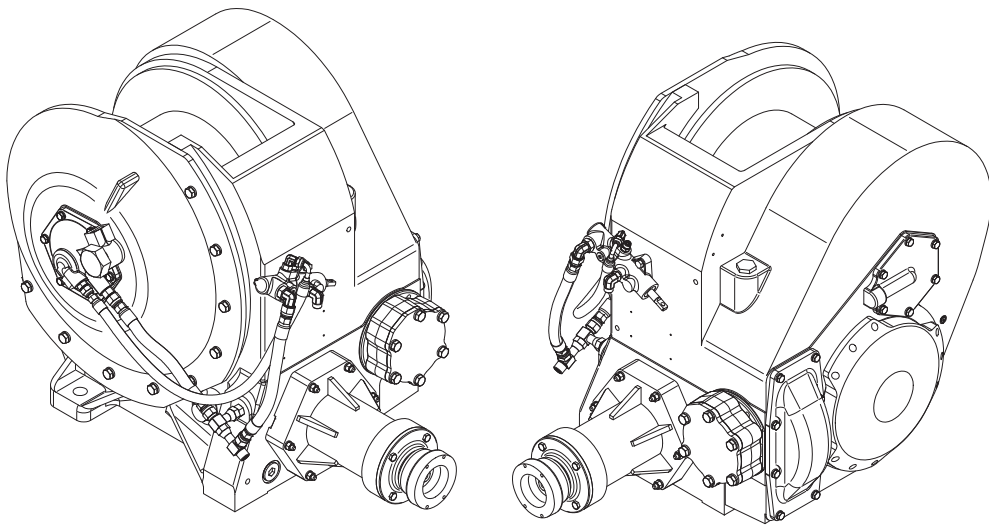
**Read, understand and observe the Safety Summary
on pages 1-3 through 1-5
to prevent injury to personnel and damage to equipment.**

Winch serial number _____

Date put into service _____

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

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Safety Summary

General Safety Notices

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

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



DANGER

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



WARNING

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



CAUTION

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

NOTICE

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

NOTE: ...

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

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

Safety Regulations

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

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

Operation, Inspection, and Maintenance Warnings

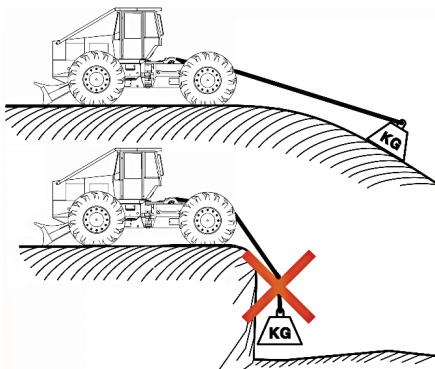
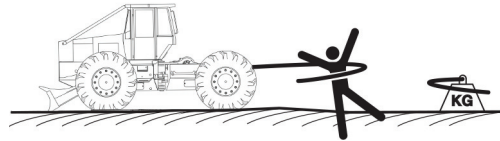


WARNING

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

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

- » If the wire rope and ferrule must be removed from the drum, make sure the end of the wire rope and ferrule are controlled when the ferrule is released. The end of the wire rope can suddenly move from the drum like a compressed spring when the ferrule is released, and cause an injury.
- Stay in the operator's seat when operating the winch.
- Do not stand on the vehicle when operating the winch.
- Avoid winch operation near people or other machines.
- Never stand nor permit others to stand in the bight (loop) of a wire rope.
- Do not stand nor permit others to be near the winch or wire rope when there is tension on the wire rope.
- Observe jobsite rules.
- Be in complete control at all times.
- Do not use the control levers as hangers for clothes, water bags, grease guns, lunch pails, etc.
- Do not leave the vehicle when the winch wire rope is under tension.
- Do not permit riders on the vehicle or load.
- Do not use the winch as an anchor for a double or two-part line.
- Do not pull the hook through the throat or over the drum, which will cause damage.
- When the winch is not in use, make sure the control lever is in **BRAKE-ON** position and the winch brake is applied.
- Do not use winch as a hoist. Tractor and skidder mounted winches are designed for towing.
- Always inspect wire rope, tail chain and other rigging components for wear, damage, broken strands or abuse before use.
- Never use wire rope, tail chain or other rigging that is worn-out, damaged or abused.
- Never overload wire rope, tail chain or rigging.
- Wire rope and tail chain will fail if worn-out, overloaded, misused, damaged, improperly maintained or abused. Wire rope or tail chain failure may cause serious injury or death!



- Do not terminate wire rope to tail chain by the use of a knot.
- Do not handle wire rope if the hook end is not free. A load could break away, suddenly tensioning the wire rope, resulting in serious injury or death.
- Make sure ground personnel are in plain view of the operator, and at a distance of at least 1½ times the working length of the wire rope.
- Make sure that any hand signals used by ground personnel are clearly defined and understood by everyone involved.
- Do not attempt to “jerk” or “shock” a load free. Doing so can cause loads in excess of the rated capacity of the wire rope, winch, or mounting hardware.
- Replace any parts only with genuine Allied Winch parts.
- Maintain a **minimum of three (3) complete wraps of wire rope** on the drum for normal operation. It may help to paint the last five wraps of wire rope a contrasting color, to serve as a visual indicator.
- Do not handle wire rope with bare hands. Wear leather gloves at all times.

- Align the tractor with the load to prevent side loading the winch, and to maintain even spooling of the wire rope.
- If applying tension to the wire rope manually during spooling:
 - » ensure that the operator is winching in slowly,
 - » keep your hands and clothing well clear of any rollers or the winch drum,
 - » do not maintain tension by letting the wire rope to slip through your hands,
 - » use a hand-over-hand technique to maintain tension.
- Be aware of the ground conditions, and make sure the ground and tractor are stable enough to pull the intended load.
- Do not attempt to pull loads in excess of the rated capacity of the winch.
- Keep yourself informed of any applicable codes, regulations and standards for the job.
- Your winch may have temperature shut-off system for protection of tractor and winch. Manual override of high temperature shut-off will cause damage to tractor and winch.
- This winch is neither intended, designed, nor rated for any application involved in the lifting or moving of personnel.
- Do not weld on any part of the winch. Contact Allied Systems if weld repairs are needed.
- The hydraulic system must be kept clean and free of contamination at all times.
- Be aware of the hazards of pressurized hydraulics:
 - » Wear personal protective equipment, such as gloves and safety glasses, whenever servicing or checking a hydraulic system.
 - » Assume that all hydraulic hoses and components are pressurized. Relieve all hydraulic pressure before disconnecting any hydraulic line.
 - » Never try to stop or check for a hydraulic leak with any part of your body; use a piece of cardboard to check for hydraulic leaks.
 - » Small hydraulic hose leaks are extremely dangerous, and can inject hydraulic oil under the skin, even through gloves.
 - » Infection and gangrene are possible when hydraulic oil penetrates the skin. See a doctor immediately to prevent loss of limb or death.



Unit Identification

S/N Nameplate Data

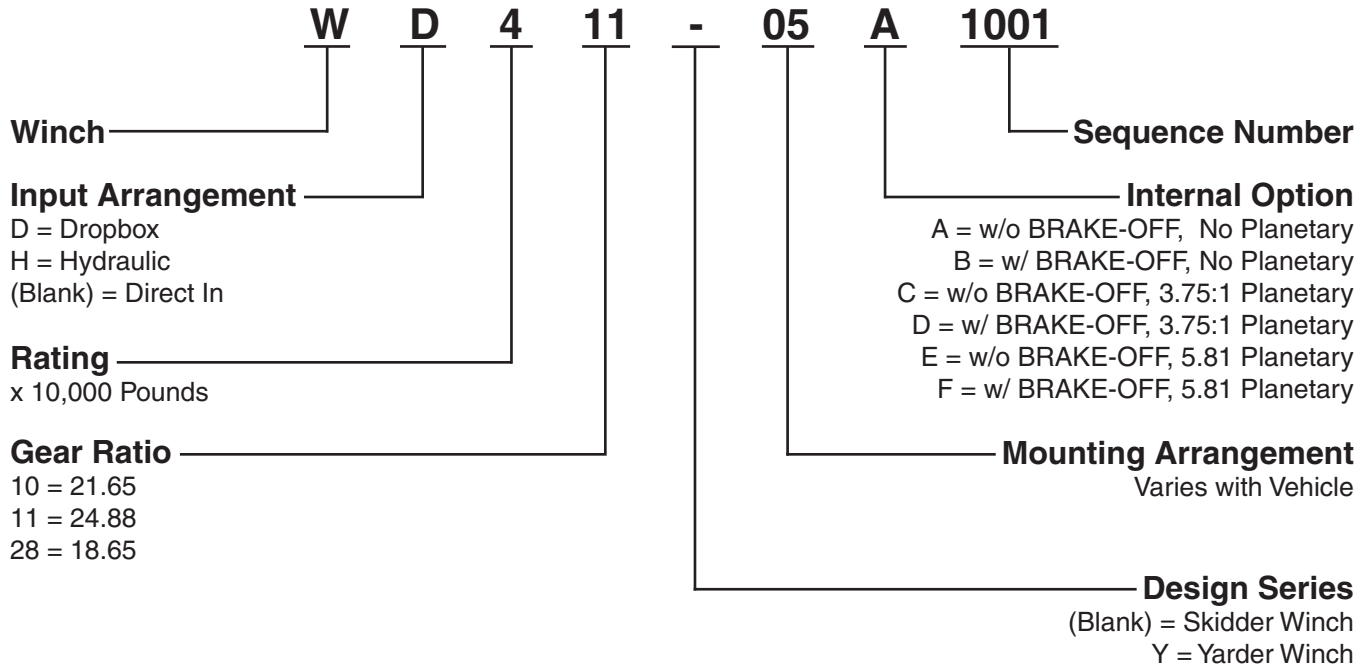


Figure 1 W400 Series Winches and Skidder Models

Winch Model	Skidder Manufacturer	Skidder Model
WD410-02	Franklin	Q90
WD410-03	Muller	T22
WD410-03	Valmet	F66 & F67
WD411-05	Ranger/Allied Systems	H67 & H68
W410-04	Caterpillar	515 & 525
W410-05	Caterpillar	528 (W428-2) & 535C
W410-06	Supertrak	SK250B/C & SK300
W410-08	Caterpillar	525C & 535C
W411-02	Caterpillar	515C & 518C
W411-03	Kootenay	KMC 2400 & 2500 w/o Drop Box & Input Clutch
W411-04	Allied Systems	J68
W411-05	Allied Systems	J170 & J205
W411-06	Prentice	2430 & 2432
W428-03	Supertrak	SK250B/C & SK300
WH410-01	Tigercat	610, 620C, 625C, 630C & 635C
WH410-02	Tigercat	604
WH411-01 (WH400-1)	Tigercat	610, 620, 630B & 630C
WH411-02B	Tigercat	604 & 610
WH411-02D	Tigercat	610

How to Use the Illustrated Parts Manual

5

5-2

Numerical Index

Part No.	Page	Item	Description	Part No.
108877W	2-8	23	O-Ring	1305093W
109453W	1-9	9	O-Ring	1306001W
109453W	2-2	10	O-Ring	1306001W
110322W	3-12	11	Clamp	1306002W
110322W	3-27	9	Clamp	1306002W
110322W	2-5	23	Shim, .005	1306003W
110933W	2-5	23	Shim, .007	1306003W
110933W	2-5	23	Shim, .020	1308401W
114312W	2-5	24	Clamp, Strap	1308402W
118361W	3-7	13	O-Ring	1308403W
118361W	3-7	13	O-Ring	1308406W
118361W	3-8	13	O-Ring	1308436W
118361W	3-9	16	O-Ring	1308437W
118361W	3-9	21	O-Ring	1308438W
118365W	3-7	26	O-Ring	1308439W
118365W	3-8	17	O-Ring	1308440W
119491W	2-5	22	Seal, Oil	1308441W
12327W	2-11	3	Cap screw	1308442W
12447W	2-2	8	Bearing	1308443W
125399W	3-3	9	Clamp	1310
127045W	3-5	14	Clamp	1311
127045W	2-10	3	Snap-Ring	1312

3

0-2

Index-Master

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Arch	4-3
Box-Gear	2-5 thru 2-7
Brake	2-10
	2-9
	2-9
	1-4
	4-3 & 4-4

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2-2

Shaft-PTO

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

Tractor Model	Shaft-PTO (Item 3)		Bearing Carrier (Item 4)	Pin (Item 5)	Lo Pin (Item 6)
	Gear Ratio	Part No.			
Caterpillar D7 DD	49.8:1	132909W	98362W	19929W	9563W
Caterpillar D7 FS	259770W	132909W	98362W	19929W	9563W
Caterpillar 972	259770W	132909W	98362W	9563W	
Fiat-Allis 16B	253797W		216222W	19929W	
Fiat-Allis 20		132909W	216222W	9563W	
Dresser TD-20E	259768W		98362W	19929W	
Komatsu D6SA-12E-18 D6S-1 DESESS-1	219032W		98362W	213139W	
Terex D700A	259854W	253030W	98362W		

0-1

Index-Illustrated

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

A - 49.8:1 Gear Ratio
B - 71.6:1 Gear Ratio

Item	Part No.	Description	A	B	Item
1	134078W	Shim, .005	A/R	A/R	11
1	134079W	Shim, .007	A/R	A/R	11
2	79389W	Seal, Oil	1	1	13
3	-----	Shaft, PTO	1	1	14
4	"a	-----	1	1	15
5	"a	-----	1	1	16
6	"a	-----	1	1	1
7	"a	-----	1	1	1
8	35573W	Ring, Snap	1	1	1
9	125399W	Bearing	1	1	1
10	109453W	O-Ring	1	1	1

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 and select the most appropriate area.
2. Line up the black arrow containing the appropriate reference number, with the black tab on the division index page with the same reference number. Use the division index to determine the assembly which would normally contain the part required. Proceed 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 immediately following 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:

1. The assembly breakdowns include part numbers, descriptions, quantities required, keys and footnotes to help in selecting the correct parts.
2. 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.
3. Indented 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 immediately above.
4. 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.
5. Serial numbers are shown to allow for the most current parts information to be incorporated into the parts manual. See page 1-6 for serial number information.

Ordering Parts:

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

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

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

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

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

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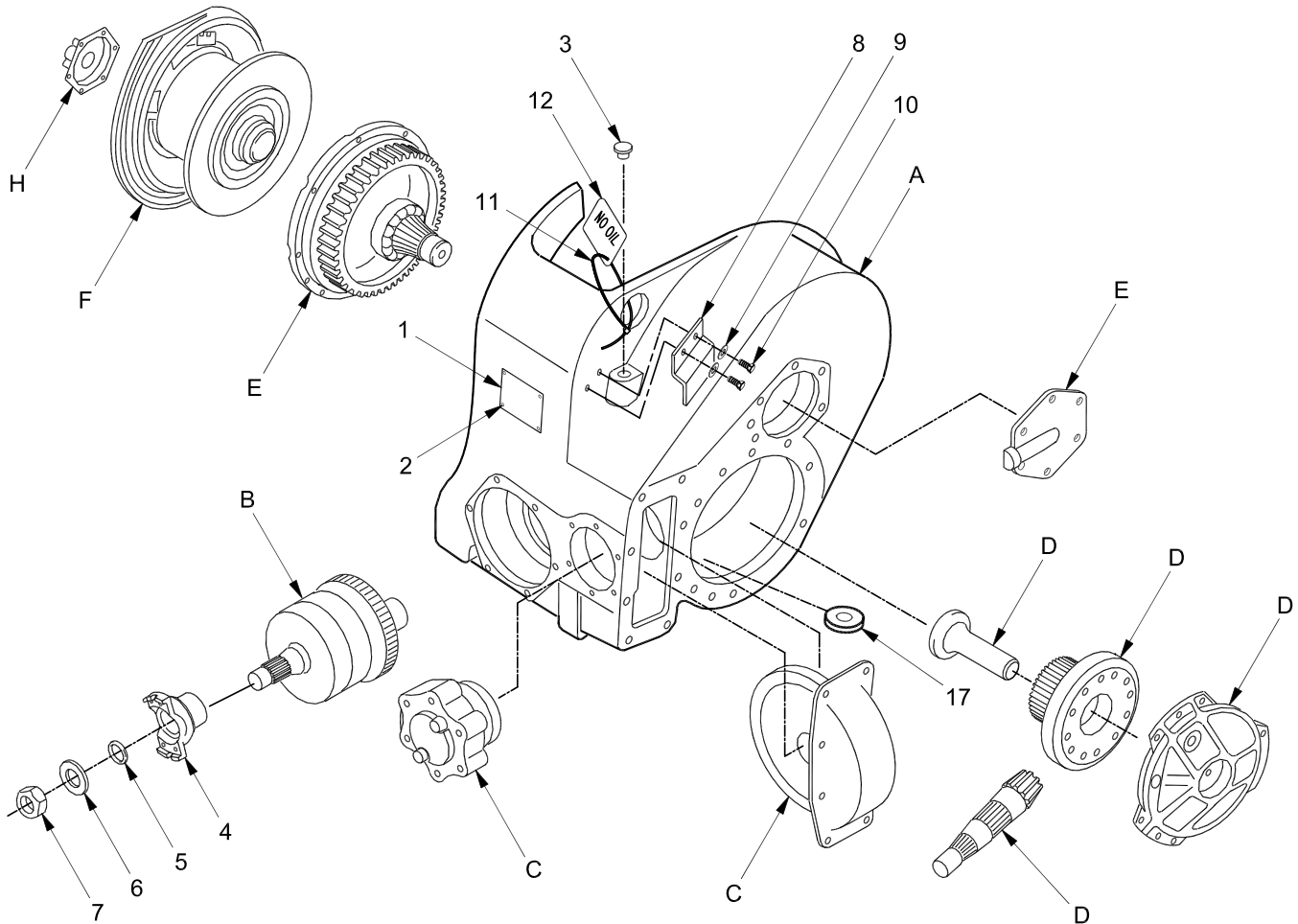
Winch Assemblies / Nameplate & Decals

Nameplate & Decals	2-34
W410-042-2 & 2-3
W410-052-4 & 2-5
W410-062-6 & 2-7
W410-08	2-8
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W411-032-11 & 2-12
W411-042-13 & 2-14
W411-052-15 & 2-16
W411-062-17 & 2-18
W428-032-19 & 2-20
WD410-022-21 & 2-22
WD410-03 .....	.2-23 & 2-24
WD411-05 .....	.2-25 & 2-26
WH410-01	2-27
WH410-02 .....	.2-28 & 2-29
WH411-01	2-30
WH411-02 .....	.2-31 thru 2-33

Winch Assemblies

W410-04A

Standard

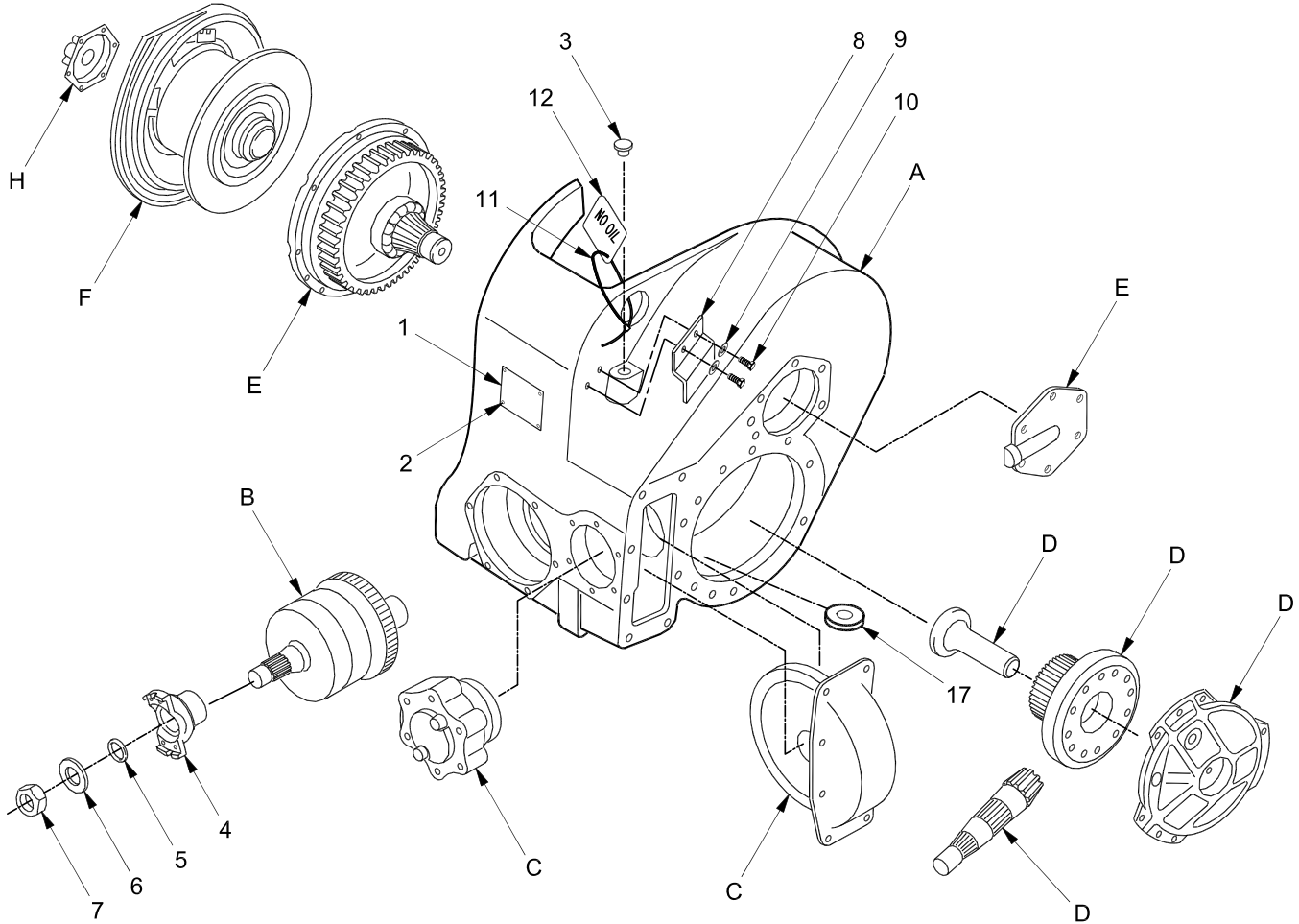


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Assembly, Winch Case (See 3-2)	1	8	R400130	. Cover, Breather	1
B	* R231502	Input Clutch (See 3-7)	1	9	15154W	. Washer	2
C	* R400083	Pinion Shaft (See 4-2)	1	10	16378W	. Capscrew	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	11	137852W	. Clamp, Strap	1
E	* R232382	Cable Drum Drive Shaft (See 4-10)	1	12	2303624W	. Tag, No Oil	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	+	233683W	. Fitting, O-Ring	3
H	* R400085	Cable Drum Plunger (See 4-29 & 4-30)	1	+	R244763	. Plug, Shipping	3
I	* 2303706W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R400017	. Flange, Input	1	*		Parts Group	
5	203444	. O-Ring	1	**		First Used on S/N W4##-1874	
6	221780W	. Washer	1	+		Not Illustrated	
7	R216058	. Nut	1				

Winch Assemblies

W410-04B

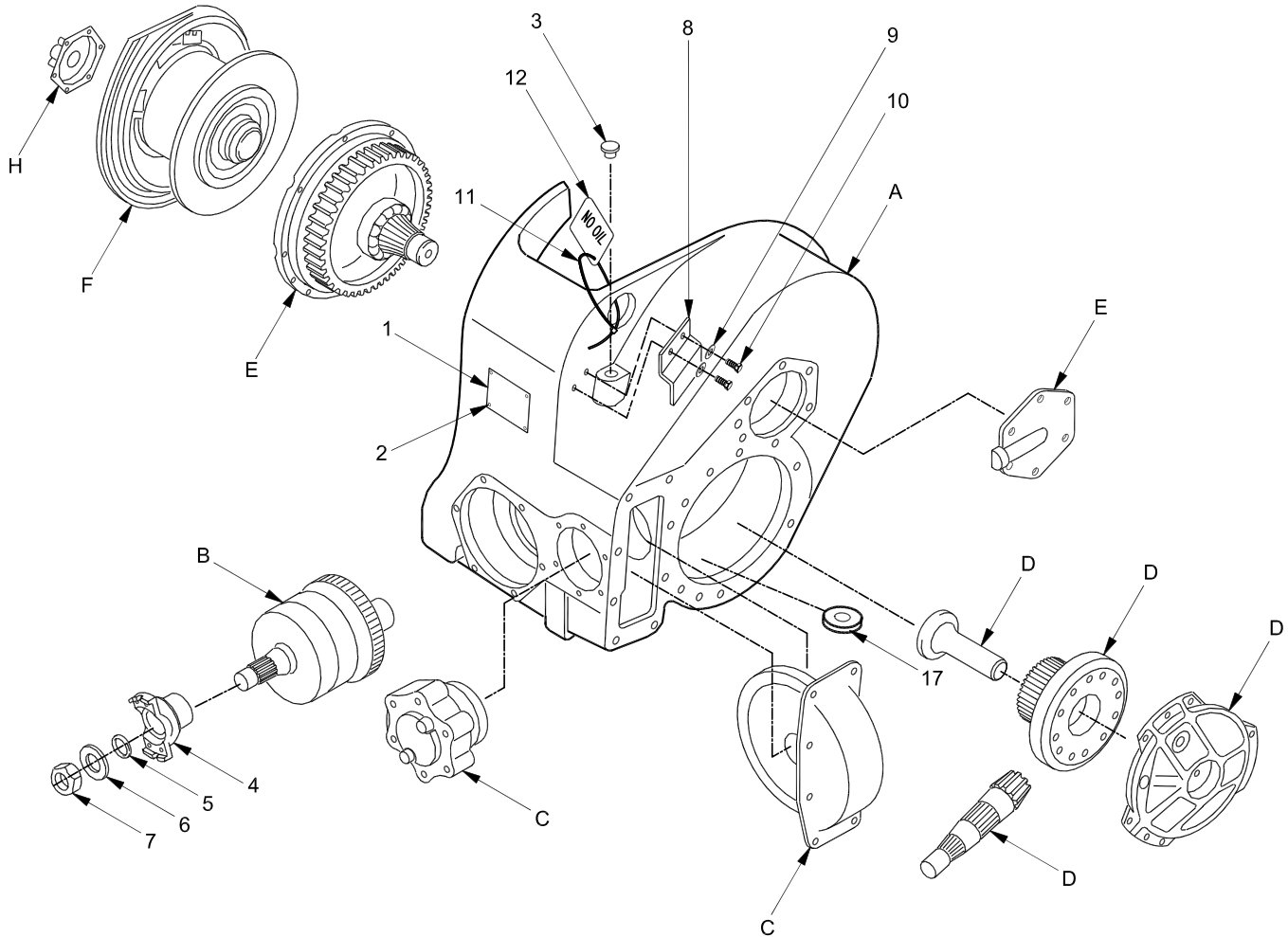
With Optional BRAKE-OFF



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Assembly, Winch Case (See 3-2)	1	8	R400130	. Cover, Breather	1
B	* R231502	Input Clutch (See 3-7)	1	9	15154W	. Washer	2
C	* R400083	Pinion Shaft (See 4-2)	1	10	16378W	. Capscrew	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	11	137852W	. Clamp, Strap	1
E	* R232382	Cable Drum Drive Shaft (See 4-10)	1	12	2303624W	. Tag, No Oil	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	+	233683W	. Fitting, O-Ring	3
H	* 2303679W	Drag Brake (See 4-31)	1	+	R244763	. Plug, Shipping	3
I	* 2303706W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R400017	. Flange, Input	1	*		Parts Group	
5	203444	. O-Ring	1	**		First Used on S/N W4##-1874	
6	221780W	. Washer	1	+		Not Illustrated	
7	R216058	. Nut	1				

Winch Assemblies

W410-05A
Standard

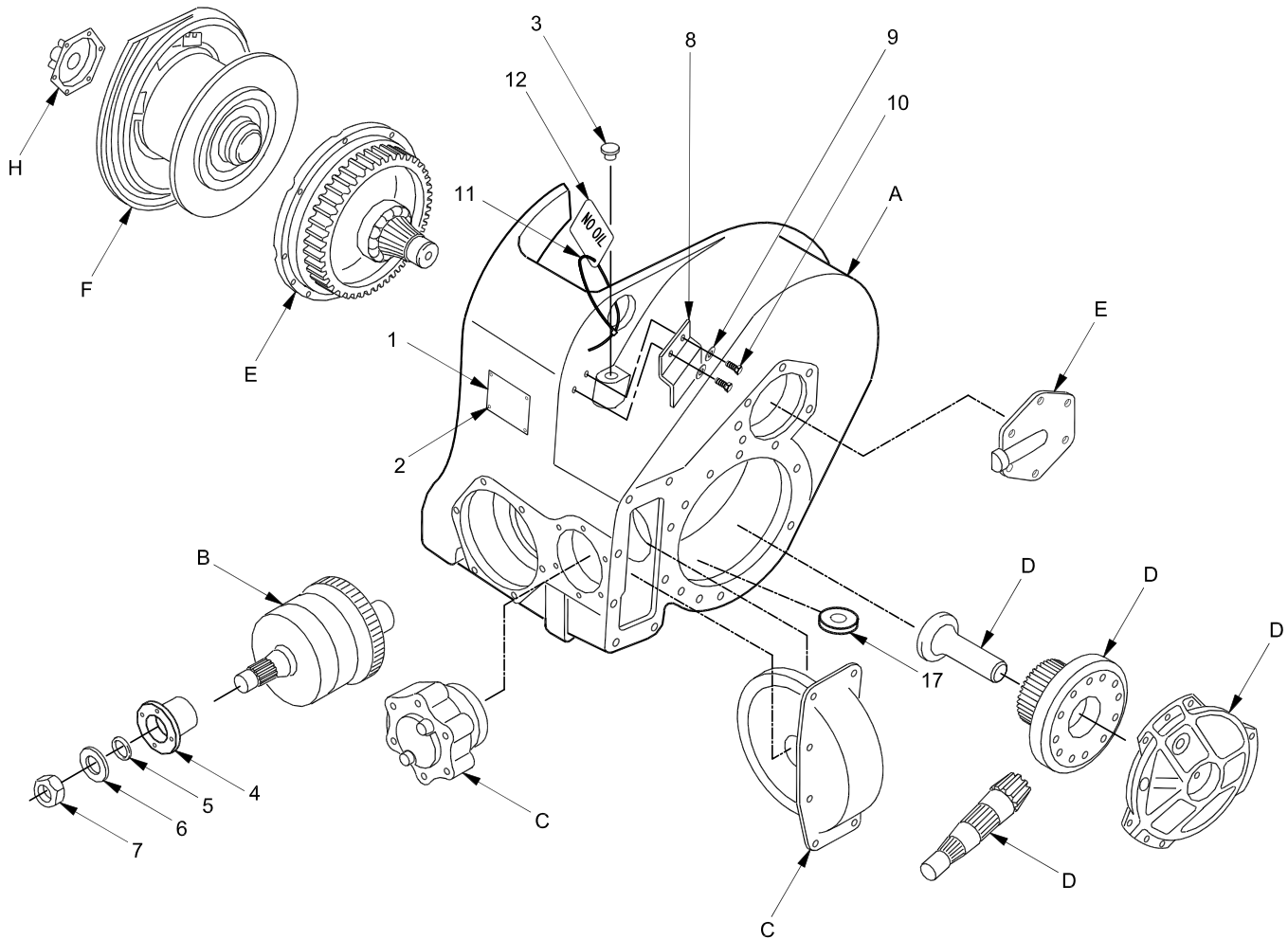


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Assembly, Winch Case (See 3-2)	1	8	R400130	Cover, Breather	1
B	* R231502	Input Clutch (See 3-7)	1	9	15154W	. Washer	2
C	* R400083	Pinion Shaft (See 4-2)	1	10	16378W	. Capscrew	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	11	137852W	Clamp, Strap	1
E	* R232382	Cable Drum Drive Shaft (See 4-10)	1	12	2303624W	Tap, No Oil	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	+	233683W	Plug, O-Ring Fitting	3
G	* R400085	Cable Drum Plunger (See 4-29 & 4-30)	1	+	R244763	Plug, Shipping	3
H	* 2303879W	Misc. Parts Group	1	+	222441W	Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	Plug, Cap	5
2	16602W	. Screw	4	17	** R525293	Ceramic Magnet	1
3	R400044	Breather	1				
4	R400017	Flange, Input	1		*	Parts Group	
5	203444	O-Ring	1		**	First Used on S/N W4###-1874	
6	221780W	Washer	1		+	Not illustrated	
7	R216058	Nut	1				

Winch Assemblies

W410-06A

Standard

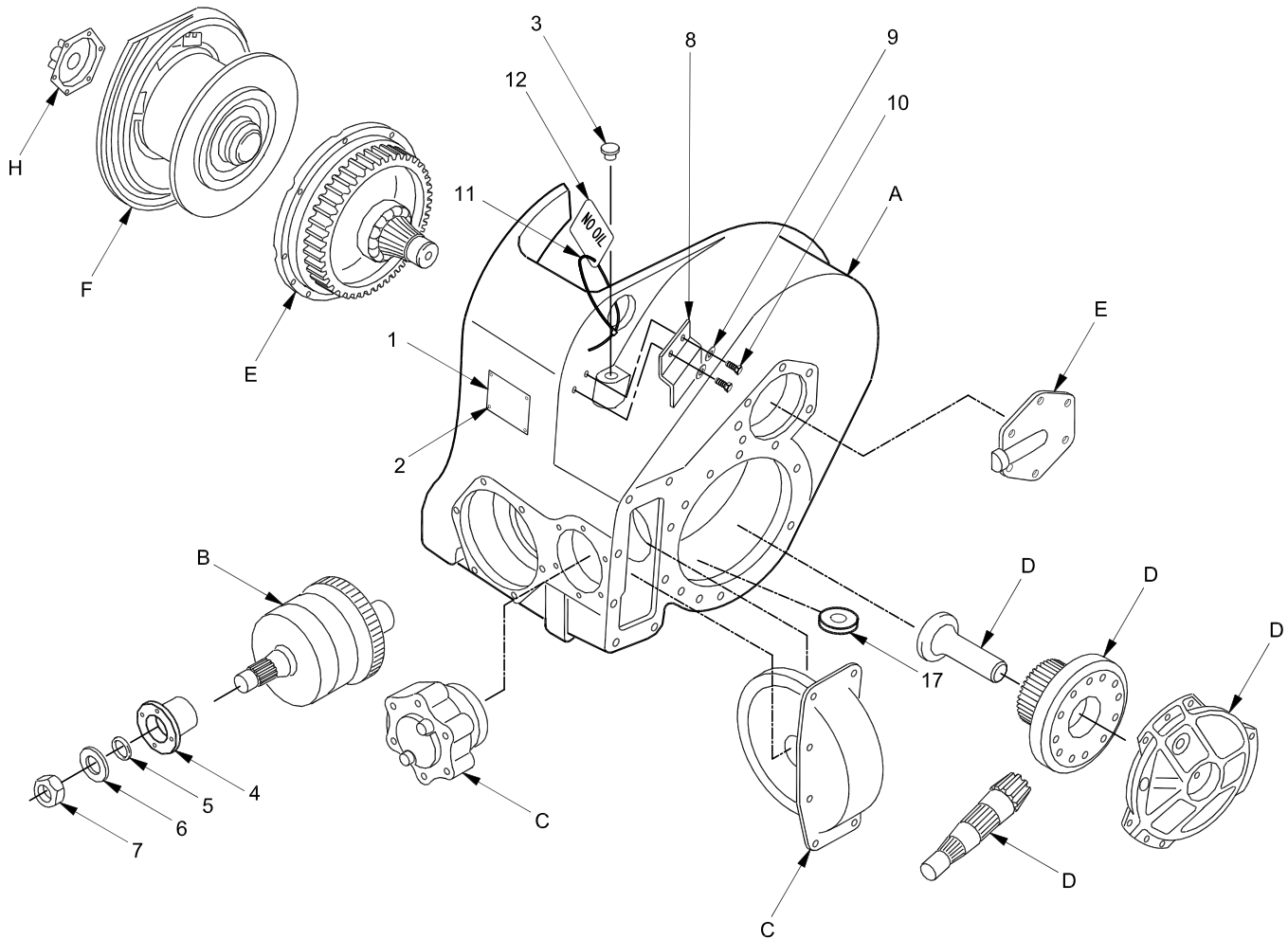


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Assembly, Winch Case (See 3-2)	1	8	R400130	. Cover, Breather	1
B	* R231502	Input Clutch (See 3-7)	1	9	15154W	. Washer	2
C	* R400083	Pinion Shaft (See 4-2)	1	10	16378W	. Capscrew	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	11	137852W	. Clamp, Strap	1
E	* R400015	Cable Drum Drive Shaft (See 4-11)	1	12	2303624W	. Tag, No Oil	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	+	233683W	Fitting, O-Ring	3
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	+	R244673	Plug, Shipping	3
I	* 2303676W	Misc. Parts Group	1	+	222441W	Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	Ceramic Magnet	1
3	R233598	. Breather	1				
4	R219395	. Flange, Input	1		*	Parts Group	
5	203444	. O-Ring	1		**	First Used on S/N W4##-1874	
6	221780W	. Washer	1		+	Not Illustrated	
7	R216058	. Nut	1				

Winch Assemblies

W410-06B

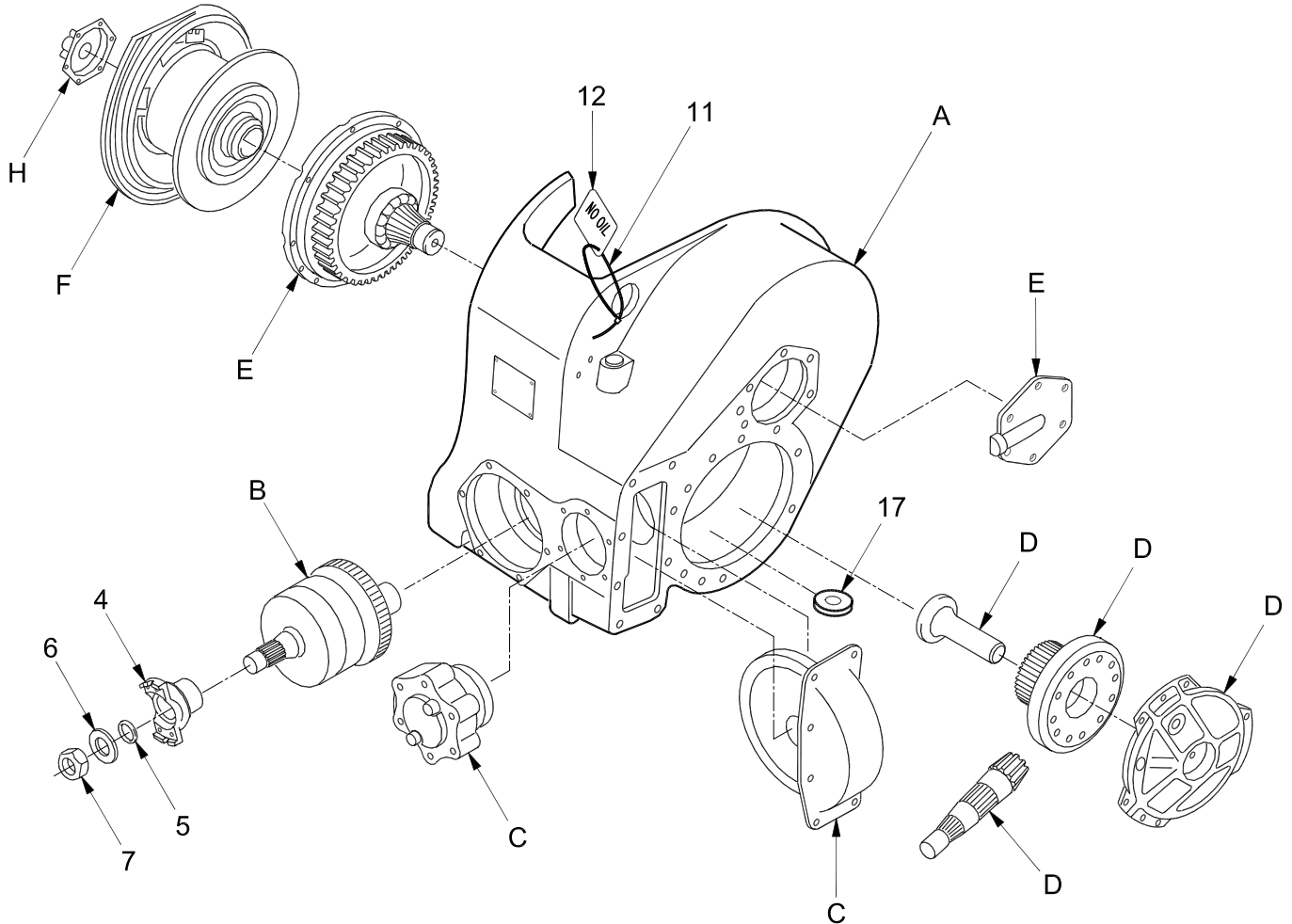
With Optional BRAKE-OFF



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Assembly, Winch Case (See 3-2)	1	8	R400130	. Cover, Breather	1
B	* R231502	Input Clutch (See 3-7)	1	9	15154W	. Washer	2
C	* R400083	Pinion Shaft (See 4-2)	1	10	16378W	. Capscrew	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	11	137852W	. Clamp, Strap	1
E	* R400015	Cable Drum Drive Shaft (See 4-11)	1	12	2303624W	. Tag, No Oil	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	+	233683W	Fitting, O-Ring	3
H	* 2303679W	Drag Brake (See 4-31)	1	+	R244673	Plug, Shipping	3
I	* 2303676W	Misc. Parts Group	1	+	222441W	Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	Ceramic Magnet	1
3	R233598	. Breather	1				
4	R219395	. Flange, Input	1	*		Parts Group	
5	203444	. O-Ring	1	**		First Used on S/N W4##-1874	
6	221780W	. Washer	1	+		Not Illustrated	
7	R216058	. Nut	1				

Winch Assemblies

W410-08
Standard

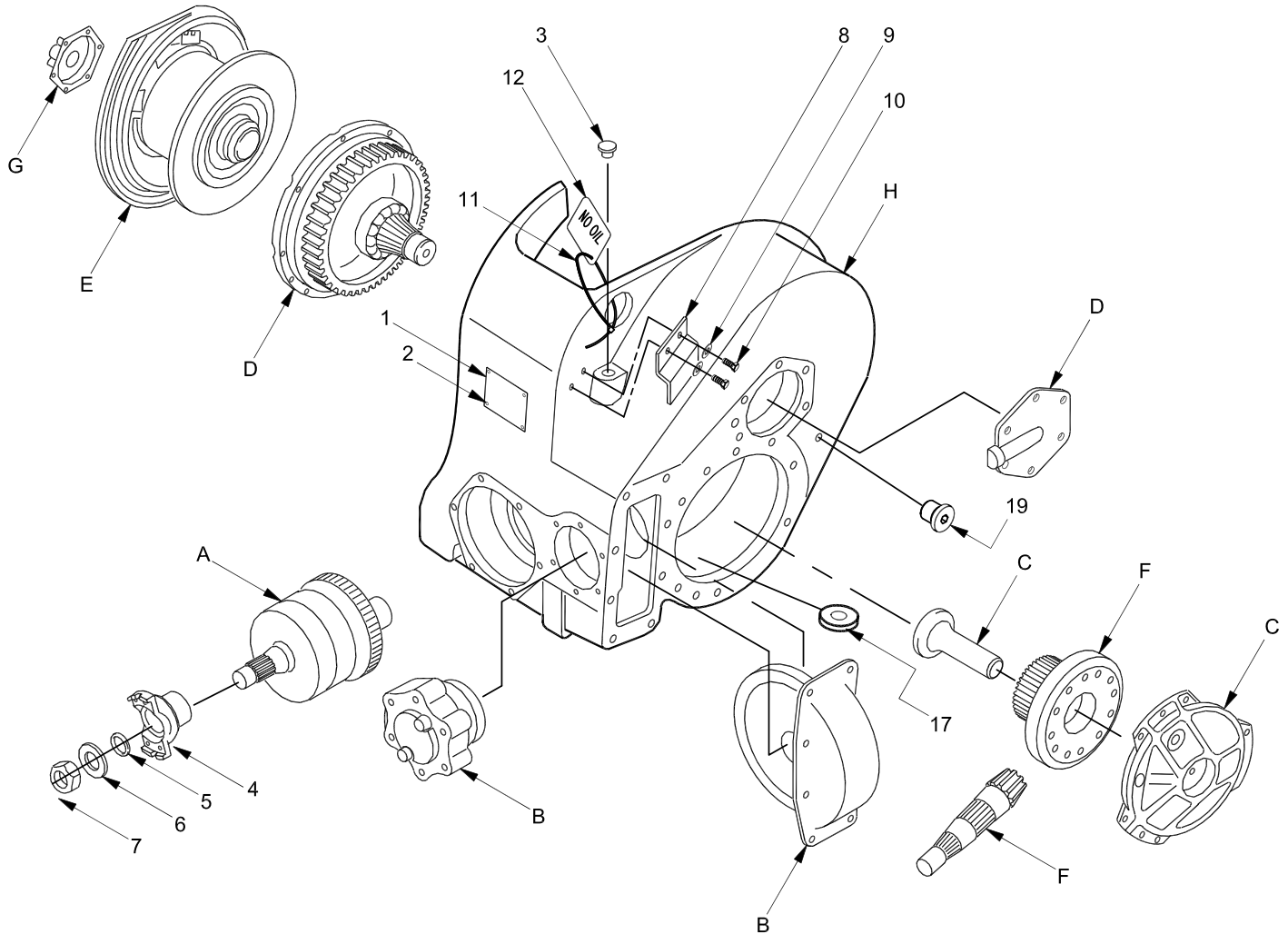


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* 2313308	Assembly, Winch Case (See 3-3)	1	6	221780W	. Washer	1
B	* R231502	Input Clutch (See 3-7)	1	7	R216058	. Nut	1
C	* R400083	Pinion Shaft (See 4-2)	1	11	137852W	. Clamp, Strap	1
D	* R232380	Ring Gear Shaft (See 4-8)	1	12	2303624W	. Tag, No Oil	1
E	* R232382	Cable Drum Drive Shaft (See 4-10)	1	+	233683W	Fitting, O-Ring	3
F	* 2313310	Cable Drum Clutch (See 4-19)	1	+	R244673	Plug, Shipping	3
G	* 2313594	Hydraulics (Not Shown Here) (See 3-5)	1	+	222441W	Fitting, O-Ring	2
H	* R400085	Cable Drum Plunger (See 4-29)	1	+	2303519W	Cap, Plug	5
I	* 2313306	Parts Group, Misc.	1	17	R525293	Ceramic Magnet	1
4	R400017	. Flange, Input	1	*		Parts Group	
5	203444	. O-Ring	1	+		Not Illustrated	

Winch Assemblies

W411-02A

Standard

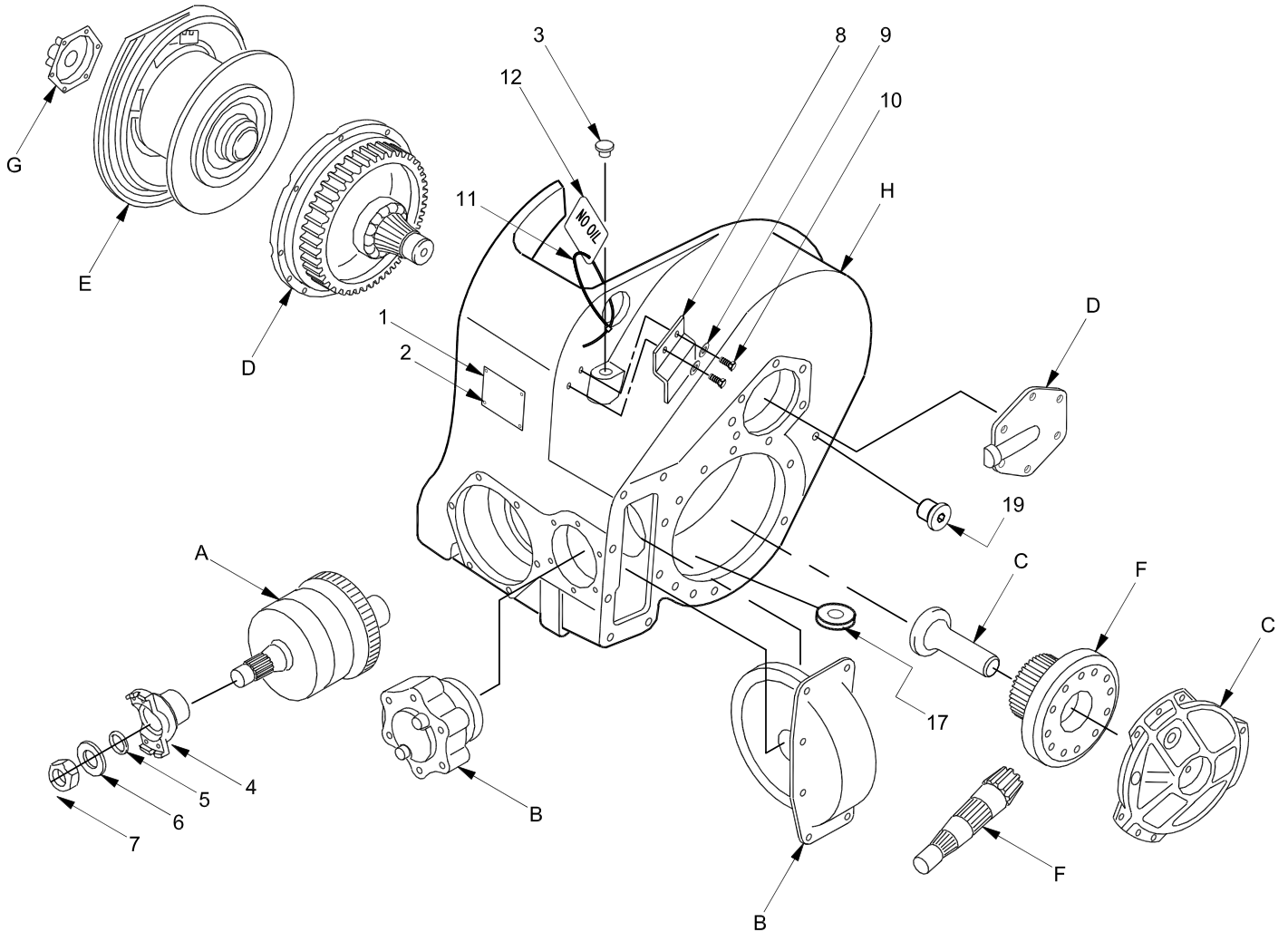


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2305921W Assembly, Winch							
A	* R231760	. Input Clutch (See 3-8)	1	7	R216058	. . Nut	1
B	* R400084	. Pinion Shaft (See 4-3)	1	8	R400130	. . Cover, Breather	1
C	* R232380	. Ring Gear Shaft (See 4-8)	1	9	15154W	. . Washer	2
D	* R232382	. Cable Drum Drive Shaft (See 4-10)	1	10	16378W	. . Capscrew	2
E	* R400037	. Cable Drum Clutch (See 4-17)	1	11	137852W	. . Clamp, Strap	1
F	* R233360	. Ring Gear Pinion & Ring Assembly (See 4-28)	1	12	2303624W	. . Tag, No Oil	1
G	* R400085	. Cable Drum Plunger (See 4-29/-30)	1	+	233683W	. Plug, O-Ring Fitting	3
H	* R400087	. Assembly, Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
I	* 2305922W	. Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. . Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. . Screw	4	17	** R525293	. Ceramic Magnet	1
3	R400044	. . Assembly, Air Breather	1	19	222441W	. Fitting, O-Ring	1
4	R400017	. . Flange, Input	1				
5	60563W	. . O-Ring	1	*		Parts Group	
6	221780W	. . Washer	1	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

W411-02B

With Optional BRAKE-OFF

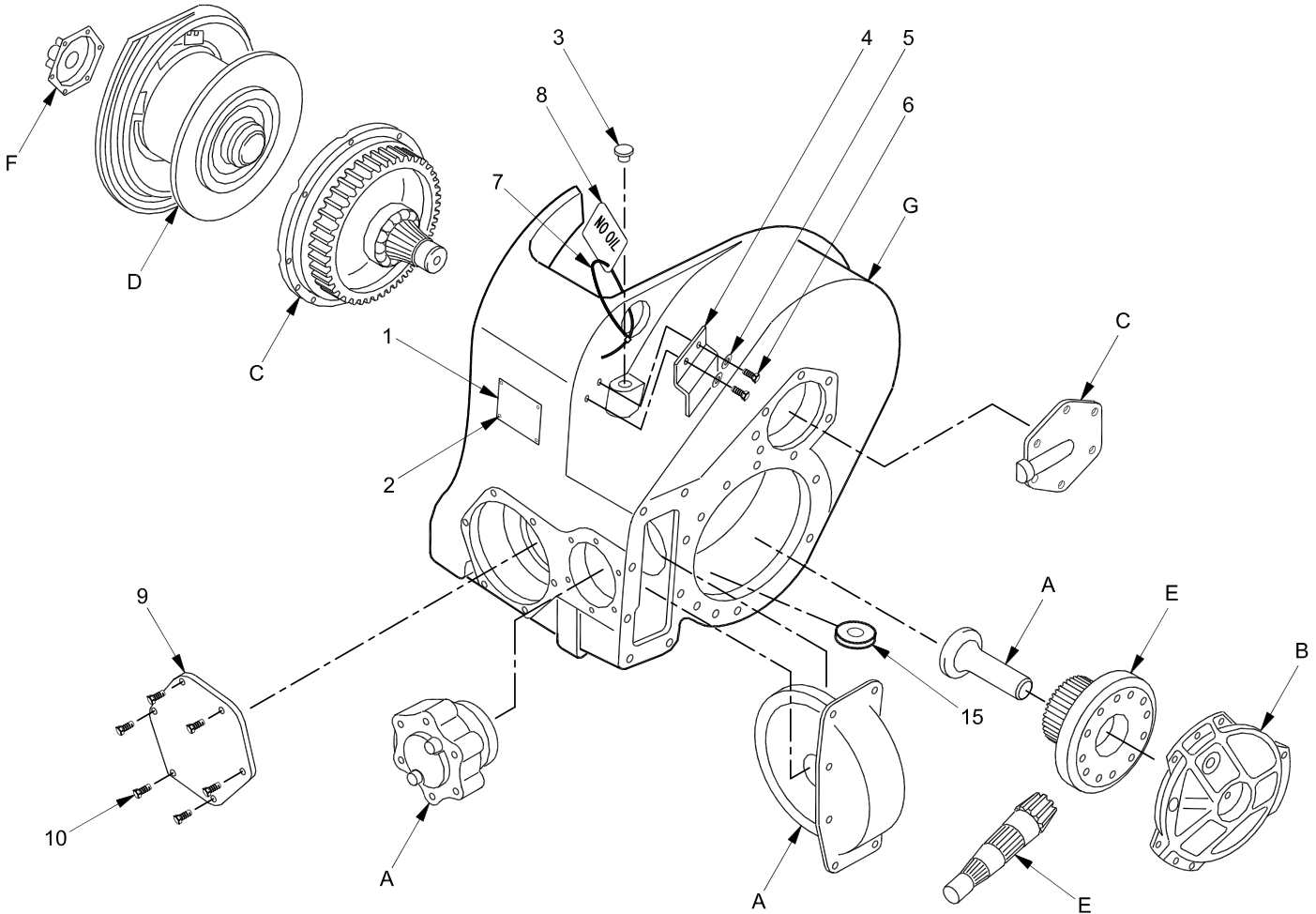


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2305921W Assembly, Winch							
A	* R231760	. Input Clutch (See 3-8)	1	7	R216058	. . Nut	1
B	* R400084	. Pinion Shaft (See 4-3)	1	8	R400130	. . Cover, Breather	1
C	* R232380	. Ring Gear Shaft (See 4-8)	1	9	15154W	. . Washer	2
D	* R232382	. Cable Drum Drive Shaft (See 4-10)	1	10	16378W	. . Capscrew	2
E	* R400037	. Cable Drum Clutch (See 4-17)	1	11	137852W	. . Clamp, Strap	1
F	* R233360	. Ring Gear Pinion & Ring Assembly (See 4-28)	1	12	2303624W	. . Tag, No Oil	1
G	* 2303679W	. Drag Brake (See 4-31)	1	+	233683W	. Plug, O-Ring Fitting	3
H	* R400087	. Assembly, Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
I	* 2305922W	. Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. . Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. . Screw	4	17	** R525293	. Ceramic Magnet	1
3	R400044	. . Assembly, Air Breather	1	19	222441W	. Fitting, O-Ring	1
4	R400017	. . Flange, Input	1				
5	60563W	. . O-Ring	1				
6	221780W	. . Washer	1				
				*	Parts Group		
				**	First Used on S/N W4##-1874		
				+	Not Illustrated		

Winch Assemblies

W411-03A

Standard

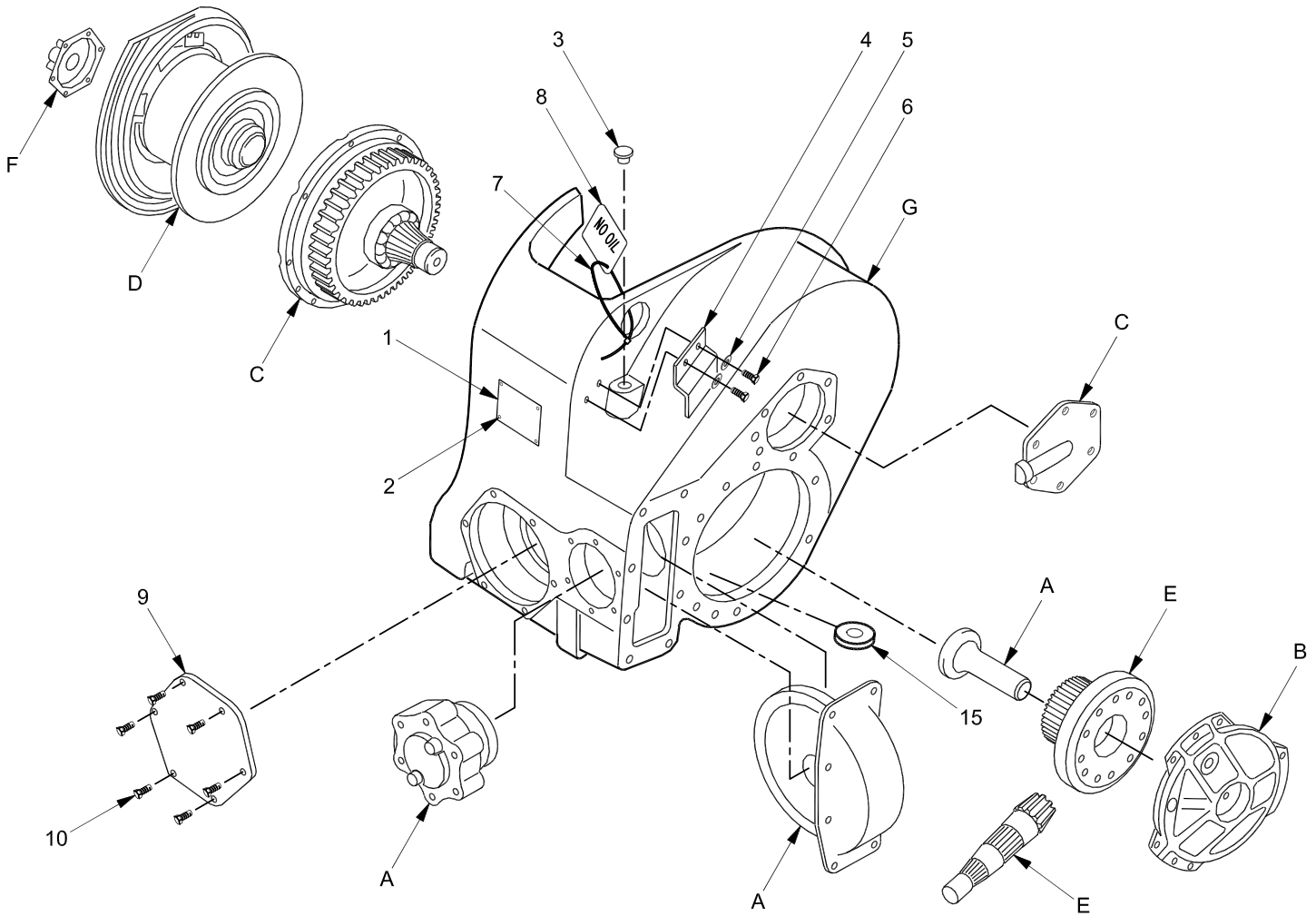


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400084	Pinion Shaft (See 4-3)	1	6	16378W	. Capscrew	2
B	* R232380	Ring Gear Shaft (See 4-8)	1	7	137852W	. Clamp, Strap	1
C	* R232382	Cable Drum Drive Shaft (See 4-10)	1	8	2303624W	. Tag, No Oil	1
D	* R400037	Cable Drum Clutch (See 4-17)	1	9	2304958W	. Cap, Shipping	1
E	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	10	194090W	. Capscrew	6
F	* R400085	Cable Drum Plunger (See 4-29/-30)	1	+	233683W	. Plug	3
G	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
H	* 2304957W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	15	** R525293	Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R400130	. Cover, Breather	1	*		Parts Group	
5	15154W	. Lockwasher	2	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

W411-03B

With Optional BRAKE-OFF

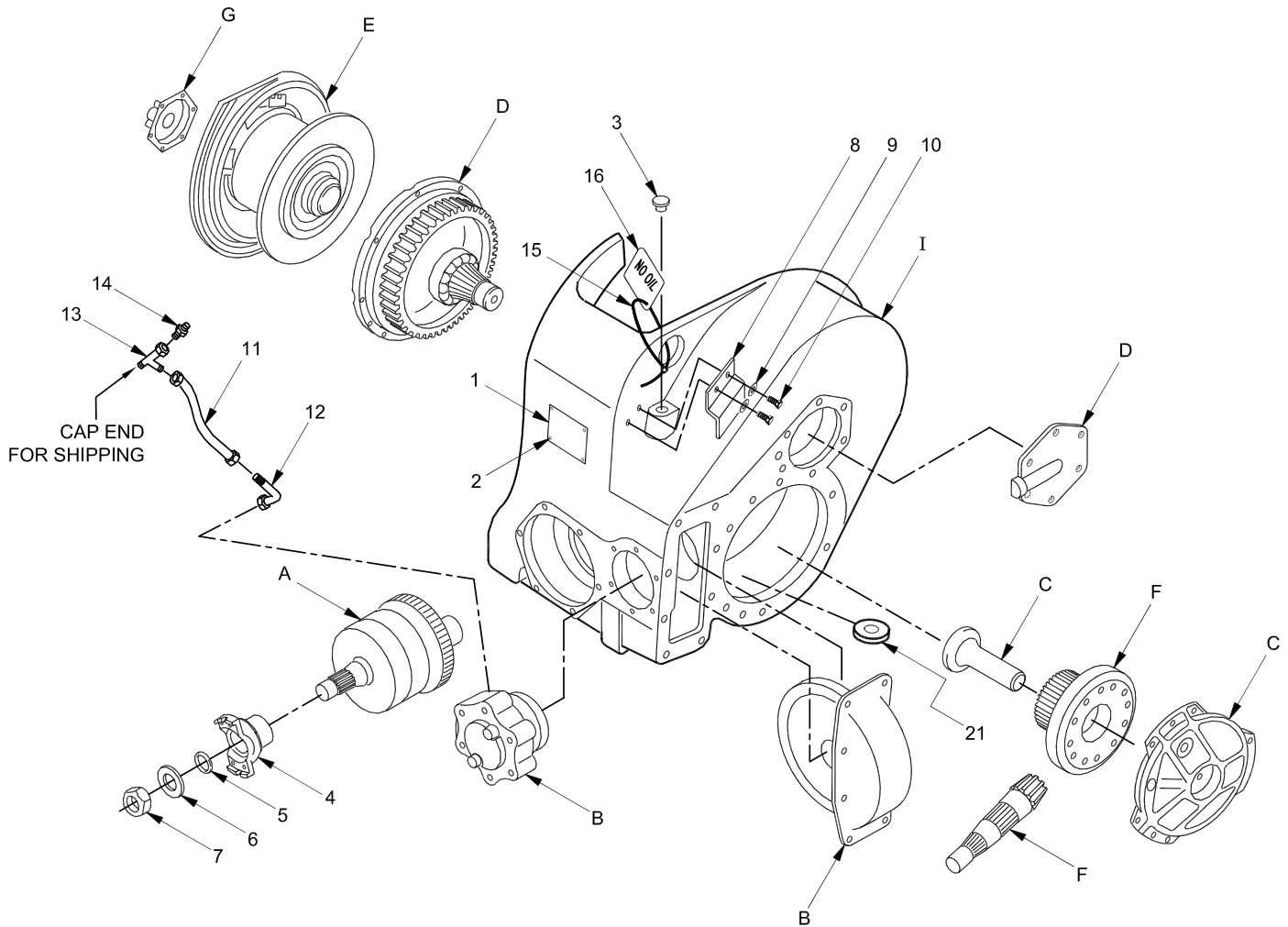


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400084	Pinion Shaft (See 4-3)	1	6	16378W	. Capscrew	2
B	* R232380	Ring Gear Shaft (See 4-8)	1	7	137852W	. Clamp, Strap	1
C	* R232382	Cable Drum Drive Shaft (See 4-10)	1	8	2303624W	. Tag, No Oil	1
D	* R400037	Cable Drum Clutch (See 4-17)	1	9	2304958W	. Cap, Shipping	1
E	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	10	194090W	. Capscrew	6
F	* 2303679W	Drag Brake (See 4-31)	1	+	233683W	. Plug	3
G	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
H	* 2304957W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	15	** R525293	Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R400130	. Cover, Breather	1	*		Parts Group	
5	15154W	. Lockwasher	2	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

W411-04A

Standard

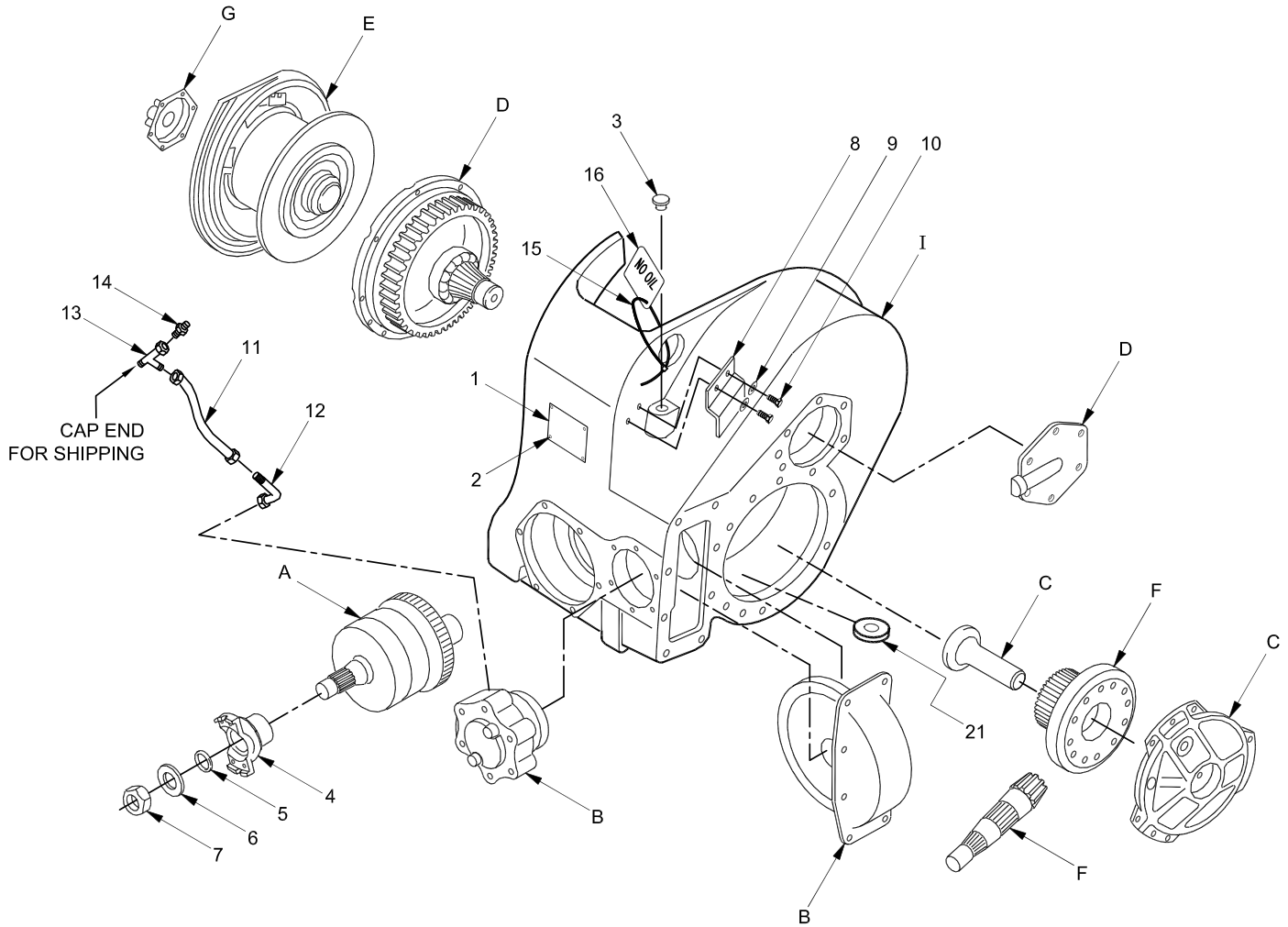


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2305240W	Assembly, Winch	1				
A	* R231760	.. Input Clutch (See 3-8)	1	9	15154W	.. Lockwasher	2
B	* R400084	.. Pinion Shaft (See 4-3)	1	10	16378W	.. Capscrew	2
C	* R232380	.. Ring Gear Shaft (See 4-8)	1	11	R1905864	.. Hose, Lube	1
D	* R232382	.. Cable Drum Drive Shaft (See 4-10)	1	12	16558W	.. Fitting, O-Ring	1
E	* R400037	.. Cable Drum Clutch (See 4-17)	1	13	17061W	.. Fitting, O-Ring	1
F	* R233360	.. Ring Gear Pinion & Ring Assembly (See 4-28)	1	14	16540W	.. Fitting, O-Ring	1
G	* R400085	.. Cable Drum Plunger (See 4-29/-30)	1	15	137852W	.. Clamp, Strap	1
I	* R400087	.. Winch Case (See 3-2)	1	16	2303624W	.. Tag, No Oil	1
J	* 2305241W	.. Misc. Parts Group	1	+	233683W	.. Plug, Drain Winch Case	3
1	2303532W	.. Nameplate	1	+	R244763	.. Plug, Shipping	3
2	16602W	.. Screw	4	+	222441W	.. Plug, O-Ring	2
3	R233598	.. Breather	1	+	2303519W	.. Cap, Plug	5
4	2305243W	.. Yoke	1	21	** R525293	.. Ceramic Magnet	1
5	60563W	.. O-Ring	1				
6	221780W	.. Washer	1	*		Parts Group	
7	R216058	.. Nut	1	**		First Used on S/N W4##-1874	
8	R400130	.. Cover, Breather	1	+		Not illustrated	

Winch Assemblies

W411-04B

With Optional BRAKE-OFF

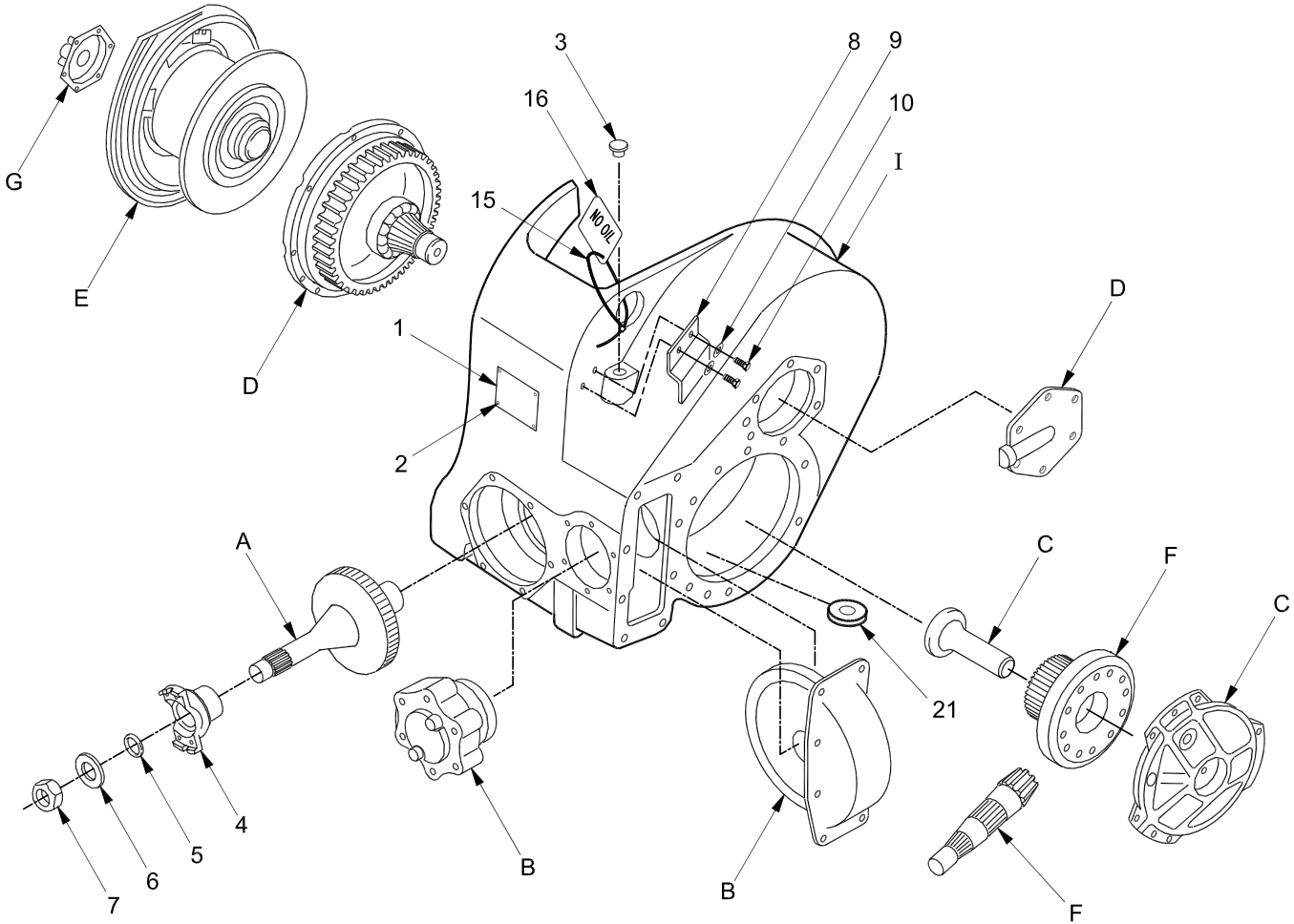


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2305240W	Assembly, Winch	1				
A	* R231760	.. Input Clutch (See 3-8)	1	9	15154W	.. Lockwasher	2
B	* R400084	.. Pinion Shaft (See 4-3)	1	10	16378W	.. Capscrew	2
C	* R232380	.. Ring Gear Shaft (See 4-8)	1	11	R1905864	.. Hose, Lube	1
D	* R232382	.. Cable Drum Drive Shaft (See 4-10)	1	12	16558W	.. Fitting, O-Ring	1
E	* R400037	.. Cable Drum Clutch (See 4-17)	1	13	17061W	.. Fitting, O-Ring	1
F	* R233360	.. Ring Gear Pinion & Ring Assembly (See 4-28)	1	14	16540W	.. Fitting, O-Ring	1
G	* 2303679W	.. Drag Brake (See 4-31)	1	15	137852W	.. Clamp, Strap	1
I	* R400087	.. Winch Case (See 3-2)	1	16	2303624W	.. Tag, No Oil	1
J	* 2305241W	.. Misc. Parts Group	1	+	233683W	.. Plug, Drain Winch Case	3
1	2303532W	.. Nameplate	1	+	R244763	.. Plug, Shipping	3
2	16602W	.. Screw	4	+	222441W	.. Plug, O-Ring	2
3	R233598	.. Breather	1	+	2303519W	.. Cap, Plug	5
4	2305243W	.. Yoke	1	21	** R525293	.. Ceramic Magnet	1
5	60563W	.. O-Ring	1				
6	221780W	.. Washer	1	*	Parts Group		
7	R216058	.. Nut	1	**	First Used on S/N W4##-1874		
8	R400130	.. Cover, Breather	1	+	Not illustrated		

Winch Assemblies

W411-05A

Standard

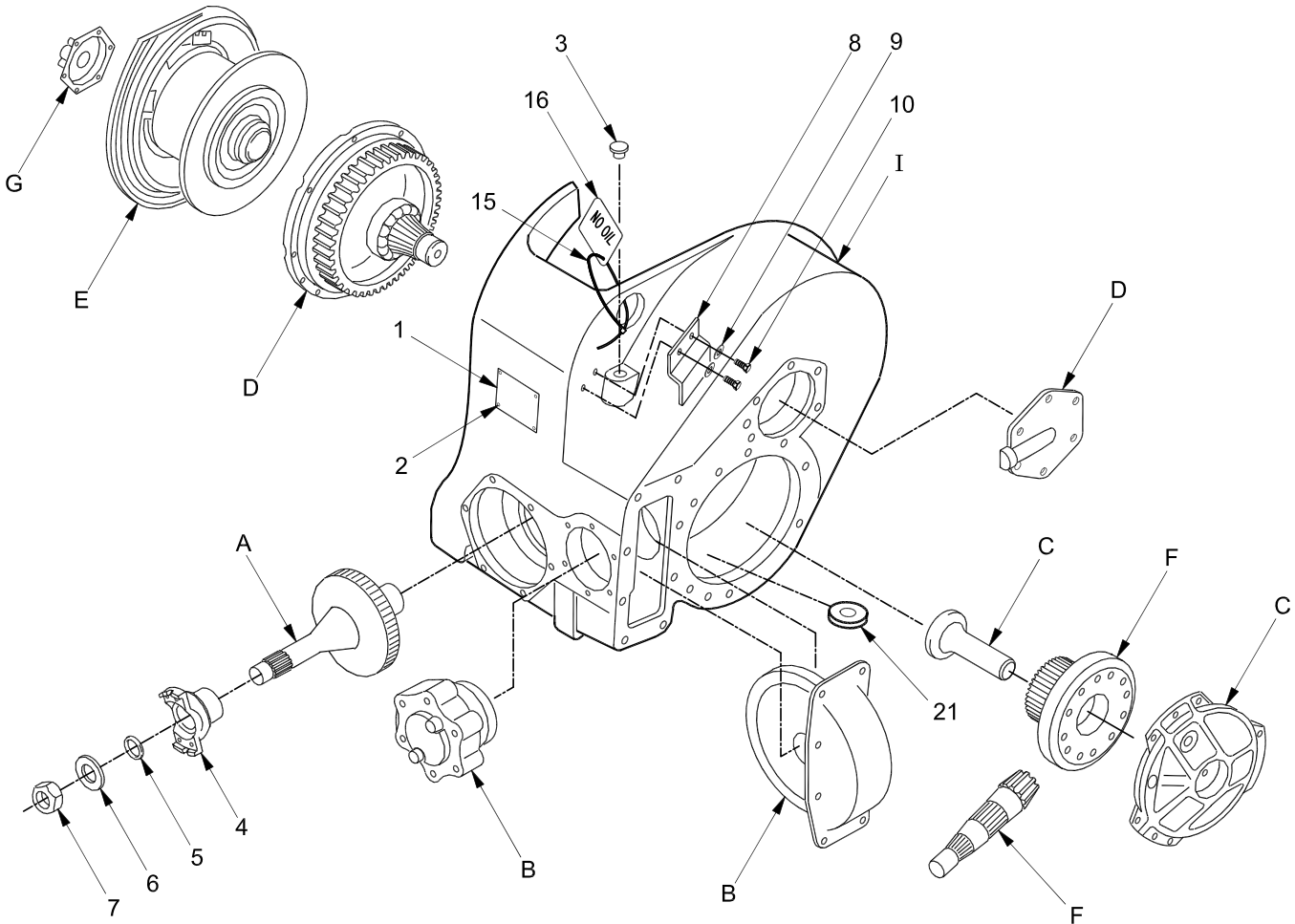


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty	
A	* 2306697W	Input, w/o Clutch (See 3-13)	1	7	R216058	. Nut	1	
B	* R400084	Pinion Shaft (See 4-3)	1	8	R400130	. Cover, Breather	1	
C	* R232380	Ring Gear Shaft (See 4-8)	1	9	15154W	. Lockwasher	2	
D	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	16378W	. Capscrew	2	
E	* R400037	Cable Drum Clutch (See 4-17)	1	15	137852W	. Clamp, Strap	1	
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	16	2303624W	. Tag, No Oil	1	
G	* R400085	Cable Drum Plunger (See 4-29/-30)	1	+	+	233683W	. Plug	3
I	2306716W	Frame, W400 w/o Clutch	1	+	+	R244763	. Plug	2
J	* 2306696W	Misc. Parts Group	1	+	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	21	** R525293	Ceramic Magnet	1	
3	R233598	. Breather, Check Valve	1		*	Parts Group		
4	2305243W	. Yoke	1		**	First Used on S/N W4##-1874		
5	60563W	. O-Ring	1		+	Not illustrated		
6	221780W	. Washer	1					

Winch Assemblies

W411-05B

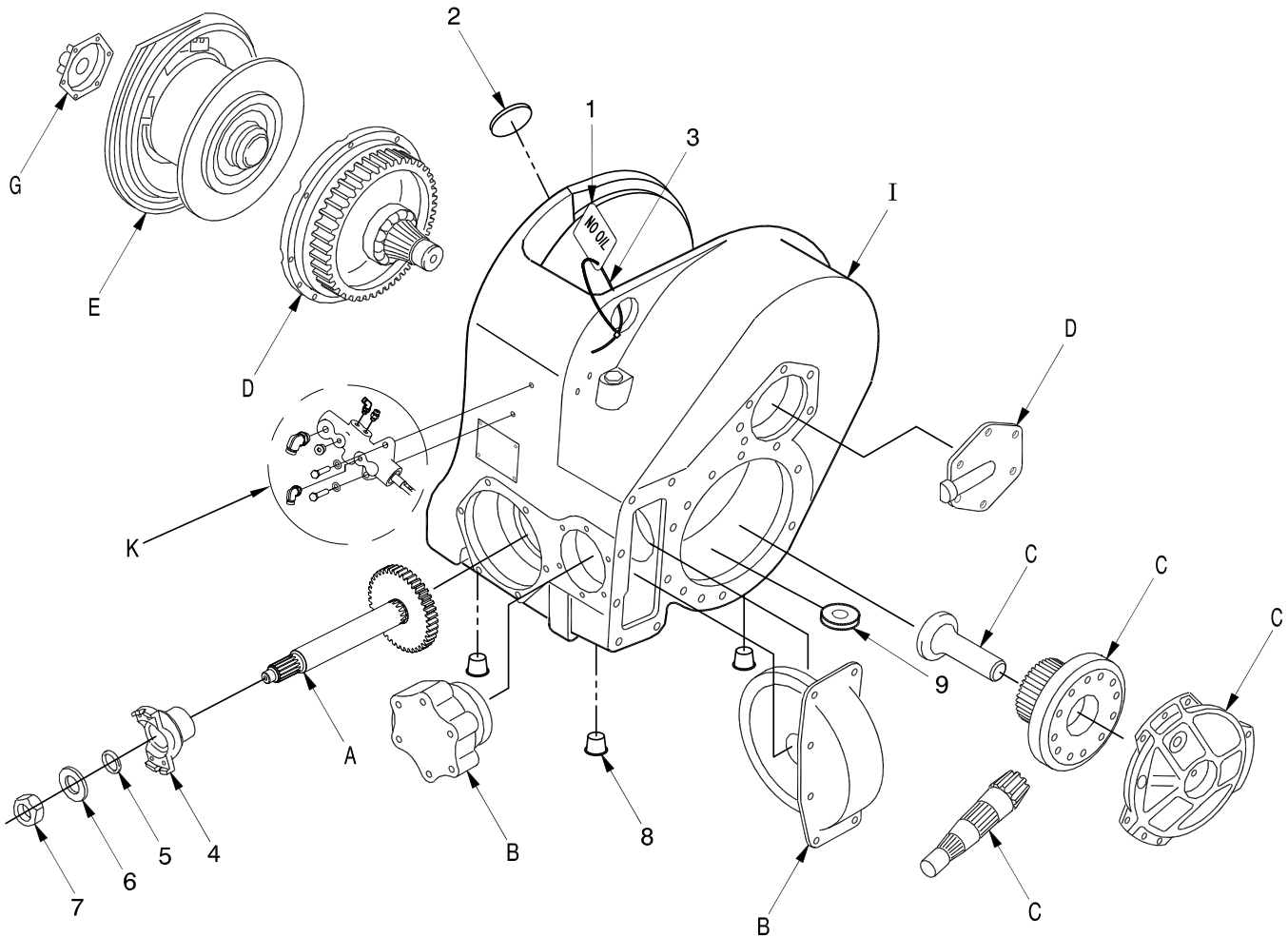
With Optional BRAKE-OFF



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty	
A	* 2306697W	Input, w/o Clutch (See 3-13)	1	7	R216058	. Nut	1	
B	* R400084	Pinion Shaft (See 4-3)	1	8	R400130	. Cover, Breather	1	
C	* R232380	Ring Gear Shaft (See 4-8)	1	9	15154W	. Lockwasher	2	
D	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	16378W	. Capscrew	2	
E	* R400037	Cable Drum Clutch (See 4-17)	1	15	137852W	. Clamp, Strap	1	
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	16	2303624W	. Tag, No Oil	1	
G	* 2303679W	Drag Brake (See 4-31)	1	+	+	233683W	. Plug	3
I	2306716W	Frame, W400 w/o Clutch	1	+	+	R244763	. Plug	2
J	* 2306696W	Misc. Parts Group	1	+	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	21	** R525293	Ceramic Magnet	1	
3	R233598	. Breather, Check Valve	1		*	Parts Group		
4	2305243W	. Yoke	1		**	First Used on S/N W4##-1874		
5	60563W	. O-Ring	1		+	Not illustrated		
6	221780W	. Washer	1					

Winch Assemblies

W411-06A
Standard

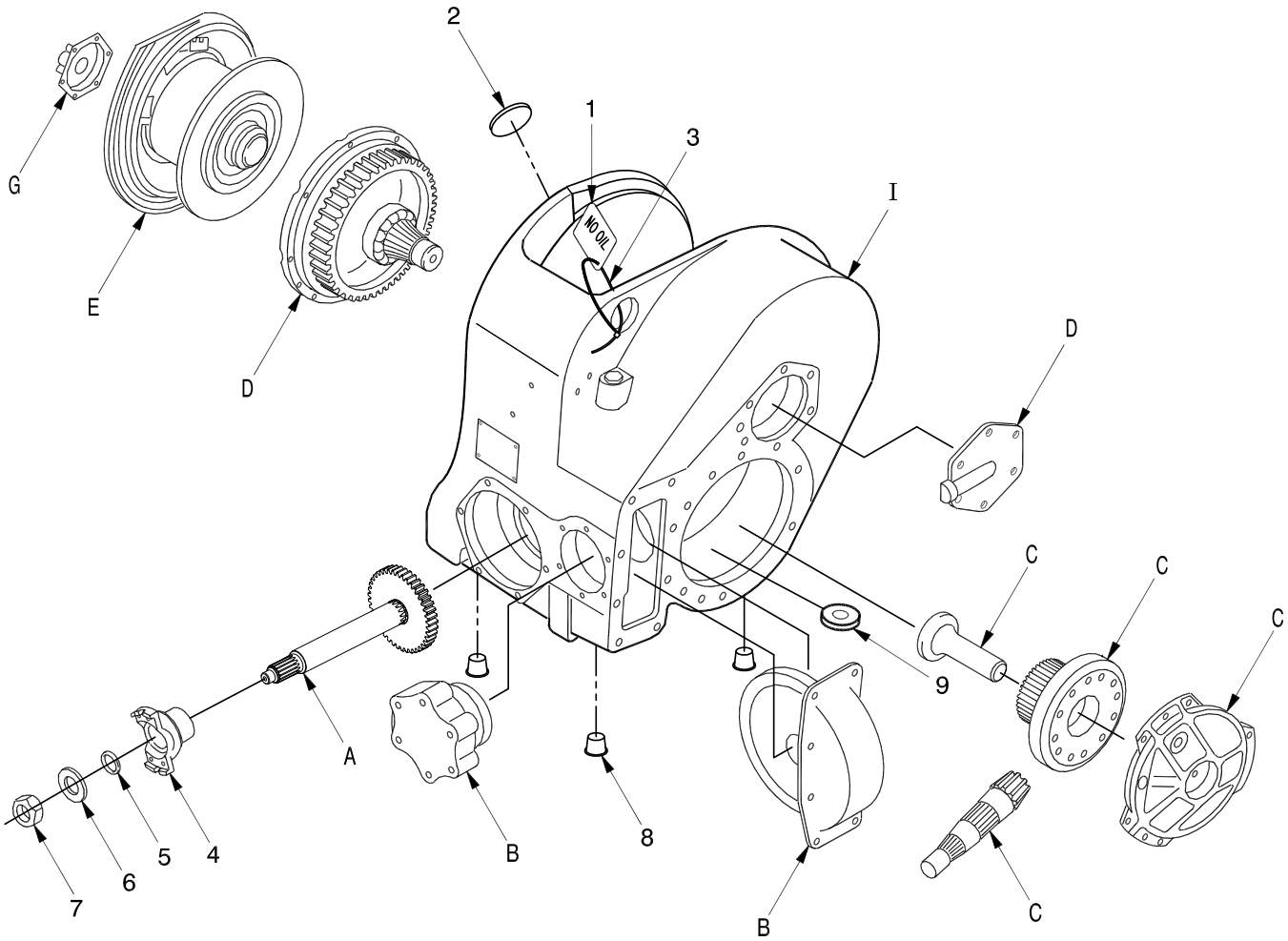


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* 2311463	Input, w/o Clutch (See 3-14)	1	4	2305243W	. Yoke	1
B	* 2306791W	Pinion Shaft, w/o Brake (See 4-6)	1	5	203444	. O-Ring	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	6	221780W	. Washer, Input Shaft	1
D	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	7	R216058	. Nut	1
E	* 2311708	Cable Drum Clutch (See 4-21)	1	8	2303519W	. Plug, Cap	5
G	* R400085	Cable Drum Plunger (See 4-29/-30)	1	9	** R525293	. Magnet, Ceramic	1
I	2311502	Housing, Winch	1	K	* 2312660	. Hydraulics	1
J	* 2311709	Misc. Parts Group	1				
1	2303624W	. Tag, No Oil	1		*	Parts Group	
2	2314074	. Plug	1		**	First Used on S/N W4##-1874	
3	137852W	. Clamp, Strap	1				

Winch Assemblies

W411-06B

With Optional BRAKE-OFF

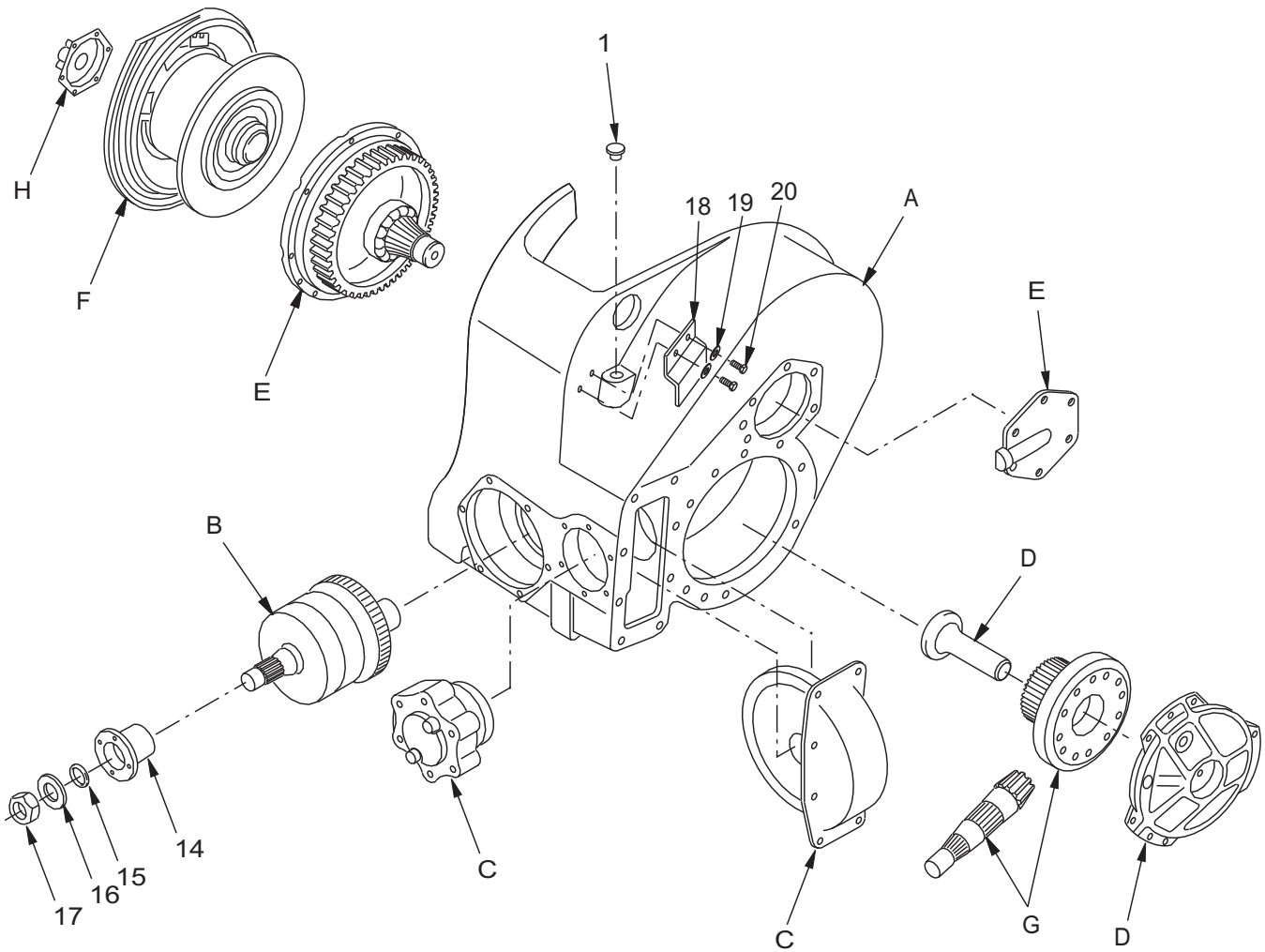


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* 2311463	Input, w/o Clutch (See 3-14)	1	3	137852W	. Clamp, Strap	1
B	* 2306791W	Pinion Shaft, w/o Brake (See 4-6)	1	4	2305243W	. Yoke	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	5	203444	. O-Ring	1
D	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	6	221780W	. Washer, Input Shaft	1
E	* 2311708	Cable Drum Clutch (See 4-21)	1	7	R216058	. Nut	1
G	* 2303679W	Drag Brake (See 4-29/-30)	1	8	2303519W	. Plug, Cap	5
I	2311502	Housing, Winch	1	9	** R525293	. Magnet, Ceramic	1
J	* 2311709	Misc. Parts Group	1				
1	2303624W	. Tag, No Oil	1		*	Parts Group	
2	2314074	. Plug	1		**	First Used on S/N W4##-1874	

Winch Assemblies

W428-03A

Standard

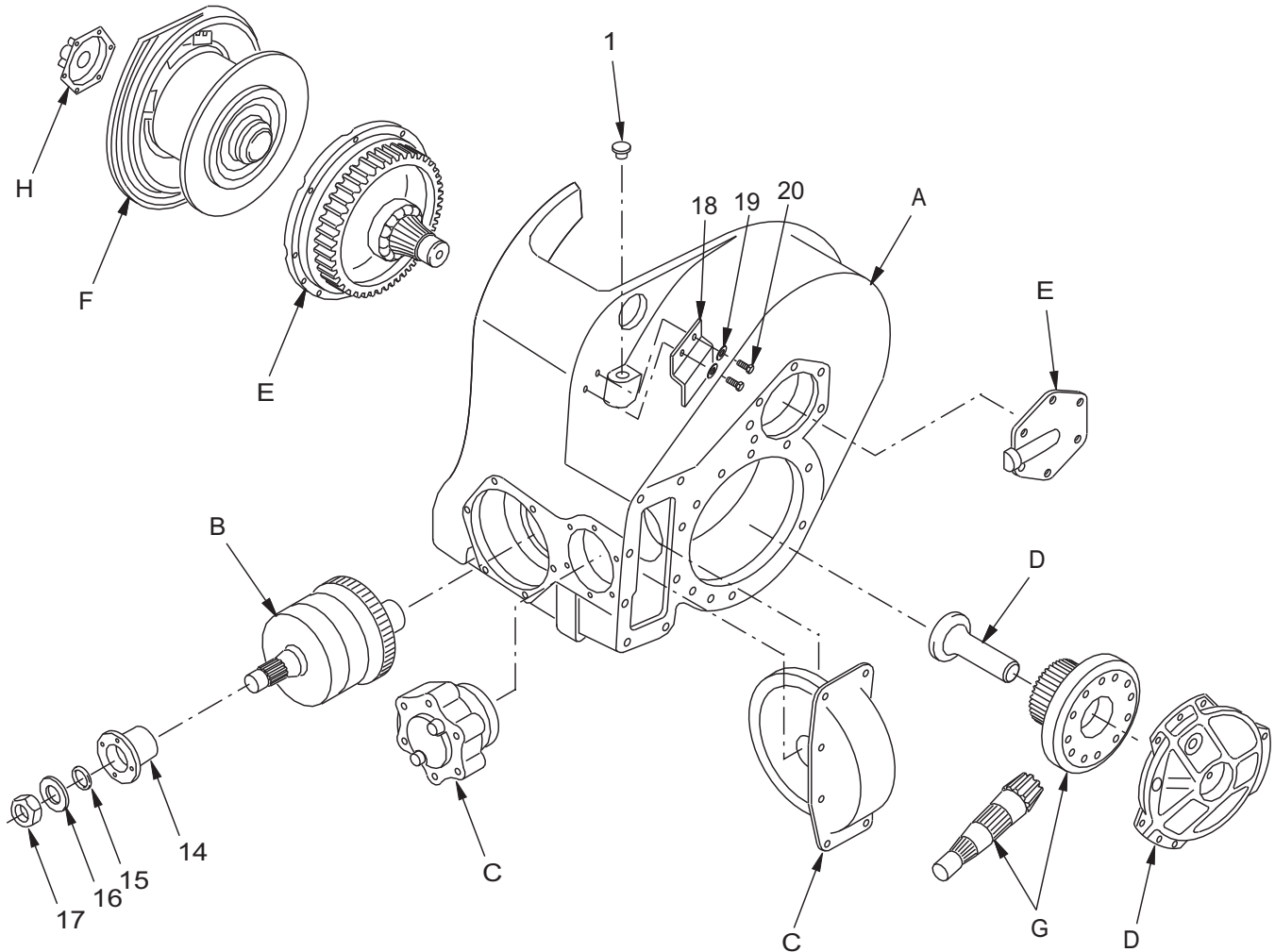


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Winch Case (See 3-2)	1	17	R216058	Nut	1
B	* 2303698W	Input Clutch (See 3-10)	1	18	R400130	Cover, Breather	1
C	* 2303697W	Pinion Shaft (See 4-4)	1	19	15154W	Washer	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	20	16378W	Capscrew	2
E	* R400015	Cable Drum Drive Shaft (See 4-11)	1	21	+ 233683W	Plug, Drain Winch Case	3
F	* R400037	Cable Drum Clutch (See 4-17)	1	22	+ R244763	Plug, Shipping	3
G	* R400013	Pinion & Ring Assembly (See 4-26)	1	23	+ 222441W	Plug	2
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	24	+ 230519W	Plug	5
1	R233598	Breather	1				
14	R219395	Flange, Input	1		*	Parts Group	
15	60563W	O-Ring	1		+	Not Illustrated	
16	221780W	Washer	1				

Winch Assemblies

W428-03B

With Optional BRAKE-OFF

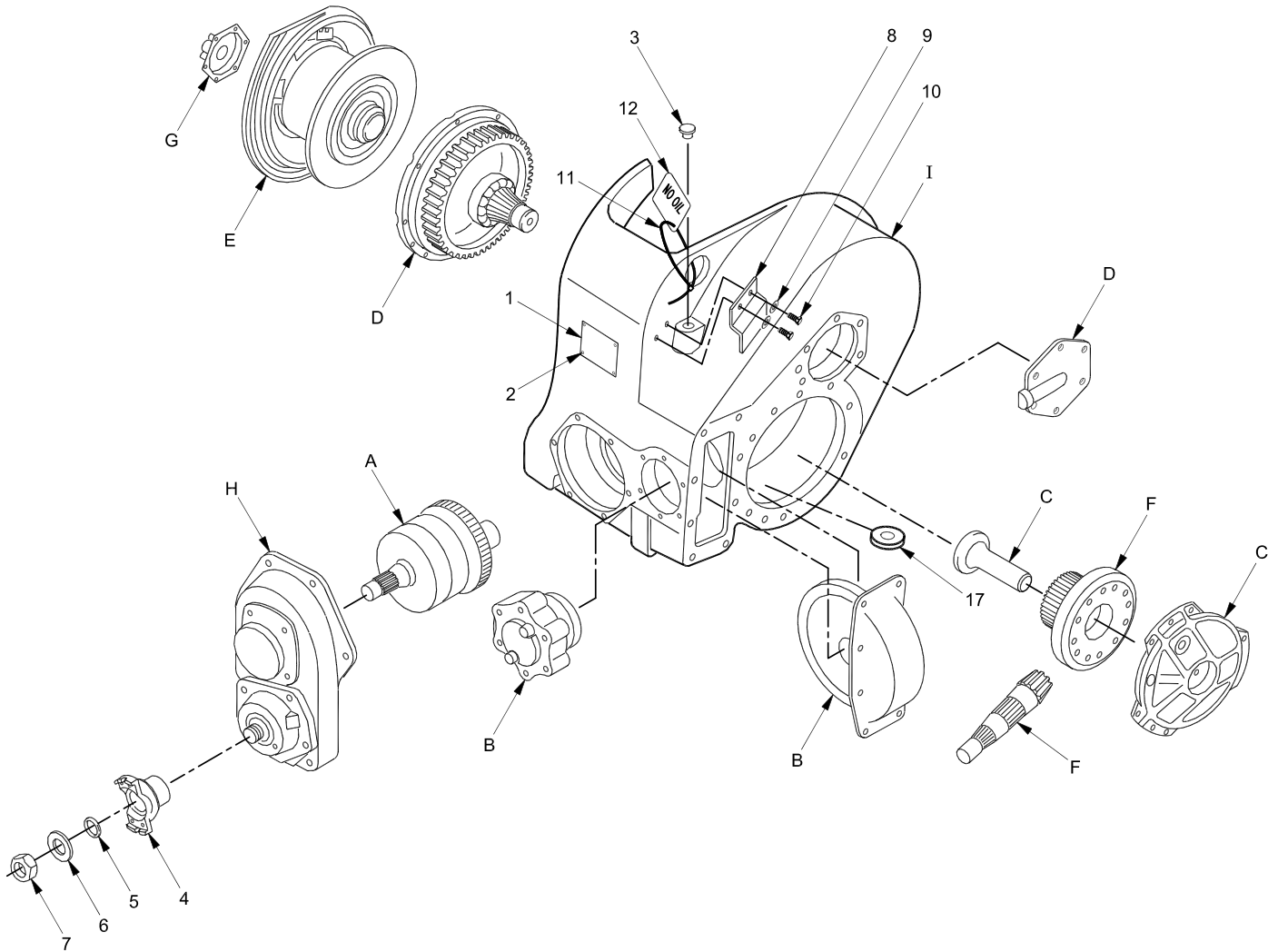


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Winch Case (See 3-2)	1	17	R216058	Nut	1
B	* 2303698W	Input Clutch (See 3-10)	1	18	R400130	Cover, Breather	1
C	* 2303697W	Pinion Shaft (See 4-4)	1	19	15154W	Washer	2
D	* R232380	Ring Gear Shaft (See 4-8)	1	20	16378W	Capscrew	2
E	* R400015	Cable Drum Drive Shaft (See 4-11)	1	21	+ 233683W	Plug, Drain Winch Case	3
F	* R400037	Cable Drum Clutch (See 4-17)	1	22	+ R244763	Plug, Shipping	3
G	* R400013	Pinion & Ring Assembly (See 4-26)	1	23	+ 222441W	Plug	2
H	* 2303679W	Drag Brake (See 4-31)	1	24	+ 230519W	Plug	5
1	R233598	Breather	1				
14	R219395	Flange, Input	1		*	Parts Group	
15	60563W	O-Ring	1		+	Not Illustrated	
16	221780W	Washer	1				

Winch Assemblies

WD410-02A

Standard

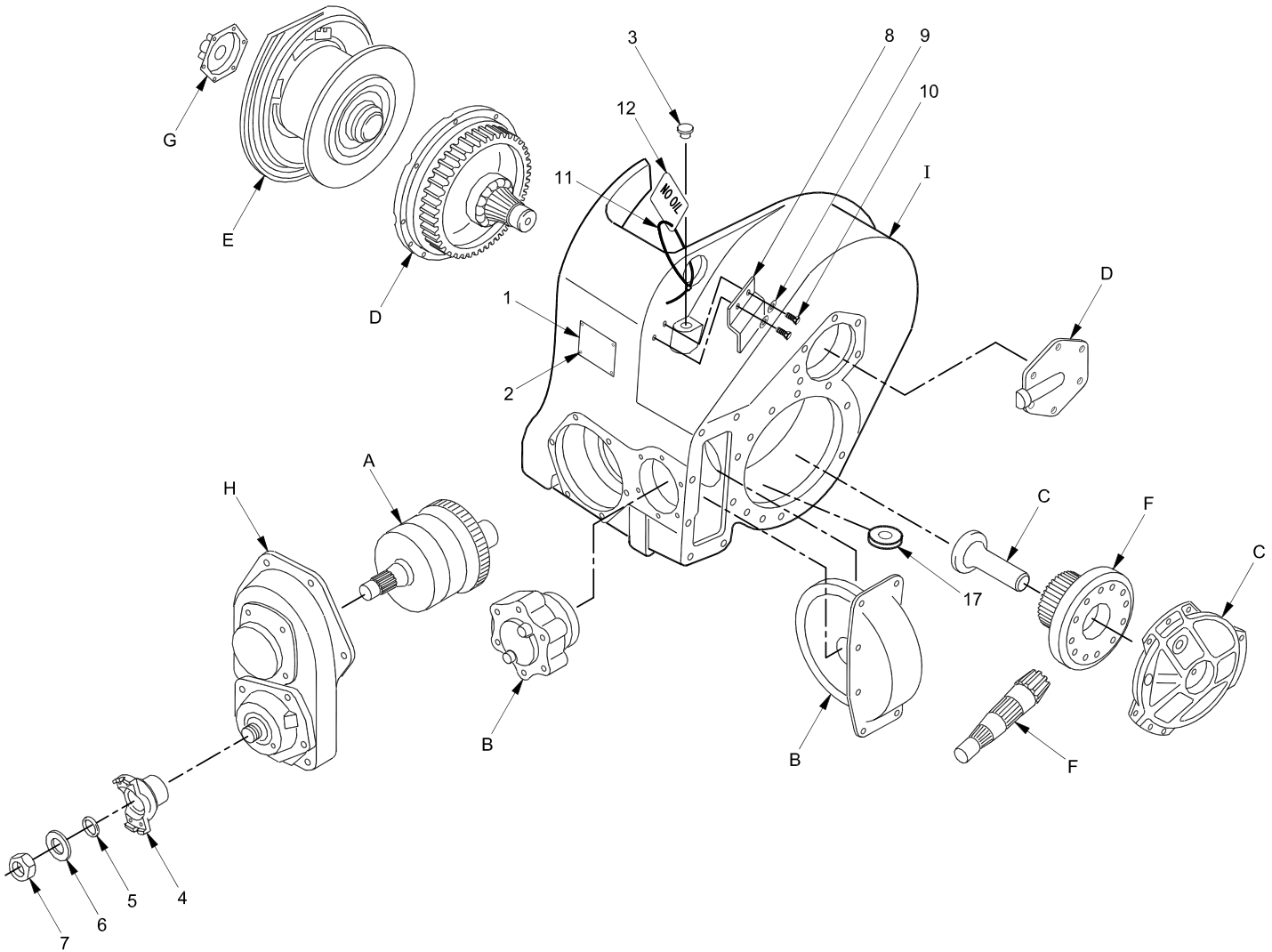


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232379	Input Clutch (See 3-11)	1	6	221780W	. Washer	1
B	* R400083	Pinion Shaft (See 4-2)	1	7	R216058	. Nut	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	8	R400130	. Cover, Breather	1
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	9	15154W	. Lockwasher	2
E	* R400037	Cable Drum Clutch (See 4-17)	1	10	16378W	. Capscrew	2
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	11	137852W	. Clamp, Strap	1
G	* R400085	Cable Drum Plunger (See 4-29/-30)	1	12	2303624W	. Tag, No Oil	1
H	* R232287	Drop Gear (See 3-4)	1	+	233683W	. Plug, Drain Winch Case	3
I	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
J	* 2303743W	Misc. Parts Group	1	+	222441W	. Plug, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R231059	. Flange, Input	1	*		Parts Group	
5	60563W	. O-Ring	1	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

WD410-02B

With Optional BRAKE-OFF

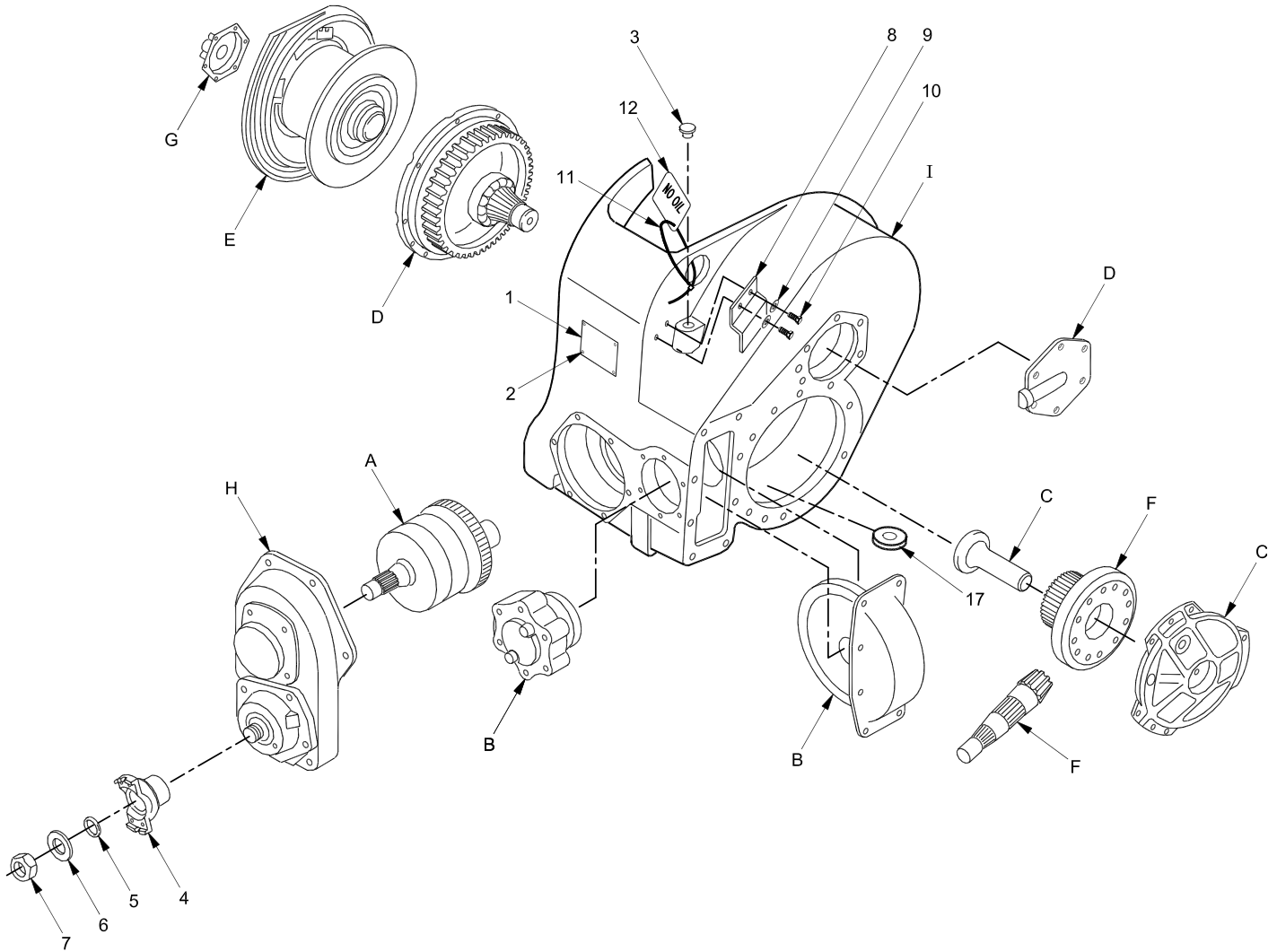


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232379	Input Clutch (See 3-11)	1	6	221780W	. Washer	1
B	* R400083	Pinion Shaft (See 4-2)	1	7	R216058	. Nut	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	8	R400130	. Cover, Breather	1
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	9	15154W	. Lockwasher	2
E	* R400037	Cable Drum Clutch (See 4-17)	1	10	16378W	. Capscrew	2
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	11	137852W	. Clamp, Strap	1
G	* 2303679W	Drag Brake (See 4-31)	1	12	2303624W	. Tag, No Oil	1
H	* R232287	Drop Gear (See 3-4)	1	+	233683W	. Plug, Drain Winch Case	3
I	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
J	* 2303743W	Misc. Parts Group	1	+	222441W	. Plug, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R231059	. Flange, Input	1				
5	60563W	. O-Ring	1				
					*	Parts Group	
					**	First Used on S/N W4##-1874	
					+	Not Illustrated	

Winch Assemblies

WD410-03A

Standard

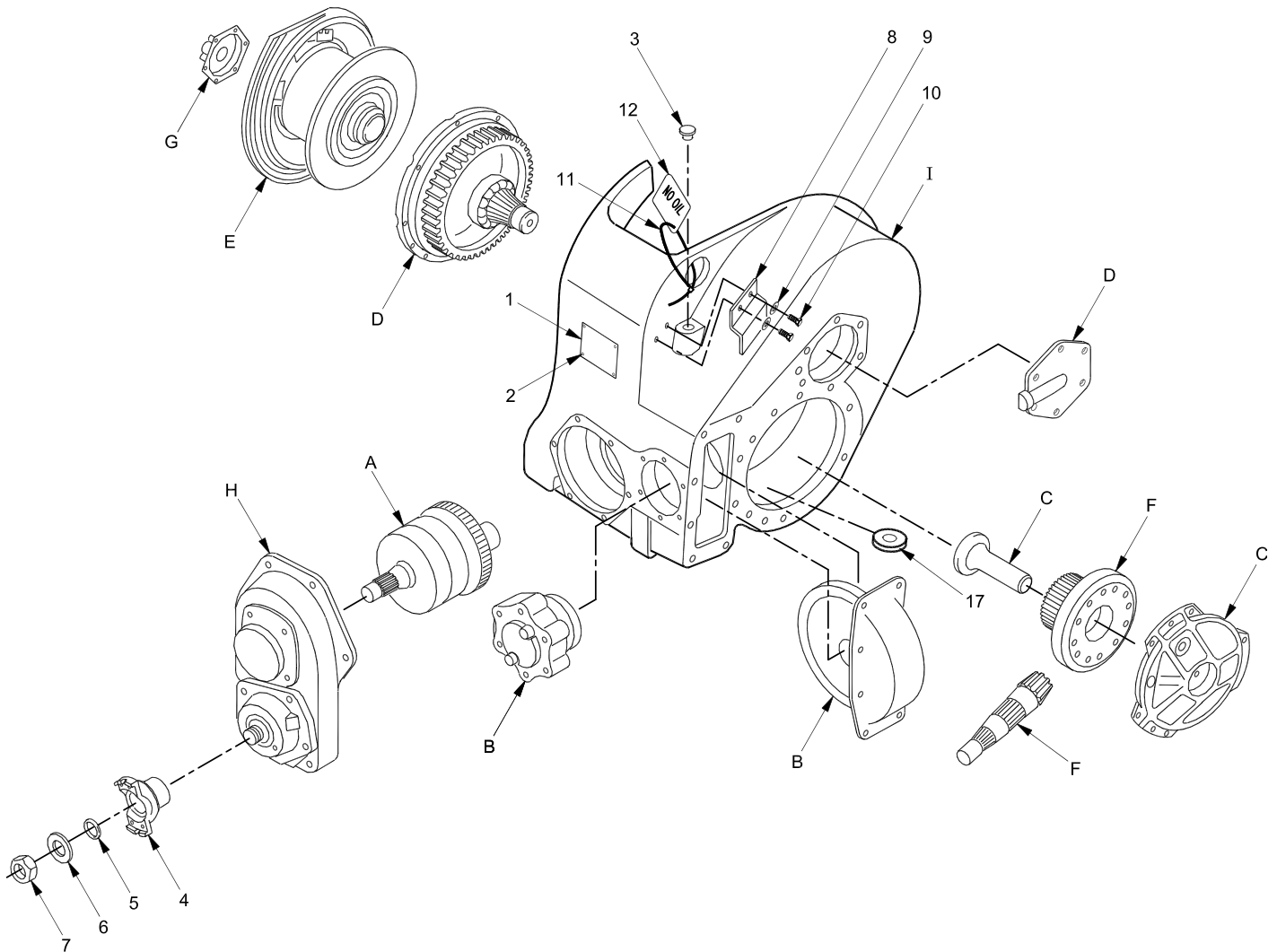


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232379	Input Clutch (See 3-11)	1	6	221780W	. Washer	1
B	* R400083	Pinion Shaft (See 4-2)	1	7	R216058	. Nut	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	8	R400130	. Cover, Breather	1
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	9	15154W	. Lockwasher	2
E	* R400037	Cable Drum Clutch (See 4-17)	1	10	16378W	. Capscrew	2
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	11	137852W	. Clamp, Strap	1
G	* R400085	Cable Drum Plunger (See 4-29/-30)	1	12	2303624W	. Tag, No Oil	1
H	* R232287	Drop Gear (See 3-4)	1	+	233683W	. Plug, Drain	3
I	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
J	* 2303695W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1				
4	R231553	. Flange, Input	1	*		Parts Group	
5	60563W	. O-Ring	1	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

WD410-03B

With Optional BRAKE-OFF

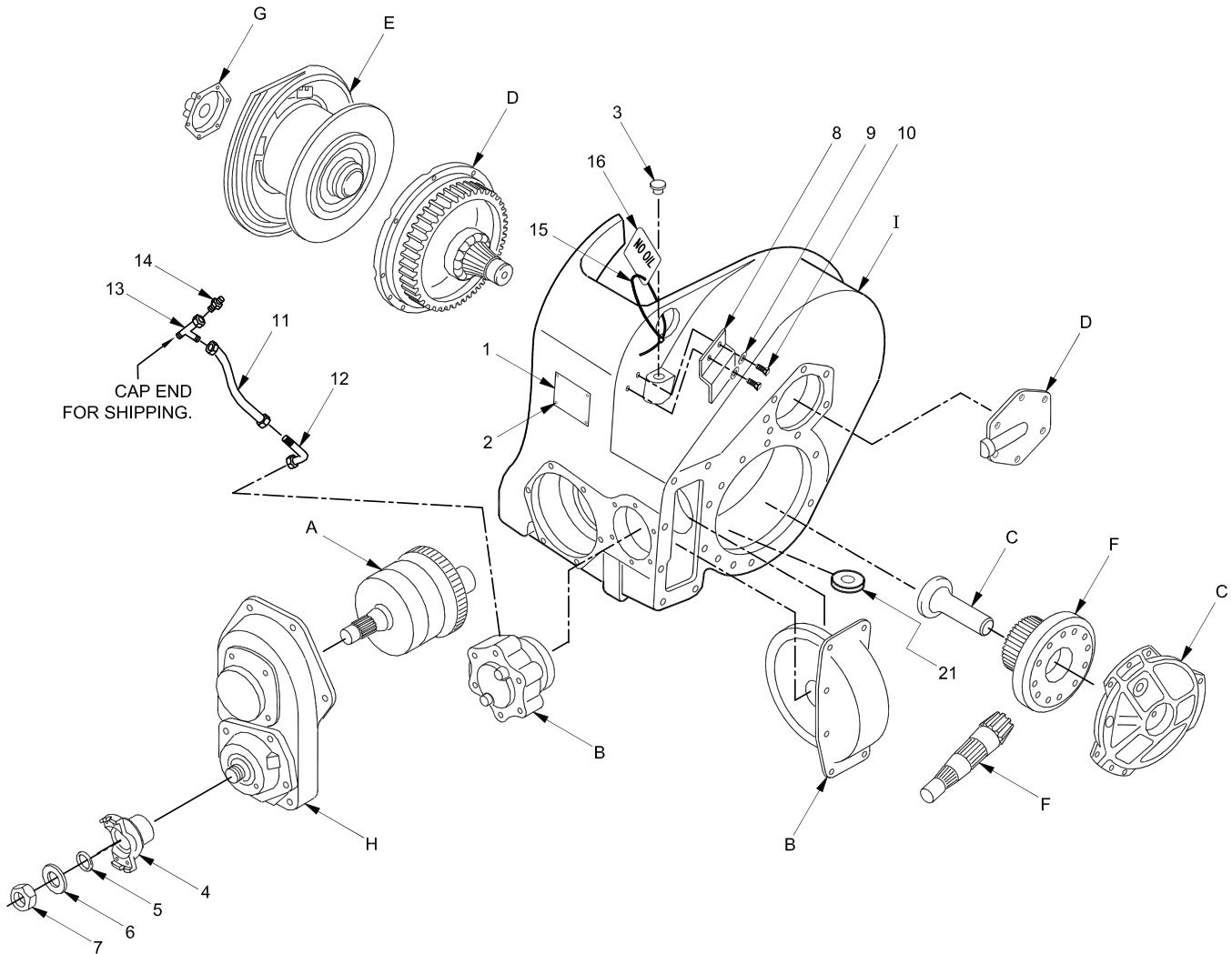


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232379	Input Clutch (See 3-11)	1	6	221780W	. Washer	1
B	* R400083	Pinion Shaft (See 4-2)	1	7	R216058	. Nut	1
C	* R232380	Ring Gear Shaft (See 4-8)	1	8	R400130	. Cover, Breather	1
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	9	15154W	. Lockwasher	2
E	* R400037	Cable Drum Clutch (See 4-17)	1	10	16378W	. Capscrew	2
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	11	137852W	. Clamp, Strap	1
G	* 2303679W	Drag Brake (See 4-31)	1	12	2303624W	. Tag, No Oil	1
H	* R232287	Drop Gear (See 3-4)	1	+	233683W	. Plug, Drain	3
I	* R400087	Winch Case (See 3-2)	1	+	R244763	. Plug, Shipping	3
J	* 2303695W	Misc. Parts Group	1	+	222441W	. Fitting, O-Ring	2
1	2303532W	. Nameplate	1	+	2303519W	. Cap, Plug	5
2	16602W	. Screw	4	17	** R525293	. Ceramic Magnet	1
3	R233598	. Breather, Check Valve	1		*	Parts Group	
4	R231553	. Flange, Input	1		**	First Used on S/N W4##-1874	
5	60563W	. O-Ring	1	+		Not Illustrated	

Winch Assemblies

WD411-05A

Standard

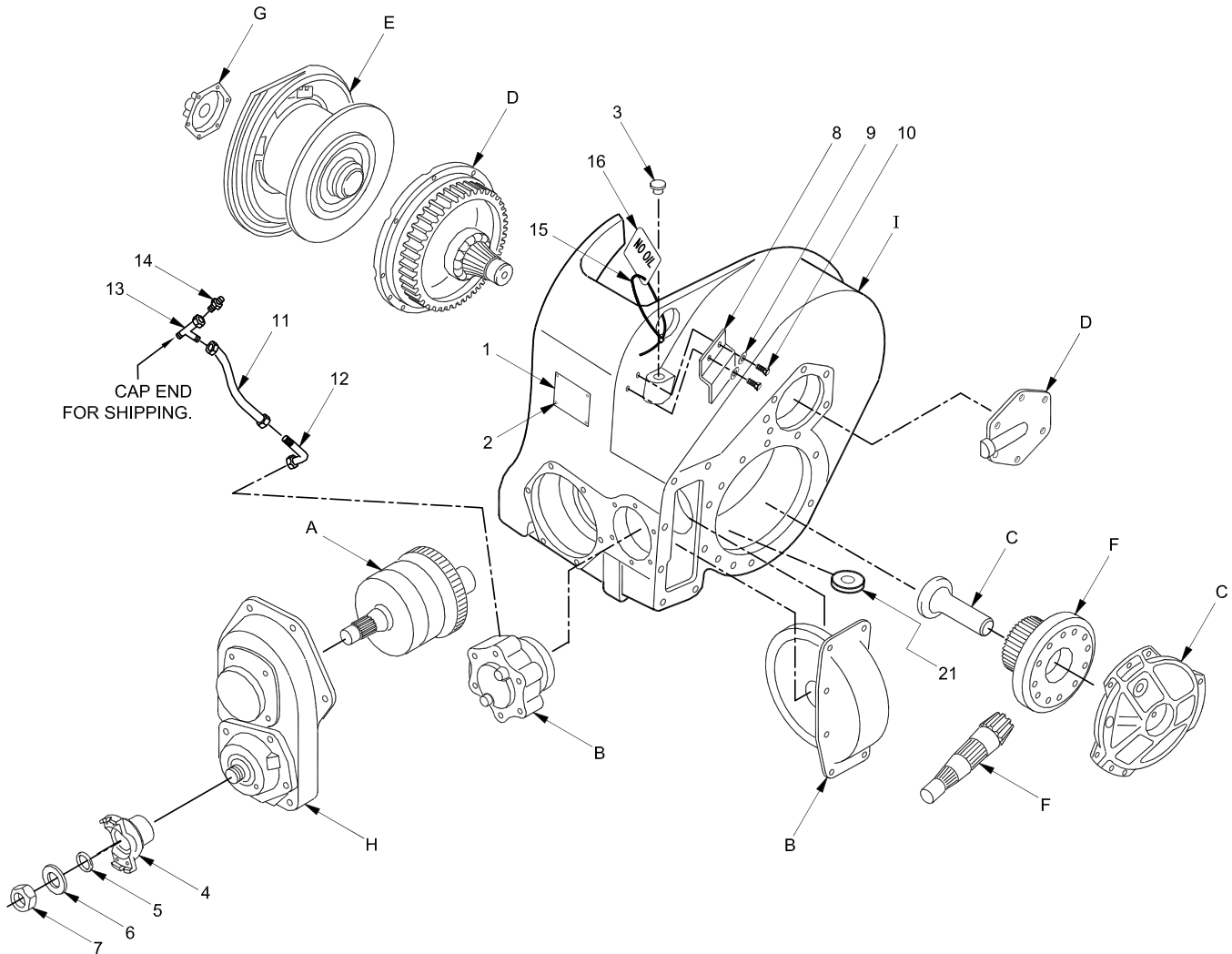


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232288	Input Clutch (See 3-12)	1	8	R400130	. Cover, Breather	1
B	* R400084	Pinion Shaft (See 4-3)	1	9	15154W	. Lockwasher	2
C	* R232380	Ring Gear Shaft (See 4-8)	1	10	16378W	. Capscrew	2
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	11	R1905864	. Hose, Lube	1
E	* R400037	Cable Drum Clutch (See 4-17)	1	12	16558W	. Fitting, O-Ring	1
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	13	17061W	. Fitting, O-Ring	1
G	* R400085	Cable Drum Plunger (See 4-29/-30)	1	14	16540W	. Fitting, O-Ring	1
H	* R232287	Drop Gear (See 3-4)	1	15	137852W	. Clamp, Strap	1
I	* R400087	Winch Case (See 3-2)	1	16	2303624W	. Tag, No Oil	1
J	* 2303666W	Misc. Parts Group	1	+	233683W	. Plug, Drain Winch Case	3
1	2303532W	. Nameplate	1	+	R244763	. Plug, Shipping	3
2	16602W	. Screw	4	+	222441W	. Fitting, O-Ring	2
3	R233598	. Breather, Check Valve	1	+	2303519W	. Cap, Plug	5
4	R231553	. Flange, Input	1	21	** R525293	. Ceramic Magnet	1
5	60563W	. O-Ring	1				
6	221780W	. Washer	1				
7	R216058	. Nut	1				
					*	Parts Group	
					**	First Used on S/N W4##-1874	
					+	Not Illustrated	

Winch Assemblies

WD411-05B

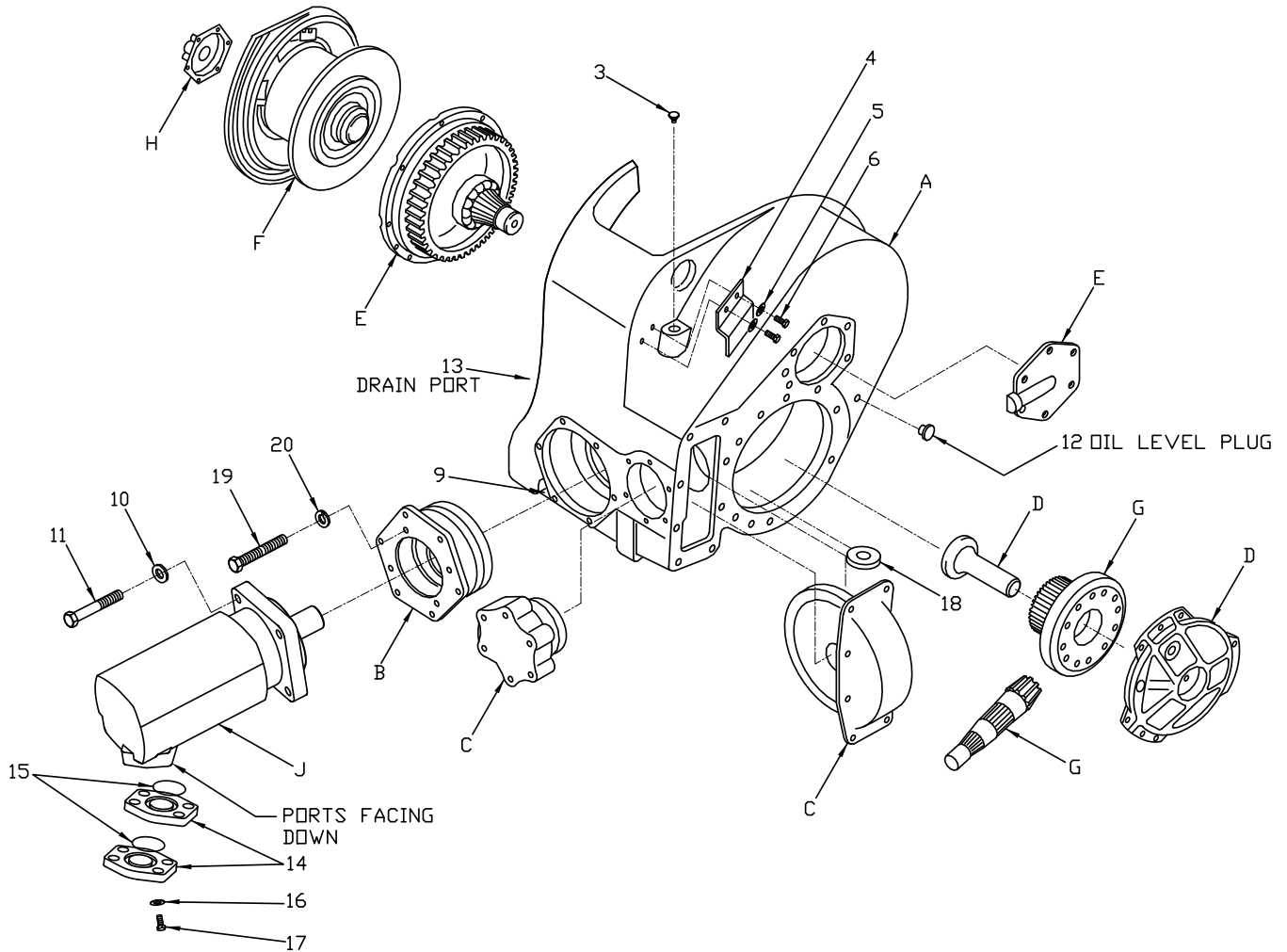
With Optional BRAKE-OFF



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R232288	Input Clutch (See 3-12)	1	8	R400130	. Cover, Breather	1
B	* R400084	Pinion Shaft (See 4-3)	1	9	15154W	. Lockwasher	2
C	* R232380	Ring Gear Shaft (See 4-8)	1	10	16378W	. Capscrew	2
D	* R232382	Cable Drum Drive Shaft (See 4-10)	1	11	R1905864	. Hose, Lube	1
E	* R400037	Cable Drum Clutch (See 4-17)	1	12	16558W	. Fitting, O-Ring	1
F	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	13	17061W	. Fitting, O-Ring	1
G	* 2303679W	Drag Brake (See 4-31)	1	14	16540W	. Fitting, O-Ring	1
H	* R232287	Drop Gear (See 3-4)	1	15	137852W	. Clamp, Strap	1
I	* R400087	Winch Case (See 3-2)	1	16	2303624W	. Tag, No Oil	1
J	* 2303666W	Misc. Parts Group	1	+	233683W	. Plug, Drain Winch Case	3
1	2303532W	. Nameplate	1	+	R244763	. Plug, Shipping	3
2	16602W	. Screw	4	+	222441W	. Fitting, O-Ring	2
3	R233598	. Breather, Check Valve	1	+	2303519W	. Cap, Plug	5
4	R231553	. Flange, Input	1	21	** R525293	. Ceramic Magnet	1
5	60563W	. O-Ring	1				
6	221780W	. Washer	1	*		Parts Group	
7	R216058	. Nut	1	**		First Used on S/N W4##-1874	
				+		Not Illustrated	

Winch Assemblies

WH410-01

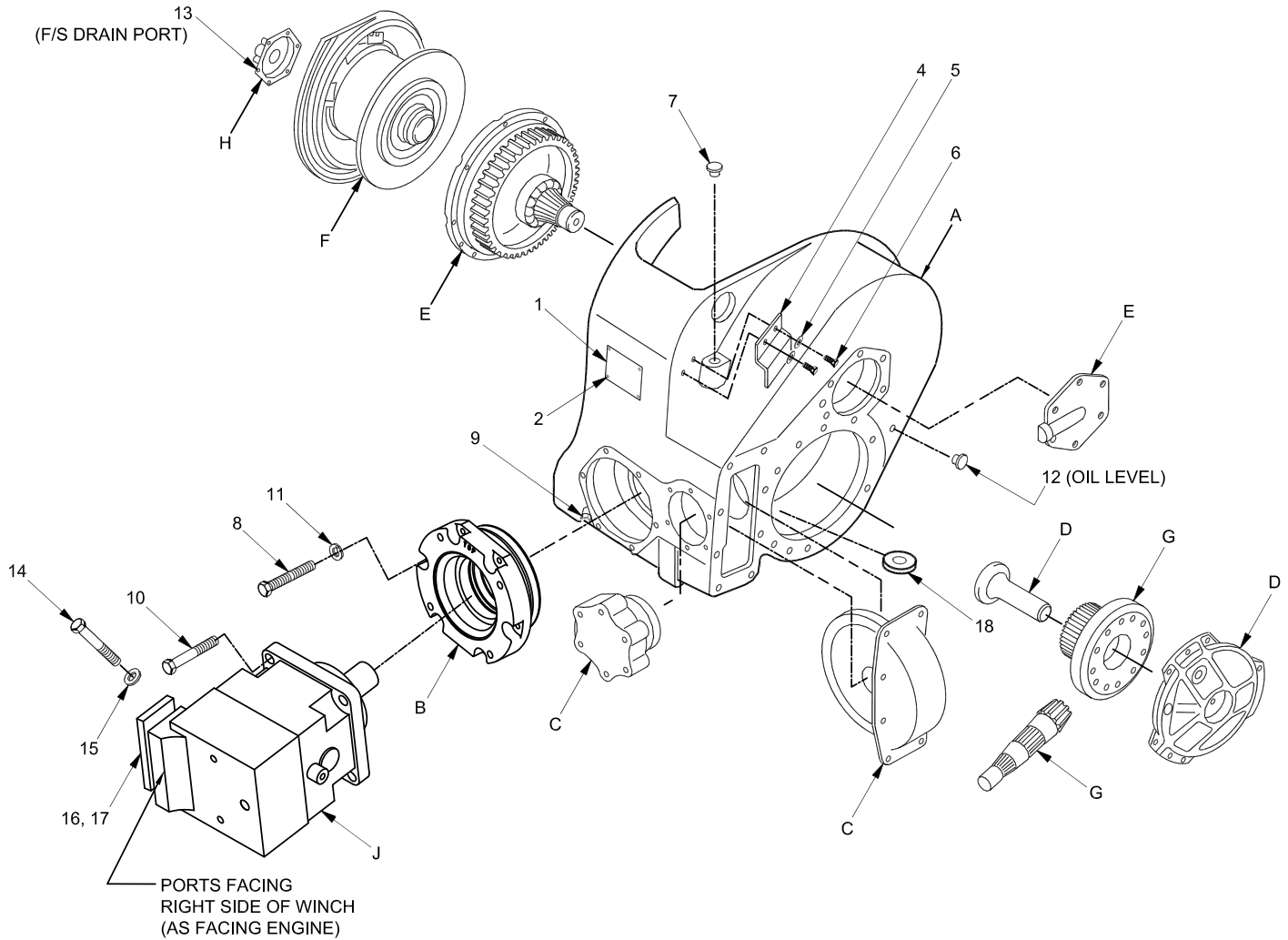


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	9	233683W	. Fitting, O-Ring	3
B	* 2306212W	Motor Input (See 3-16)	1	10	221771W	. Washer	4
C	* 2306195W	Pinion Shaft (See 4-5)	1	11	221569W	. Capscrew	4
D	* R232380	Ring Gear Shaft (See 4-8)	1	12	222441W	. Fitting, O-Ring	2
E	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	13	222443W	. Fitting, O-Ring	3
F	* 2306733W	Cable Drum Clutch (See 4-15)	1	14	*c 2306297W	. Plate, Flange Cover	2
G	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	15	61056W	. O-Ring	2
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	16	221767W	. Washer	8
J	*a, *b 2306186W	Motor, Hydraulic	1	17	16597W	. Capscrew	8
K	* 2306192W	Misc. Parts Group	1	18	** R525293	. Ceramic Magnet	1
1	2303532W	. Nameplate	1	19	2313377	. Capscrew	6
2	16602W	. Screw	4	20	15156W	. Lockwasher	6
3	R400044	. Assembly, Air Breather	1				
4	R400130	. Cover, Breather	1	*		Parts Group	
5	15154W	. Washer	2	**		First Used on S/N W4##-1874	
6	16378W	. Capscrew	2	*a		Rear seal kit 2306225W,	
7	17636W	. Fitting, Pipe	1	*b		Shaft seal kit 2306226W	
				*c		Used during shipping only	

Winch Assemblies

WH410-02A

Standard

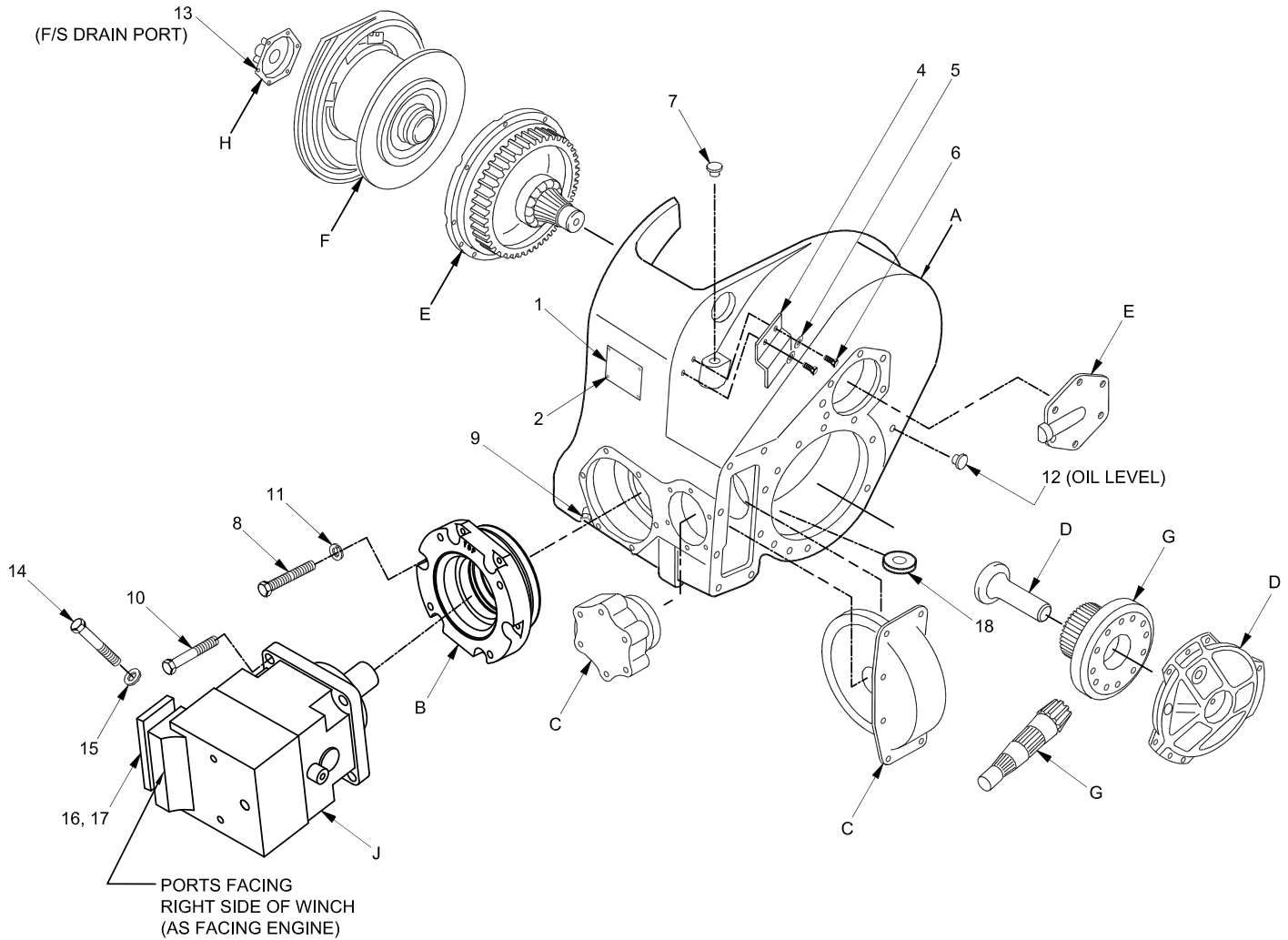


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	6	16378W	. Capscrew	2
B	* 2307553W	Motor Input (See 3-17)	1	7	17636W	. Fitting, Pipe	1
C	* 2306195W	Pinion Shaft (See 4-5)	1	8	2313377	. Capscrew	6
D	* R232380	Ring Gear Shaft (See 4-8)	1	9	233683W	. Fitting, O-Ring	3
E	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	1314454W	. Flangescrew	4
F	* 2306793W	Cable Drum Clutch (See 4-23)	1	11	15156W	. Lockwasher	6
G	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	12	222441W	. Fitting, O-Ring	2
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	13	222443W	. Fitting, O-Ring	1
J	2306731W	Motor, Hydraulic	1	14	177949W	. Washer	8
K	* 2306784W	Misc. Parts Group	1	15	132860W	. Capscrew	8
1	2303532W	. Nameplate	1	16	2306794W	. Plate, Shipping	1
2	16602W	. Screw	4	17	2306795W	. Gasket	1
3	R400044	. Assembly, Air Breather	1	18	** R525293	. Ceramic Magnet	1
4	R400130	. Cover, Breather	1				
5	15154W	. Washer	2	*	Parts Group		
				**	First Used on S/N W4##-1874		

Winch Assemblies

WH410-02B

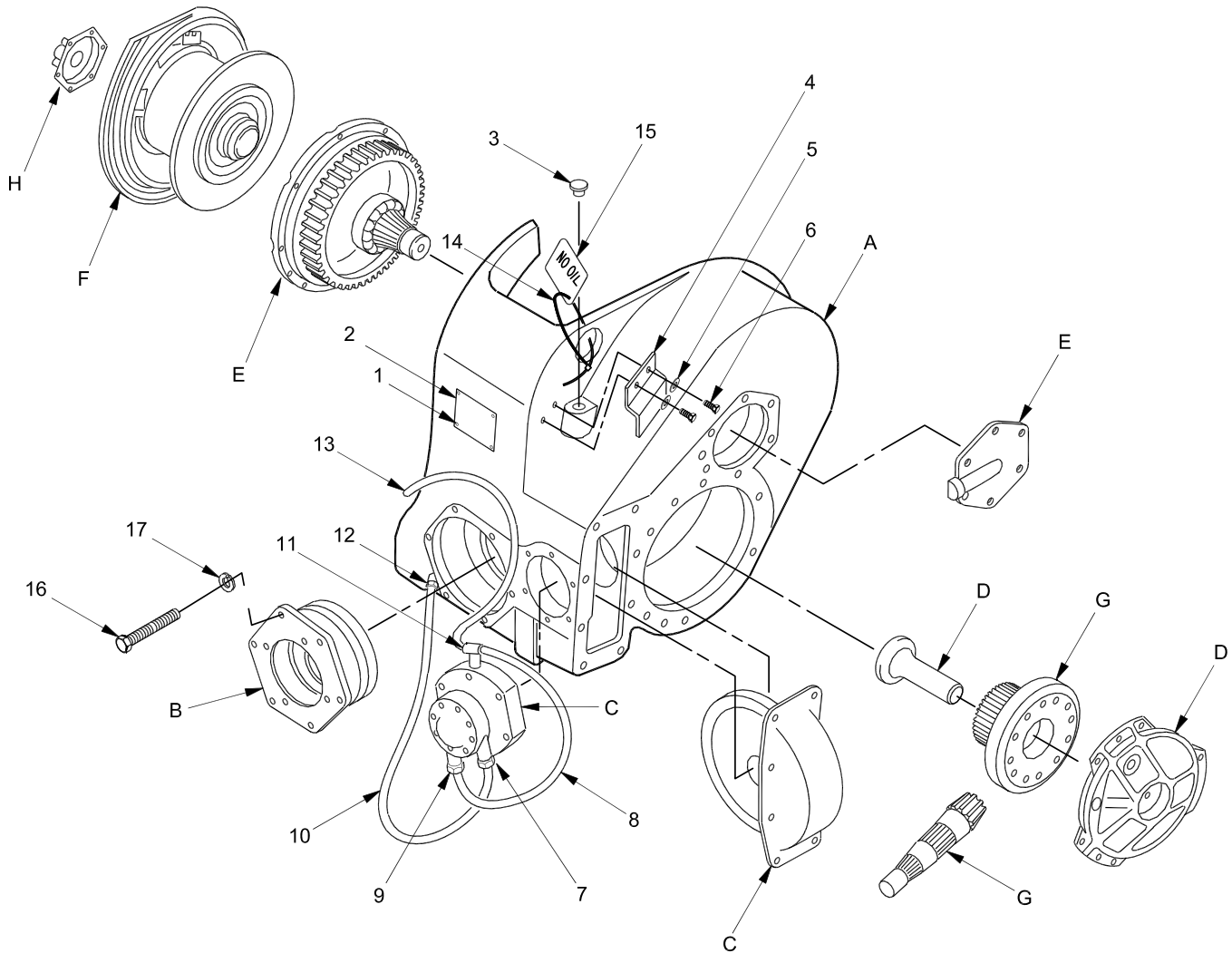
With Optional BRAKE-OFF



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	6	16378W	. Capscrew	2
B	* 2307553W	Motor Input (See 3-17)	1	7	17636W	. Fitting, Pipe	1
C	* 2306195W	Pinion Shaft (See 4-5)	1	8	2313377	. Capscrew	6
D	* R232380	Ring Gear Shaft (See 4-8)	1	9	233683W	. Fitting, O-Ring	3
E	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	1314454W	. Flangescrew	4
F	* 2306793W	Cable Drum Clutch (See 4-23)	1	11	15156W	. Lockwasher	6
G	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	12	222441W	. Fitting, O-Ring	2
H	* 2306773W	Drag Brake (See 4-32)	1	13	222443W	. Fitting, O-Ring	1
J	2306731W	Motor, Hydraulic	1	14	177949W	. Washer	8
K	* 2306784W	Misc. Parts Group	1	15	132860W	. Capscrew	8
1	2303532W	. Nameplate	1	16	2306794W	. Plate, Shipping	1
2	16602W	. Screw	4	17	2306795W	. Gasket	1
3	R400044	. Assembly, Air Breather	1	18	** R525293	. Ceramic Magnet	1
4	R400130	. Cover, Breather	1		*	Parts Group	
5	15154W	. Washer	2		**	First Used on S/N W4##-1874	

Winch Assemblies

WH411-01

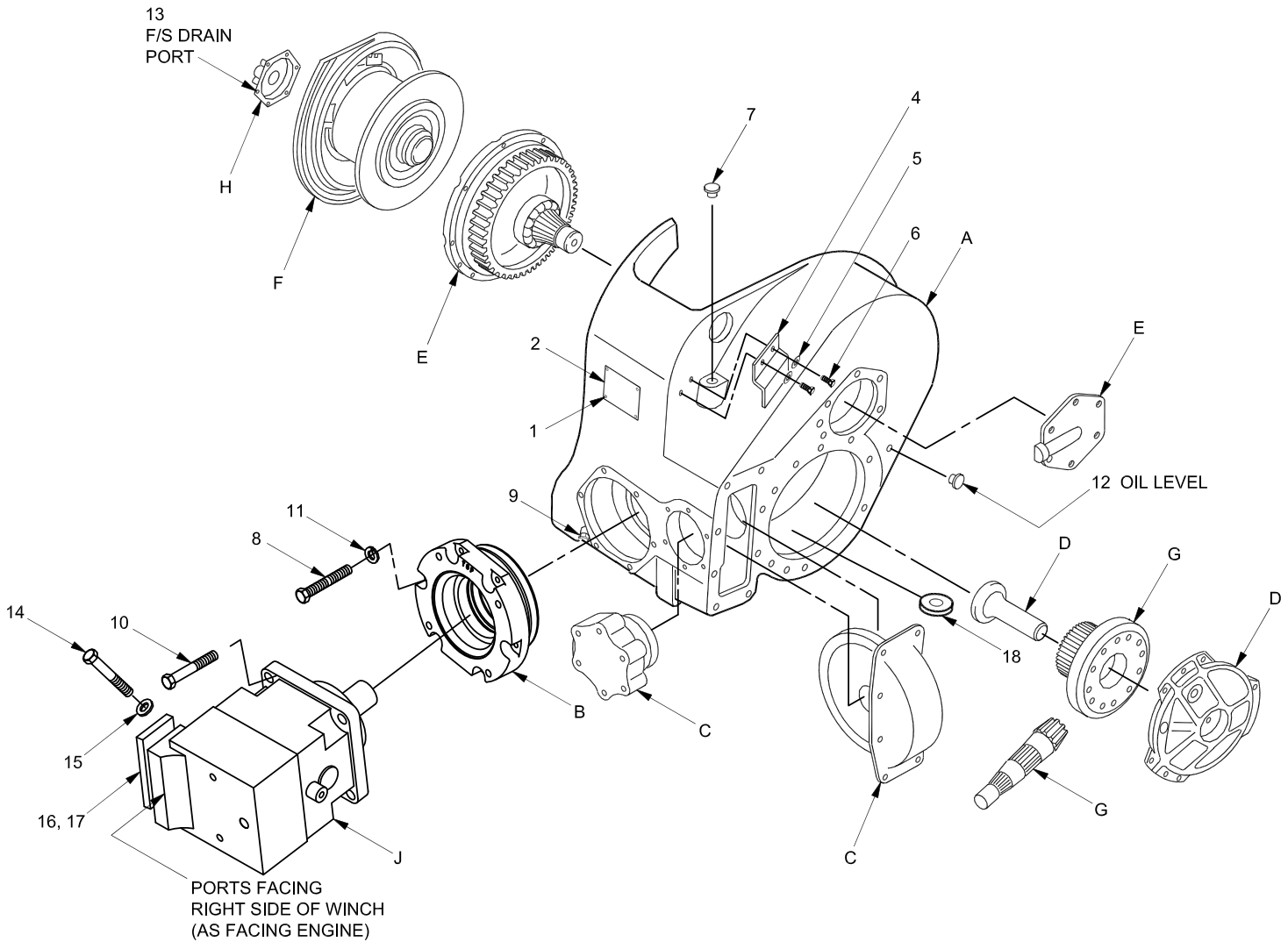


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	* R400087	Winch Case (See 3-2)	1	9	69239W	. Fitting	1
B	* R400107	Input (See 3-15)	1	10	R400128	. Hose, Suction	1
C	* R400109	Pinion Shaft (See 4-7)	1	11	16576W	. Fitting, O-Ring	1
D	* R232380	Ring Gear Shaft (See 4-8)	1	12	201771W	. Fitting, O-Ring	1
E	* R232382	Cable Drum Drive Shaft (See 4-10)	1	13	R400126	. Hose, Lube	1
F	* R400037	Cable Drum Clutch (See 4-17)	1	14	137852W	. Clamp, Strap	1
G	R400038	Ring Gear Pinion & Ring Gear Hub Assembly (See 4-27)	1	15	2303624W	. Tag, No Oil	1
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	16	2313377	. Capscrew	6
K	* 2303707W	Misc. Parts Group	1	17	15156W	. Washer	6
1	2303532W	. Nameplate	1	+	233683W	. Fitting, O-Ring Plug	1
2	16602W	. Screw	4	+	R244763	. Plug, (Shipping)	5
3	R400044	. Assembly, Air Breather	1	+	222441W	. Fitting, O-Ring	2
4	R400130	. Cover, Breather	1	+	2303519W	. Cap, Plug	5
5	15154W	. Washer	2	+	16558W	. Fitting, O-Ring	1
6	16378W	. Capscrew	2	+	14594W	. Fitting, O-Ring	2
7	14550W	. Fitting	1				
8	R400127	. Hose, Discharge	1	*	Parts Group		
				+	Not Illustrated		

Winch Assemblies

WH411-02A

Standard

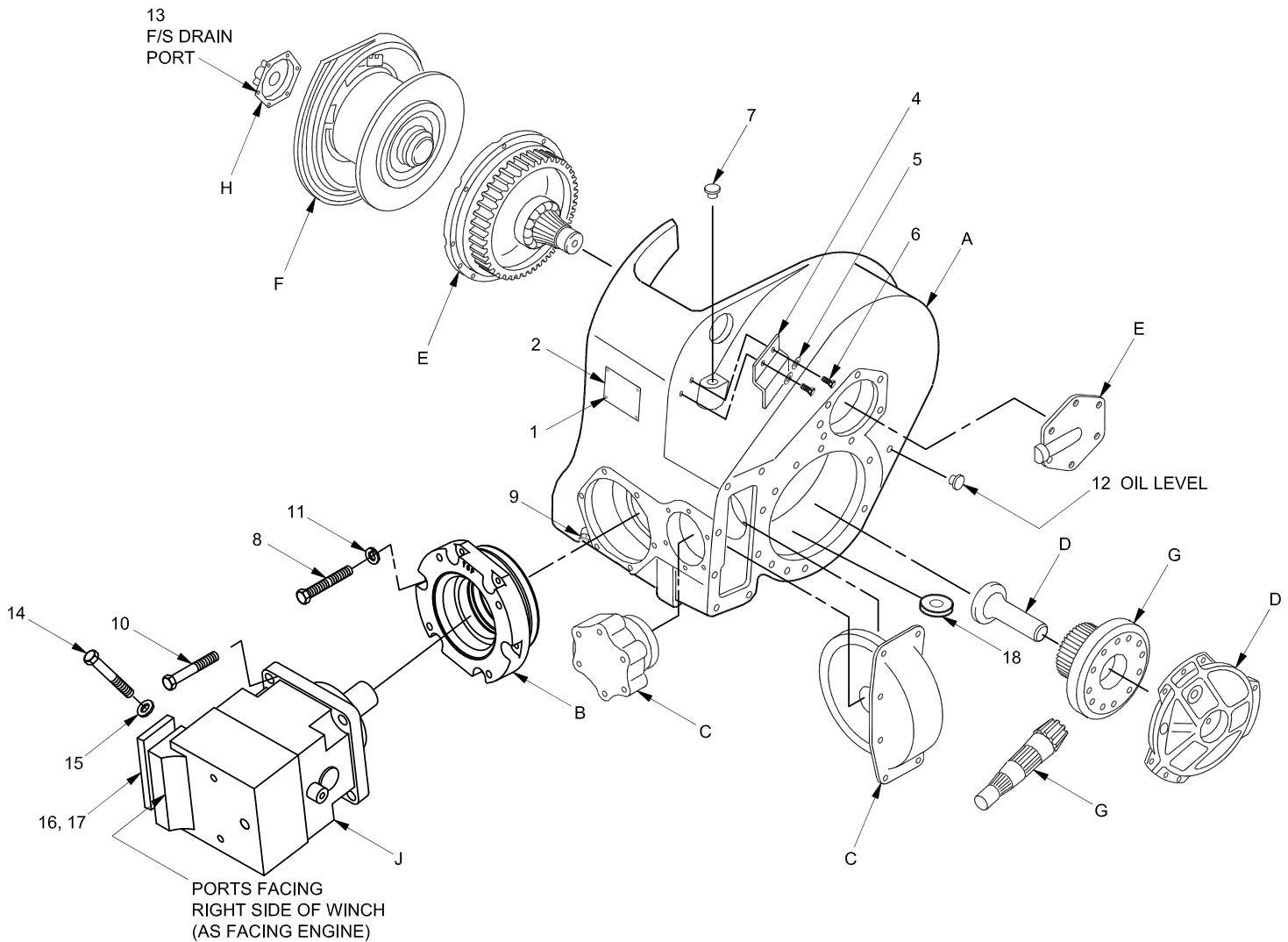


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	6	16378W	. Capscrew	2
B	* 2306783W	Motor Input (See 3-18)	1	7	17636W	. Fitting	1
C	* 2306791W	Pinion Shaft (See 4-6)	1	8	2313377	. Capscrew	6
D	* R232380	Ring Gear Shaft (See 4-8)	1	9	233683W	. Plug, Fitting O-Ring	3
E	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	1314454W	. Flangescrew	4
F	*a,* 2306793W	Cable Drum Clutch (See 4-23)	1	11	15156W	. Lockwasher	6
	*b 2313870	Cable Drum Clutch (See 4-25)	1	12	222441W	. Fitting, O-Ring	2
G	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	13	222443W	. Fitting, O-Ring	1
H	* R400085	Cable Drum Plunger (See 4-29/-30)	1	14	177949W	. Washer	8
J	2306731W	Motor, Hydraulic	1	15	132860W	. Capscrew	8
K	* 2306784W	Misc. Parts Group	1	16	2306794W	. Shipping Plate	1
1	2303532W	. Nameplate	1	17	2306795W	. Gasket	1
2	16602W	. Screw	2	18	R525293	. Magnet, Ceramic	1
3	R400044	. Assembly, Air Breather	1				
4	R400130	. Cover, Breather	1				
5	15154W	. Washer	2				
				*		Parts Group	
				*		Last Used on S/N WH4##-2313	
				*		First Used on S/N WH4##-2314	

Winch Assemblies

WH411-02B

With Optional BRAKE-OFF

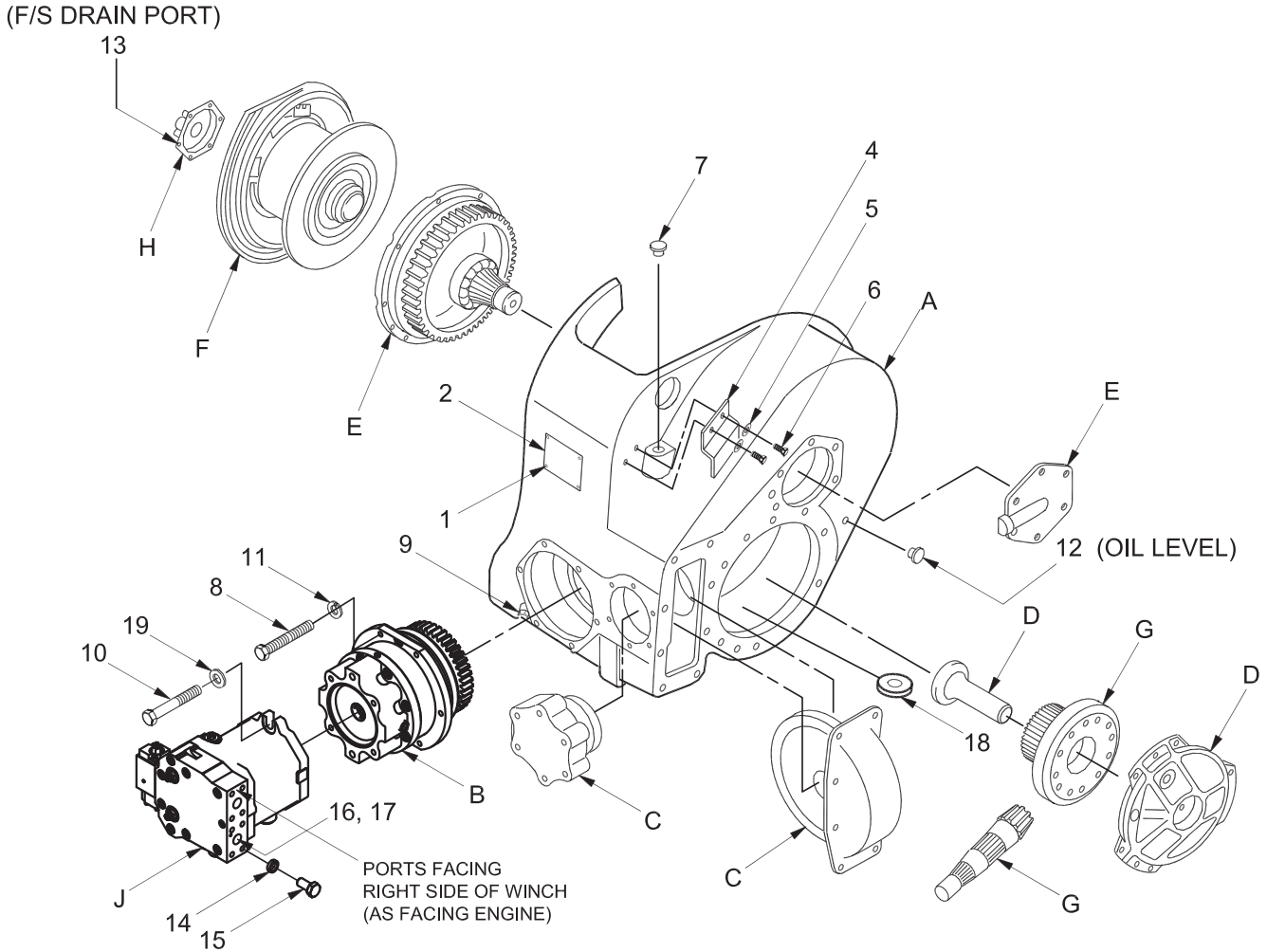


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	6	16378W	. Capscrew	2
B	* 2306783W	Motor Input (See 3-18)	1	7	17636W	. Fitting	1
C	* 2306791W	Pinion Shaft (See 4-6)	1	8	2313377	. Capscrew	6
D	* R232380	Ring Gear Shaft (See 4-8)	1	9	233683W	. Plug, Fitting O-Ring	3
E	* 2306706W	Cable Drum Drive Shaft (See 4-12)	1	10	1314454W	. Flangescrew	4
F	*a,* 2306793W	Cable Drum Clutch (See 4-23)	1	11	15156W	. Lockwasher	6
	*b 2313870	Cable Drum Clutch (See 4-25)	1	12	222441W	. Fitting, O-Ring	2
G	* R233360	Ring Gear Pinion & Ring Assembly (See 4-28)	1	13	222443W	. Fitting, O-Ring	1
H	* 2306773W	Drag Brake (See 4-32)	1	14	177949W	. Washer	8
J	2306731W	Motor, Hydraulic	1	15	132860W	. Capscrew	8
K	* 2306784W	Misc. Parts Group	1	16	2306794W	. Shipping Plate	1
1	2303532W	. Nameplate	1	17	2306795W	. Gasket	1
2	16602W	. Screw	2	18	R525293	. Magnet, Ceramic	1
3	R400044	. Assembly, Air Breather	1				
4	R400130	. Cover, Breather	1				
5	15154W	. Washer	2				
				*	Parts Group		
				*	Last Used on S/N WH4##-2313		
				*	First Used on S/N WH4##-2314		

Winch Assemblies

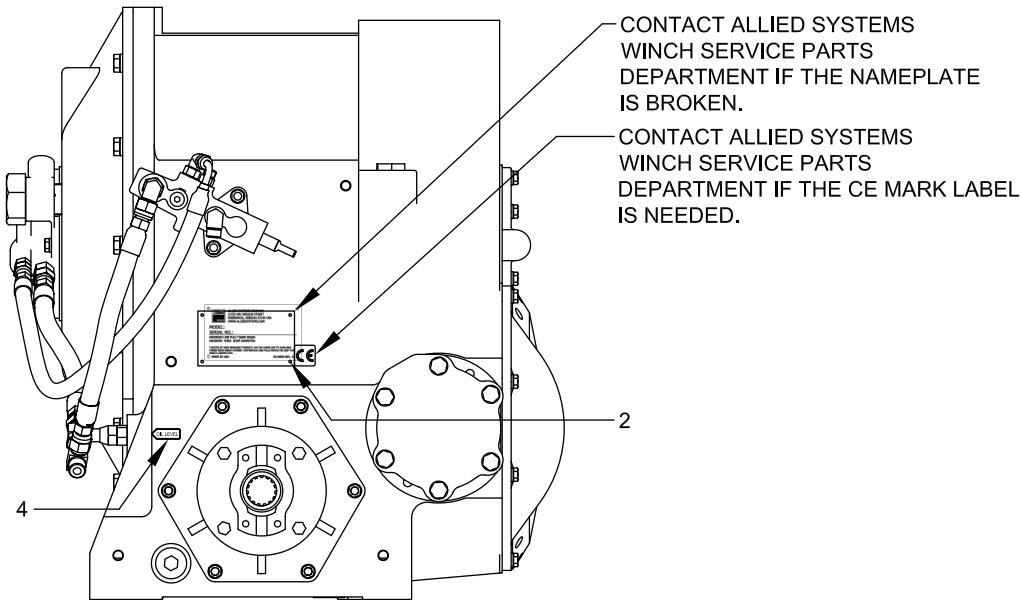
WH411-02D

With Optional BRAKE-OFF

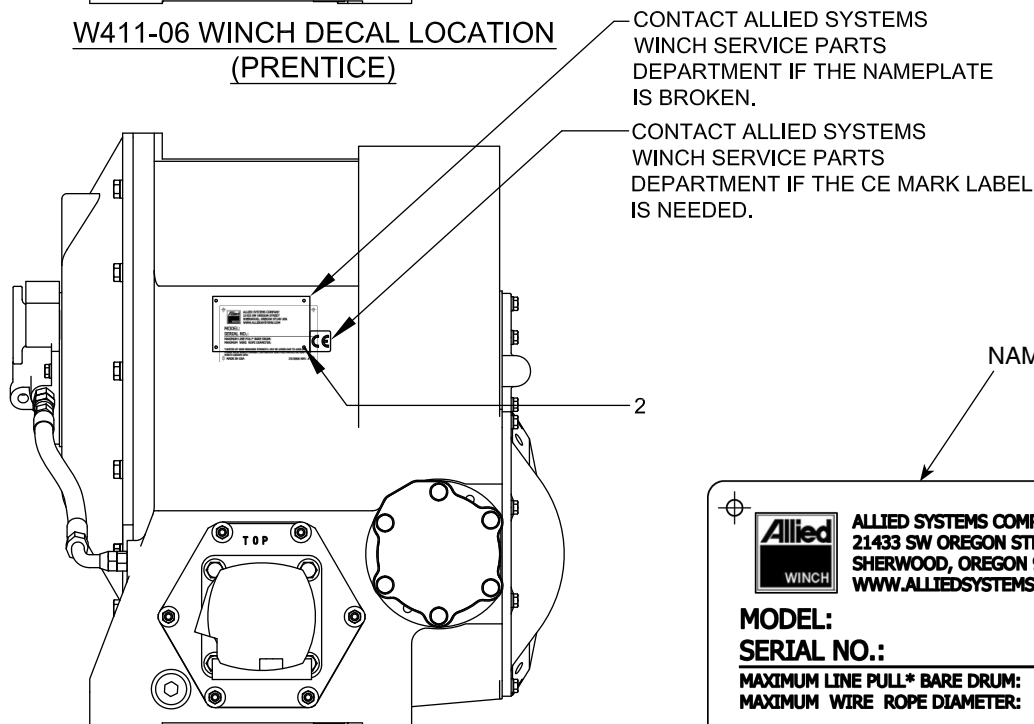


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
A	2306716W	Frame, W400 w/o Clutch	1	7	17636W	. Fitting	1
B	* 2314047	Input Planetary (See 3-26)	1	8	2314001	. Capscrew	6
C	* 2306791W	Pinion Shaft (See 4-11)	1	9	233683W	. Plug, Fitting O-Ring	3
D	* R232380	Ring Gear Shaft (See 4-15)	1	10	Y17C-1032	. Capscrew	2
E	* 2306706W	Cable Drum Drive Shaft (See 4-23)	1	11	221767W	. Washer	6
F	* 2313870	Cable Drum Clutch (See 4-35)	1	12	222441W	. Fitting, O-Ring	2
H	* 2306773W	Drag Brake (See 4-42)	1	13	222443W	. Fitting, O-Ring	1
J	2314083	Motor, 75CC Variable Displacement	1	14	177949W	. Washer	8
K	* 2314048	Parts Group, Misc.	1	15	Y09C-M1225	. Capscrew	8
1	2303532W	. Nameplate	1	16	2314049	. Plate, Shipping	1
2	16602W	. Screw	2	17	2314050	. Gasket	1
3	R400044	. Assembly, Air Breather	1	18	R525293	. Magnet, Ceramic	1
4	R400130	. Cover, Breather	1	19	R13811435	. Washer	2
5	15154W	. Washer	2				
6	16378W	. Capscrew	2				
				*	Parts Group		

Nameplate & Decals




**W411-06 WINCH DECAL LOCATION
(PRENTICE)**



**W400 WINCH DECAL LOCATION
ALL EXCEPT W411-06**

NAMEPLATE (REF.)



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

MODEL: _____
SERIAL NO.: _____

MAXIMUM LINE PULL* BARE DRUM: _____
MAXIMUM WIRE ROPE DIAMETER: _____

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

MADE IN USA 2315006 REV. A

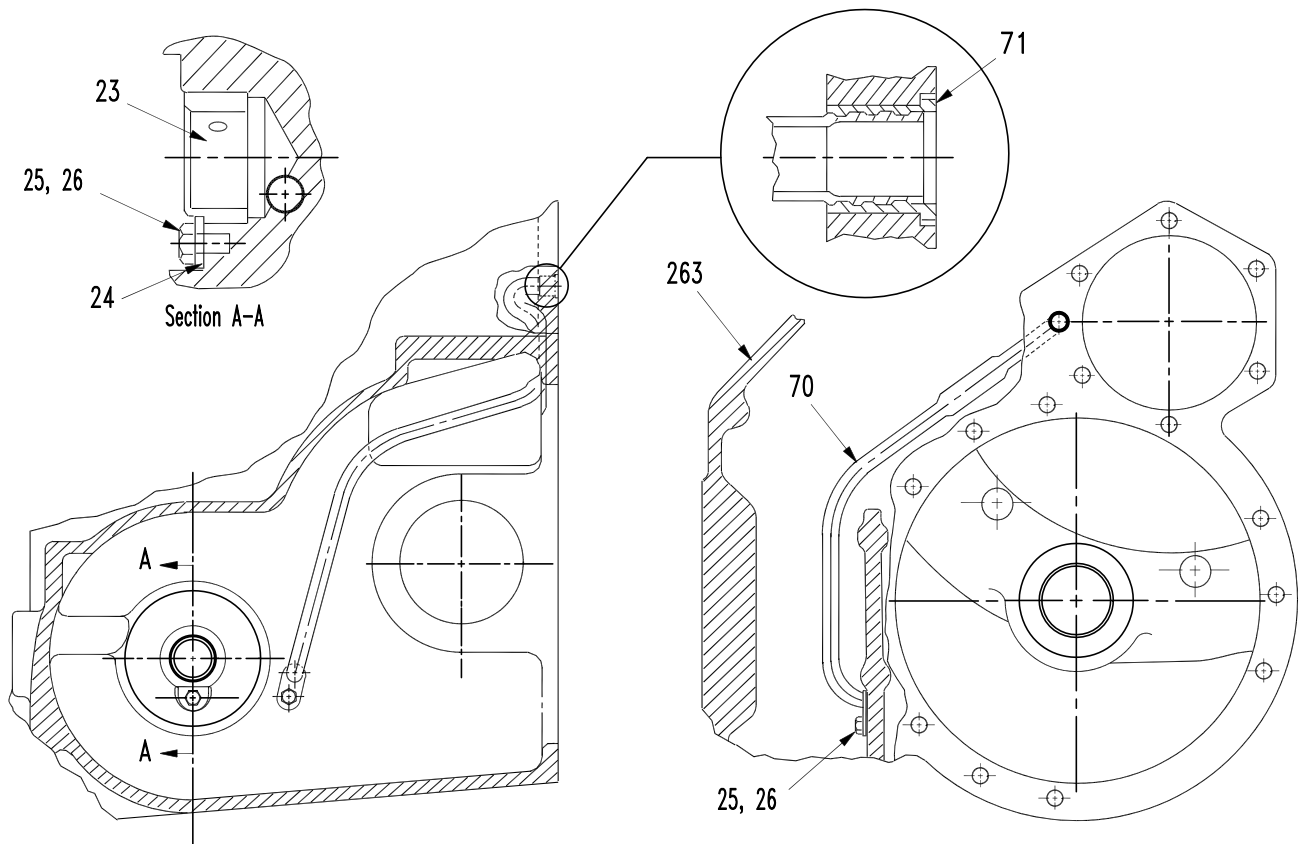
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
2	16602W	Screw	4	4	2312620	Decal	1

Winch Case & Parts Group

Winch Case Assemblies .....	.3-2 & 3-3
Drop Box .....	.3-4 & 3-5
Hydraulics Parts Group .....	.3-6 thru 3-9
Input Clutch Parts Group .....	.3-10 thru 3-19
Input without Clutch Parts Group .....	.3-20 thru 3-22
Input Motor Parts Group .....	.3-23 thru 3-25
Input 3.75:1 Planetary Parts Group	3-26

Winch Case Assembly

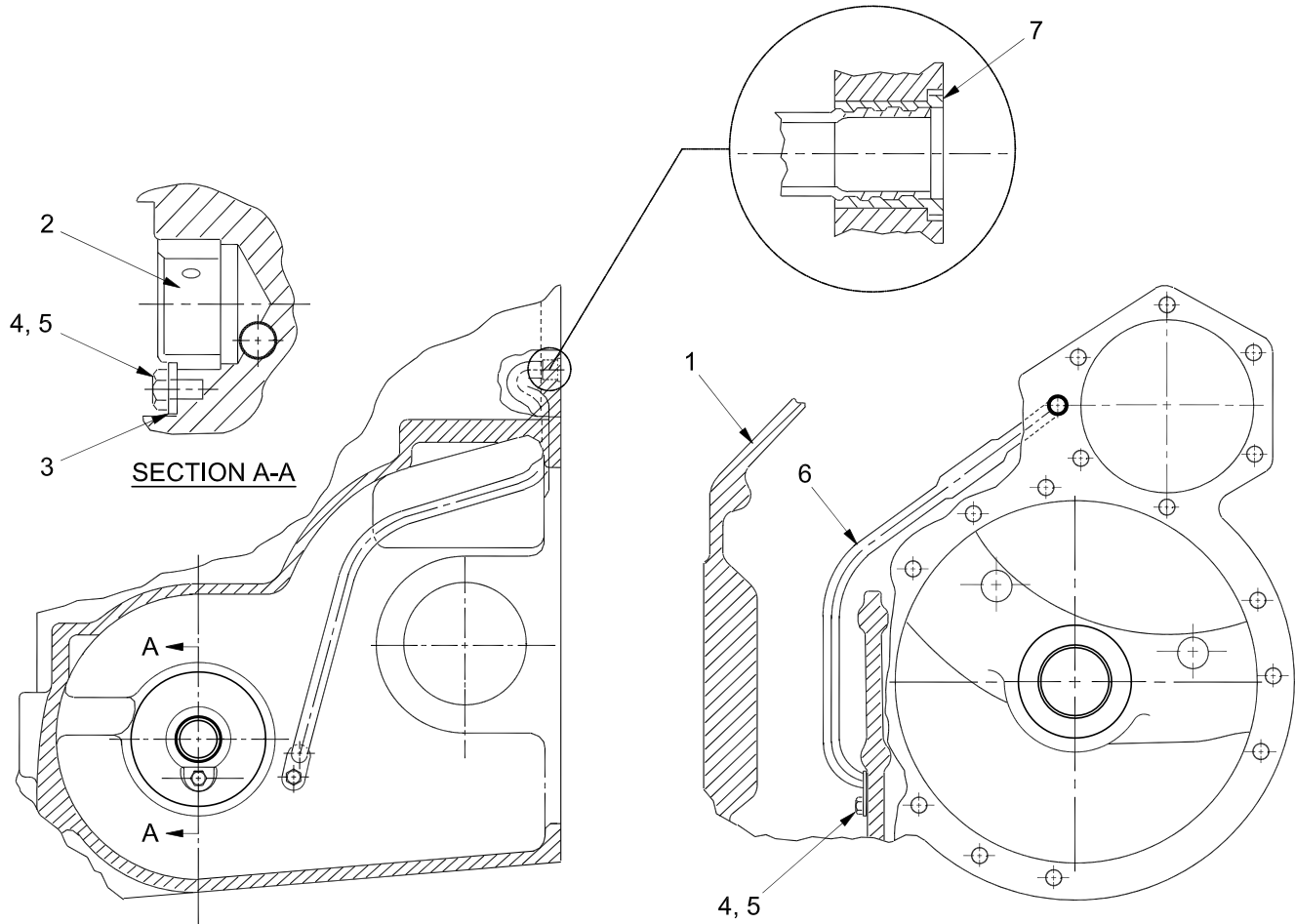
W410-04, W410-05, W410-06; W411-02, W411-03, W411-04, W411-05, W411-06
 W428-03
 WD410-02, WD410-03, WD411-05
 WH410-01, WH410-02, WH411-01, WH411-02B, WH411-02D



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400087	Assembly, Case & Tube	1				
23	R246818	. Race, Input Shaft Piston Ring	1	70	R400114	. Tube, Lubrication	1
24	R400115	. Stop, Wear Sleeve	1	71	R222067	. Sleeve, Lube Tube	1
25	15156W	. Lockwasher	2	263	R400086	. Housing	1
26	18535W	. Capscrew	2				

Winch Case Assembly

W410-08

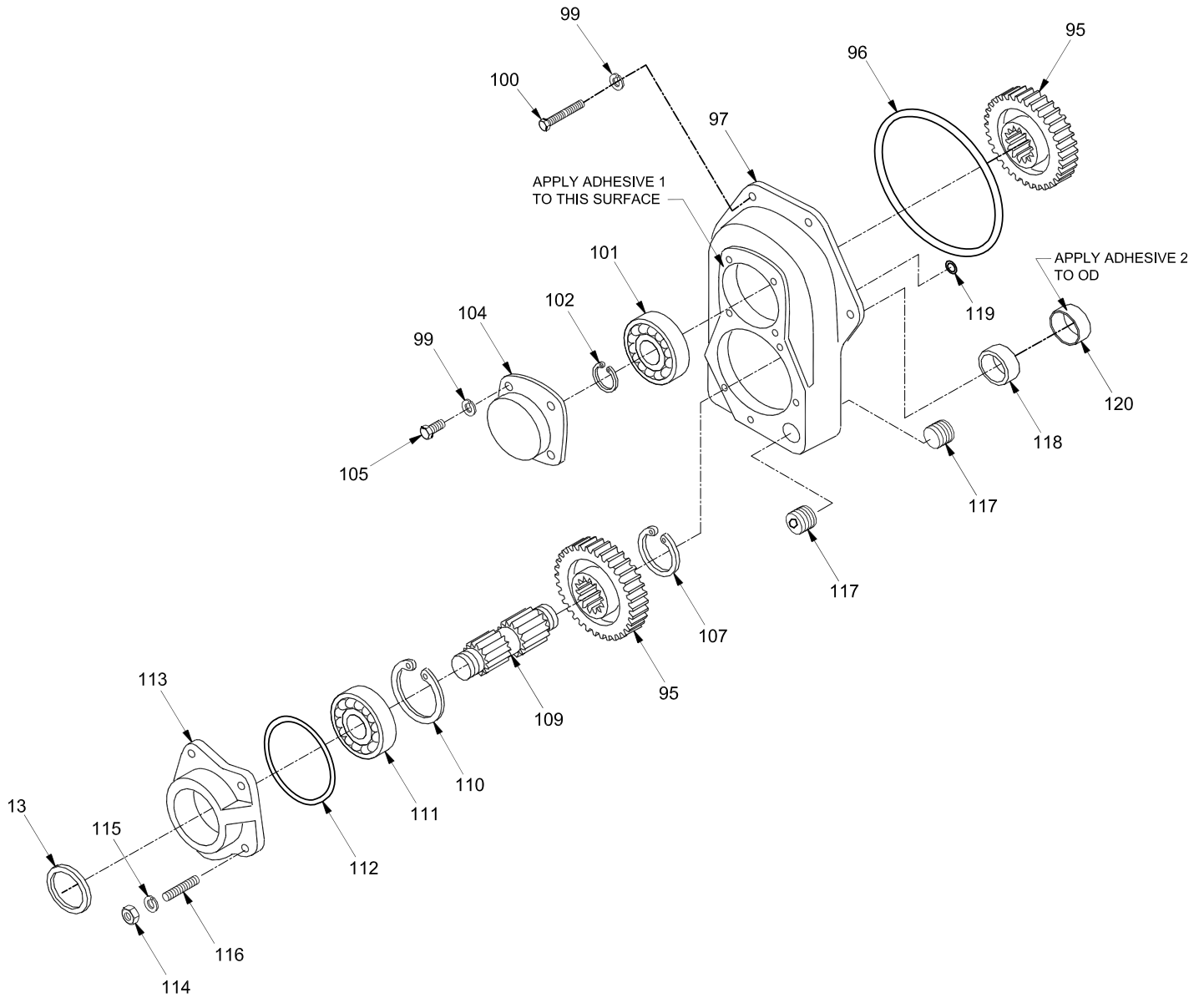


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313308	Assembly, Winch Case - W410-08	1				
1	2313307	. Housing	1	5	18535W	. Capscrew	2
2	R246818	. Race, Input Shaft Piston Ring	1	6	R400114	. Tube, Lubrication	1
3	R400115	. Stop, Wear Sleeve	1	7	R222067	. Sleeve, Lube Tube	1
4	15156W	. Washer	2				

Drop Box

WD410-02, WD410-03; WD411-05

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Drop Box

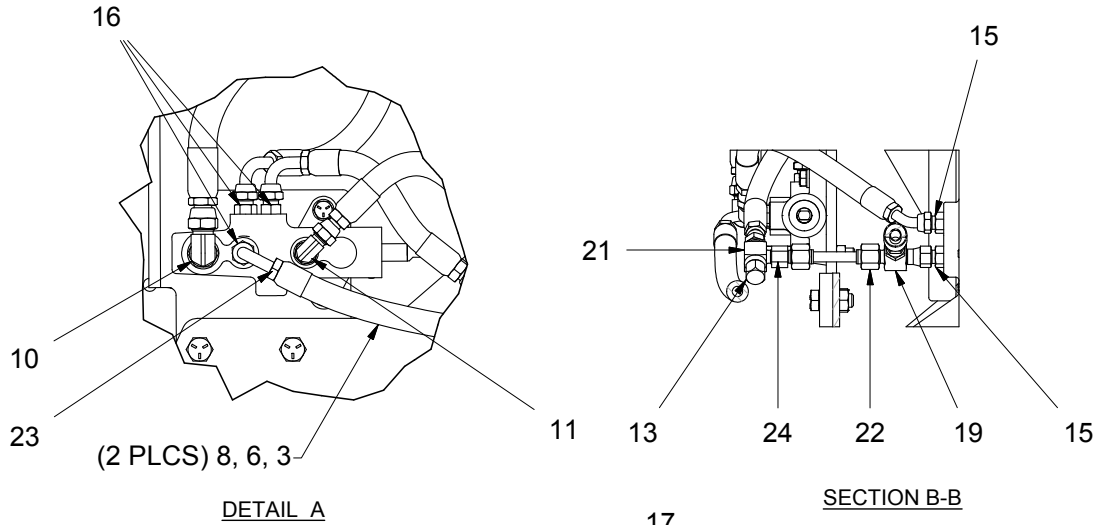
WD410-02, WD410-03; WD411-05

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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R232287	Parts Group, Drop Gear	1				
13	*e R206864	. Seal	1	113	R235091	. Cap	1
95	R216268	. Gear, 31T	2	114	221710W	. Nut	5
96	*e 17147W	. O-Ring	1	115	15157W	. Lockwasher	5
97	*a R232281	. Housing	1	116	2313420	. Stud	5
97	*b, *c 2306240W	. Housing	1	117	233683W	. Plug	2
99	15156W	. Lockwasher	10	118	*a, *e R232282	. Bearing	1
100	2313377	. Capscrew	6	118	*b, *e 2306117W	. Bearing, Needle Roller	1
101	*e R225956	. Bearing	1	119	*e 203508	. O-Ring	2
102	R224083	. Ring	1	120	*b, *d, *e 2306116W	. Bearing, Sleeve Cup	1
104	R221408	. Cap	1		*a	Last used on W4##-1120	
105	179443W	. Capscrew	4		*b	First used on W4##-1121	
107	R224026	. Ring	1		*c	Uses 264159W Adhesive 1	
109	R232283	. Shaft, Input	1		*d	Uses 257291W Adhesive 2	
110	R223901	. Ring	1		*e	Included in Drop Box Service Kit, 2315500	
111	*e 43308W	. Bearing	1				
112	*e 90207W	. O-Ring	1				

Hydraulics Parts Group

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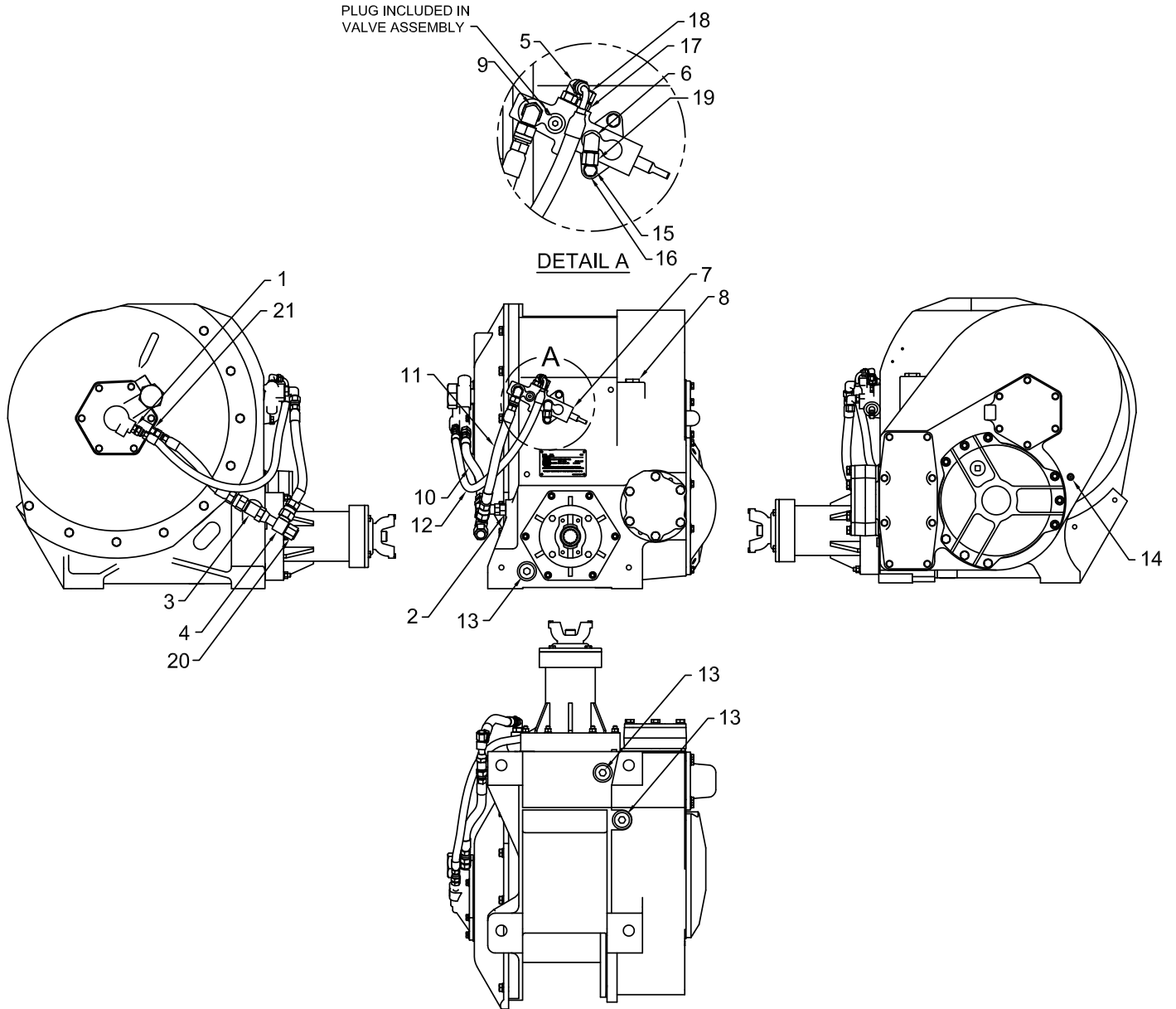
Hydraulics Parts Group

W410-08
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313594	Parts Group, W410-08 Hydraulics	1				
1	2313689	. Plate, Mounting	1	19	211562	. Fitting	1
2	2312122	. Bracket, Valve	1	20	214316	. Fitting	1
3	16816W	. Capscrew	2	21	212393	. Fitting	1
4	16830W	. Capscrew	4	22	2311983	. Assembly, Tube	1
5	248321W	. Capscrew	2	23	R242044	. Valve, Winch Control (See 5-2)	1
6	221707W	. Nut	2	24	2311985	. Orifice	1
7	221711W	. Nut	2	25	*a R12117	. Assembly, Hose	1
8	15156W	. Washer	2	26	*a 2311337	. Assembly, Hose	1
9	R13801972	. Fitting	2	33	2313693	. Plate, Valve Mounting	1
10	209488	. Fitting	1	34	221771W	. Washer	2
11	R2535834	. Fitting	1	56	*a 2311340	. Assembly, Hose	1
12	224298	. Fitting	1	57	*a 2311399	. Assembly, Hose	1
13	211563	. Fitting	1	58	*a 2312026	. Assembly, Hose	1
14	28490	. Fitting	2	59	*a 2312025	. Assembly, Hose	1
15	211560	. Fitting	3	60	*a 2312020	. Assembly, Hose	1
16	R1902863	. Fitting	3				
17	211550	. Fitting	1				
18	230454	. Fitting	2				
					*a	Included in Hydraulics Parts Group Hose Kit, 2315501	

Hydraulics Parts Group

W411-06
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Hydraulics Parts Group

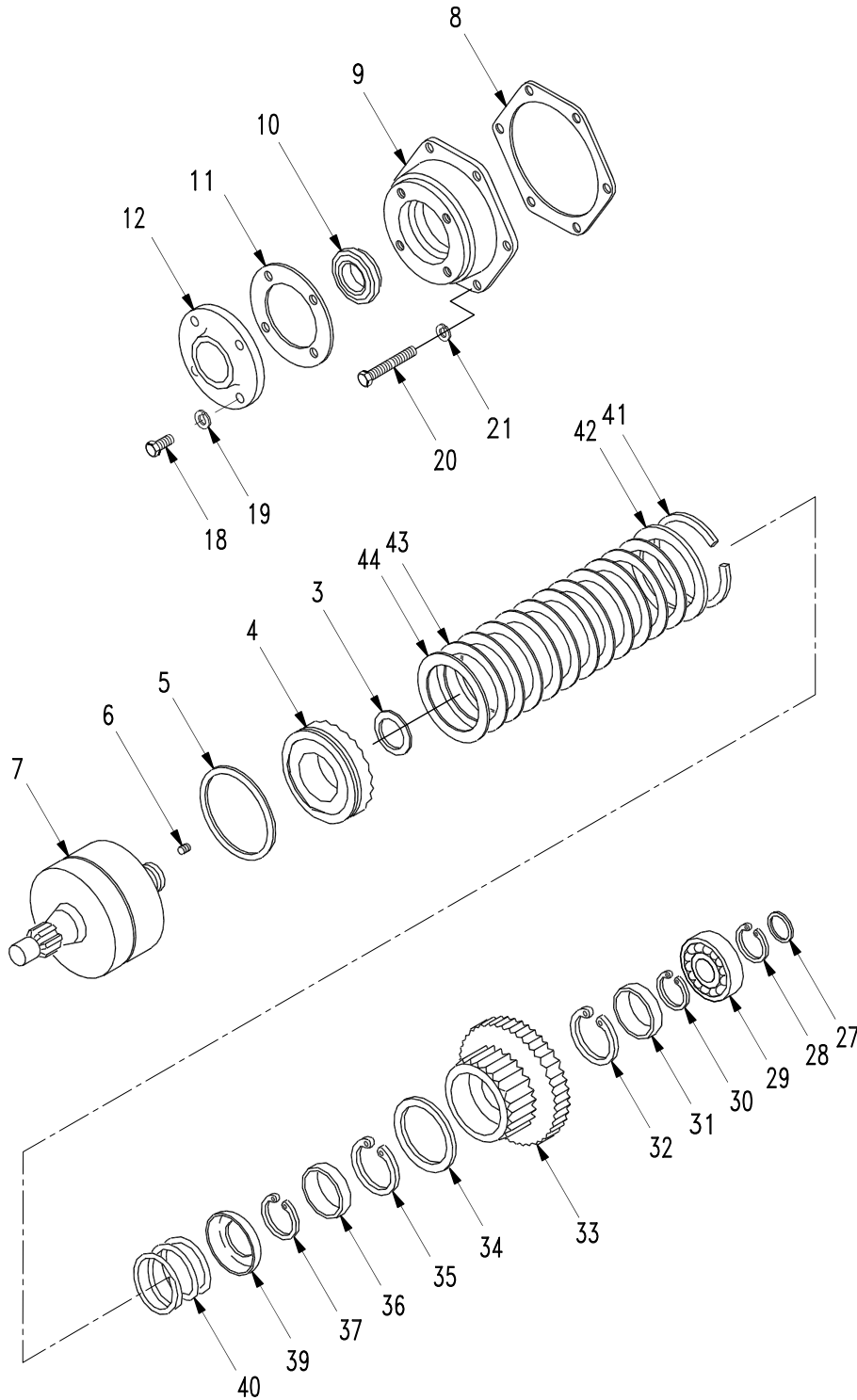
W411-06
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2312660	Parts Group, W411-06 Hydraulics	1				
1	231440	. Fitting	1	13	233683W	. Fitting, O-Ring	1
2	2312670	. Fitting	1	14	222441W	. Fitting, O-Ring	1
3	R834003	. Fitting	1	15	16816W	. Capscrew	2
4	R834053	. Fitting	1	16	15156W	. Washer	2
5	R833252	. Fitting	1	17	R833102	. Fitting	1
6	R833256	. Fitting	1	18	232984	. Fitting	1
7	R242044	. Valve, Winch Control (See 5-2)	1	19	231822	. Fitting	1
8	17636W	. Fitting, Pipe	1	20	R834254	. Fitting	1
9	231452	. Fitting	1	21	R833112	. Fitting	1
10	*a 2311834	. Assembly, Hose	1				
11	*a 2311835	. Assembly, Hose	1				
12	*a 2311833	. Assembly, Hose	1				
					*a	Included in Hydraulics Parts Group Hose Kit, 2315502	

Input Clutch Parts Group

W410-04, W410-05, W410-06, W410-08

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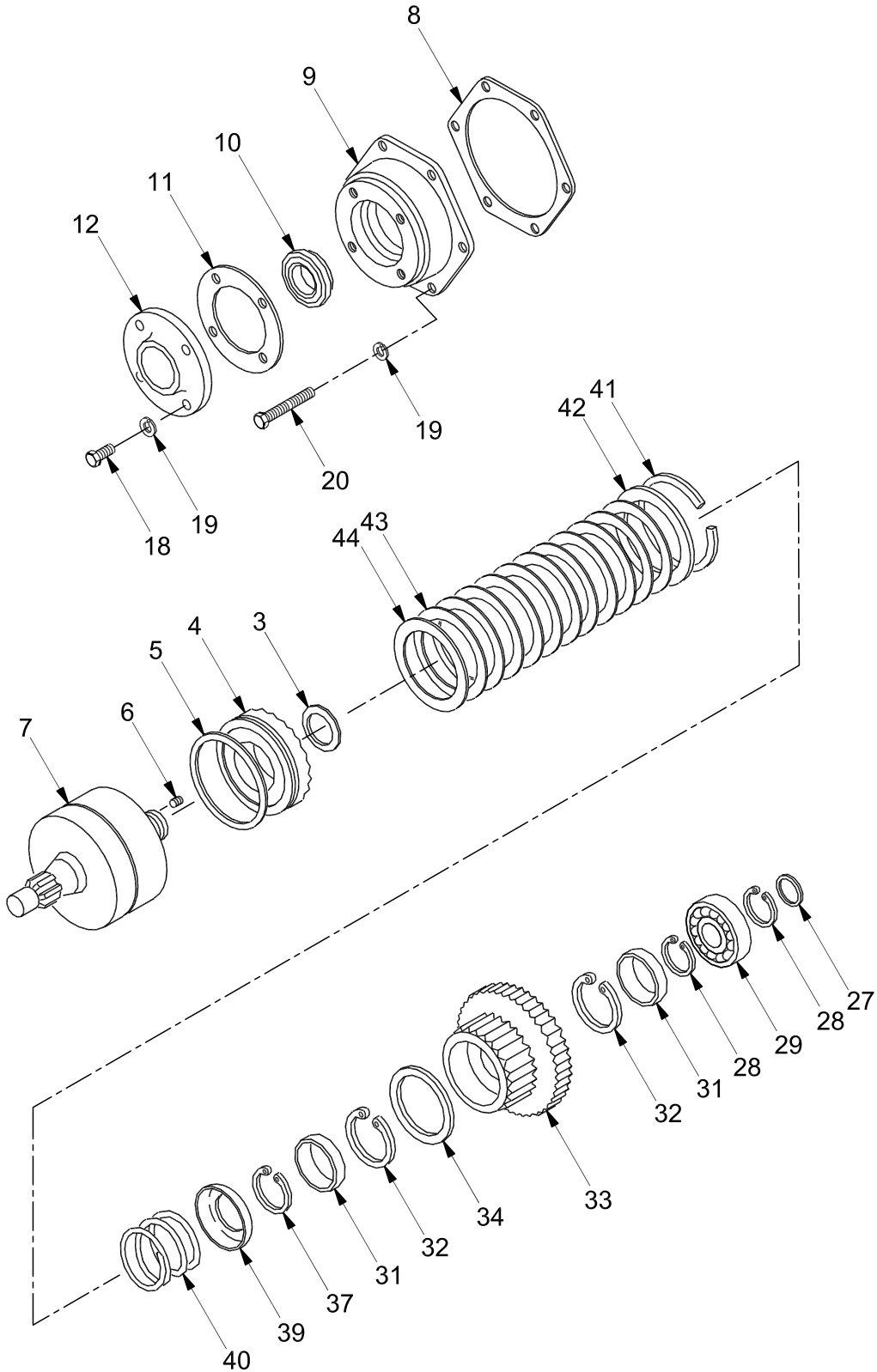
Input Clutch Parts Group
W410-04, W410-05, W410-06, W410-08
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R231502	Parts Group, Input Clutch	1				
3	*a R230857	. Seal, Inner Piston	1	30	R224083	. Ring, Snap	1
4	R245897	. Assembly, Clutch Piston	1	31	*a R230829	. Bearing	1
5	*a R224771	. Seal	1	32	R223877	. Ring, Snap	1
7	2304514W	. Assembly, Clutch Shaft (Non-Drop Box)	1	33	R231261	. Gear, Clutch Hub, 45T	1
6	15483W	. Plug	1	34	2303483W	. Ring	1
8	*a R231264	. Gasket	1	35	R223877	. Ring, Snap	1
9	R231260	. Cap	1	36	*a R230829	. Bearing	1
10	*a R225956	. Bearing	1	37	12944W	. Ring, Snap	1
11	*a R231262	. Gasket	1	39	R232089	. Retainer, Spring	1
12	R231385	. Assembly, Input Bearing Retainer & Oil Seal	1	40	R230822	. Spring	1
13	*a R206864	. Seal, Oil	1	41	R215190	. Ring, Snap	1
18	16805W	. Capscrew	4	42	R224774	. Plate, Clutch Disc Backing	1
19	15156W	. Washer	10	43	*a R230911	. Disc, Inner Clutch	6
20	336870W	. Capscrew	6	44	*a R224772	. Disc, Outer Clutch	6
21	----	. Washer (Included in Item 19)	-				
27	R215183	. Ring	2		*a	Included in Input Clutch Parts Group Service Kit, 2315497	
28	R224083	. Snap Ring	1				
29	*a 43308W	. Bearing	1				

Input Clutch Parts Group

W411-02, W411-04

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Input Clutch Parts Group

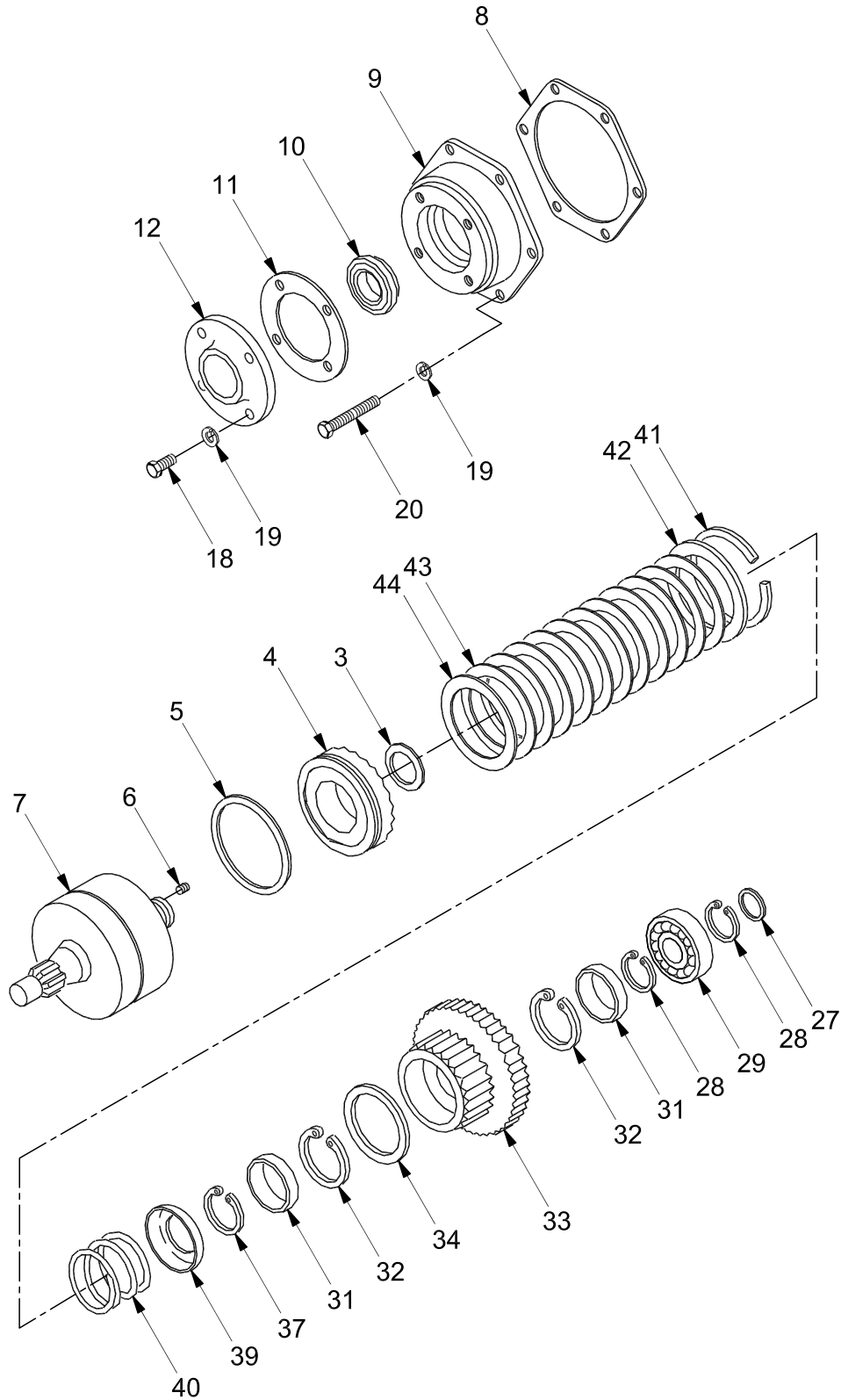
W411-02, W411-04

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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R231760	Parts Group, Input Clutch	1				
3	*a R230857	. Seal	1	29	*a 43308W	. Bearing	1
4	R245897	. Assembly, Clutch Piston	1	31	*a R230829	. Bearing	2
5	*a R224771	. Seal	1	32	R223877	. Snap Ring	2
7	2304514W	. Assembly, Clutch Shaft (Non-Drop Box)	1	33	R231743	. Gear, Clutch Hub, 41T	1
6	15483W	. Plug	1	34	2303483W	. Ring	1
8	*a R231264	. Gasket	1	37	12944W	. Snap Ring	1
9	R231260	. Cap	1	39	R232089	. Retainer, Spring	1
10	*a R225956	. Bearing	1	40	R230822	. Spring	1
11	*a R231262	. Gasket	1	41	R215190	. Snap Ring	1
12	R231385	. Assembly, Input Bearing Retainer & Oil Seal	1	42	R224774	. Plate, Clutch Disc Backing	1
13	*a R206864	. Seal, Oil	1	43	*a R230911	. Disc, Clutch Inner	6
18	16805W	. Capscrew	4	44	*a R224772	. Disc, Clutch Outer	6
19	15156W	. Lockwasher	10				
20	2313377	. Capscrew	6		*a	Included in Input Clutch Parts Group Service Kit, 2315497	
27	R215183	. Ring	2				
28	R224083	. Snap Ring	2				

Input Clutch Parts Group

W411-03
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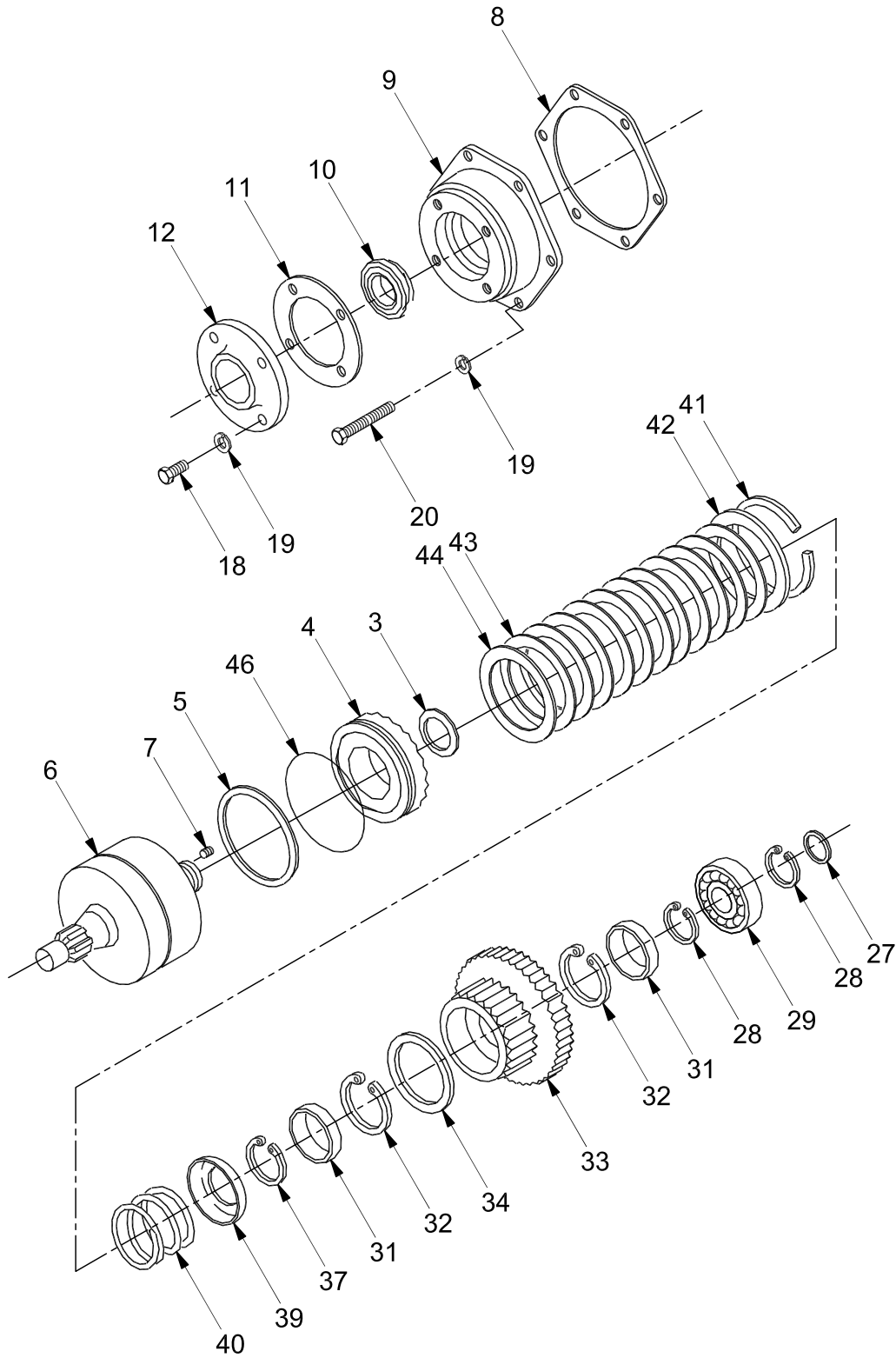
Input Clutch Parts Group

W411-03
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2304954W	Parts Group, Input Clutch	1				
3	*a R230857	. Seal	1	29	*a 43308W	. Bearing	1
4	R245897	. Assembly, Clutch Piston	1	31	*a R230829	. Bearing	2
5	*a R224771	. Seal	1	32	R223877	. Snap Ring	2
7	2304514W	. Assembly, Clutch Shaft (Non-Drop Box)	1	33	R231743	. Gear, Clutch Hub, 41T	1
6	15483W	. Plug	1	34	2303483W	. Ring	1
8	*a R231264	. Gasket	1	37	12944W	. Snap Ring	1
9	R231260	. Cap	1	39	R232089	. Retainer, Spring	1
10	*a R225956	. Bearing	1	40	R230822	. Spring	1
11	*a R231262	. Gasket	1	41	R215190	. Snap Ring	1
12	R231385	. Assembly, Input Bearing Retainer & Oil Seal	1	42	R224774	. Plate, Clutch Disc Backing	1
13	*a R206864	. Seal, Oil	1	43	*a R230911	. Disc, Clutch Inner	6
18	16805W	. Capscrew	4	44	*a R224772	. Disc, Clutch Outer	6
19	15156W	. Lockwasher	10				
20	16376W	. Capscrew	6		*a	Included in Input Clutch Parts Group Service Kit, 2315497	
27	R215183	. Ring	2				
28	R224083	. Snap Ring	2				

Input Clutch Parts Group

W428-03
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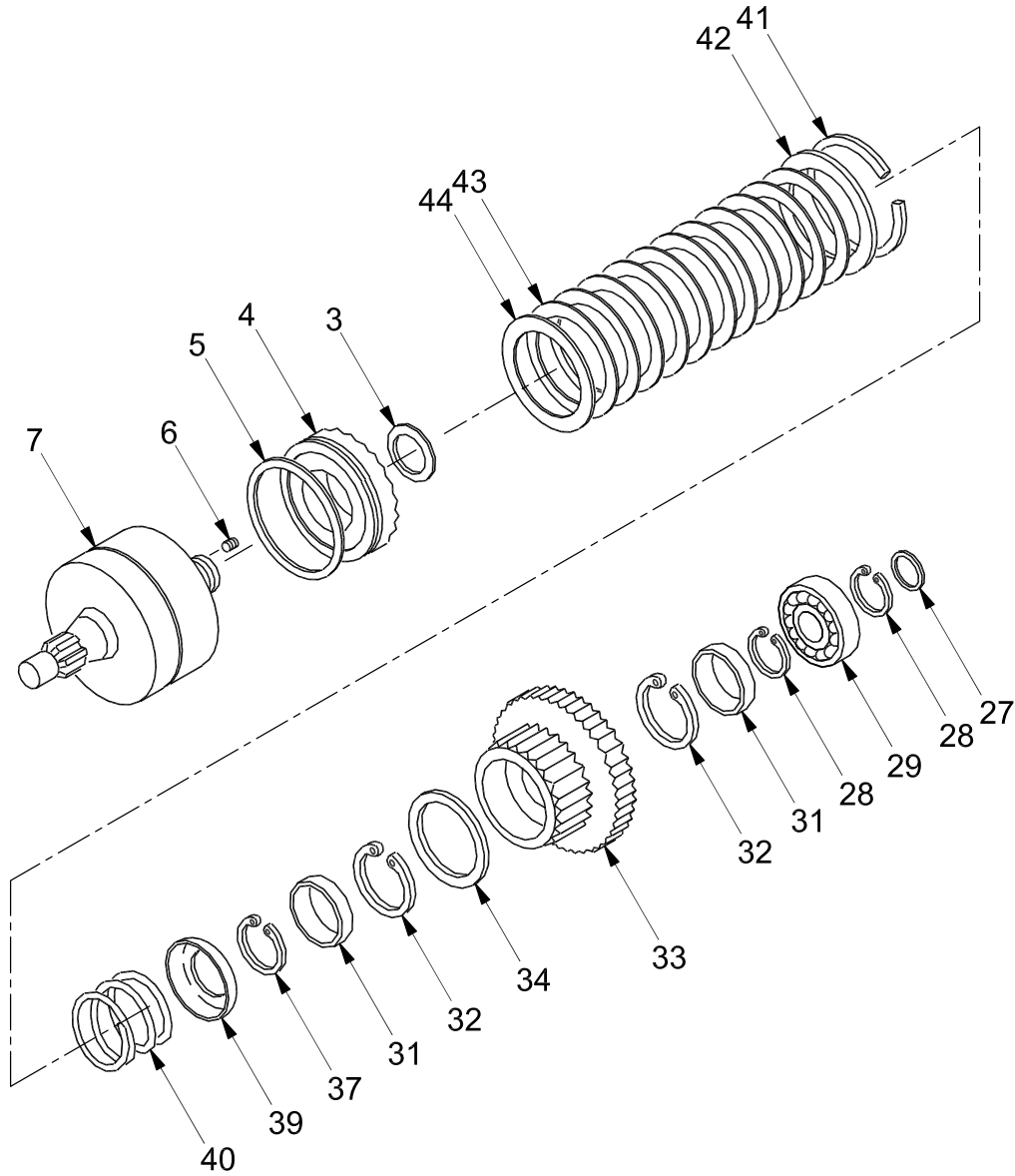
Input Clutch Parts Group

W428-03
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2303698W	Parts Group, Input Clutch	1				
3	*a R230857	. Seal	1	29	*a 43308W	. Bearing	1
4	R245897	. Assembly, Clutch Piston	1	31	*a R230829	. Bearing	2
5	2303688W	. Glide, Ring	1	32	R223877	. Snap Ring	2
6	2304514W	. Assembly, Clutch Shaft (Non-Drop Box)	1	33	R231261	. Gear, Clutch Hub, 45T	1
7	15483W	. Plug	1	34	2303483W	. Ring	1
8	*a R231264	. Gasket	1	37	12944W	. Snap Ring	1
9	R231260	. Cap	1	39	R232089	. Retainer, Spring	1
10	*a R225956	. Bearing	1	40	R230822	. Spring	1
11	*a R231262	. Gasket	1	41	R215190	. Snap Ring	1
12	R231385	. Assembly, Input Bearing Retainer & Oil Seal	1	42	R224774	. Plate, Clutch Disc Backing	1
13	*a R206864	. Seal, Oil	1	43	*a R230911	. Disc, Clutch Inner	6
18	16805W	. Capscrew	4	44	*a R224772	. Disc, Clutch Outer	6
19	15156W	. Lockwasher	10	46	*a 2303689W	. O-Ring	1
20	16376W	. Capscrew	6				
27	R215183	. Ring	2		*a	Included in Input Clutch Parts Group Service Kit, 2315498	
28	R224083	. Snap Ring	2				

Input Clutch Parts Group

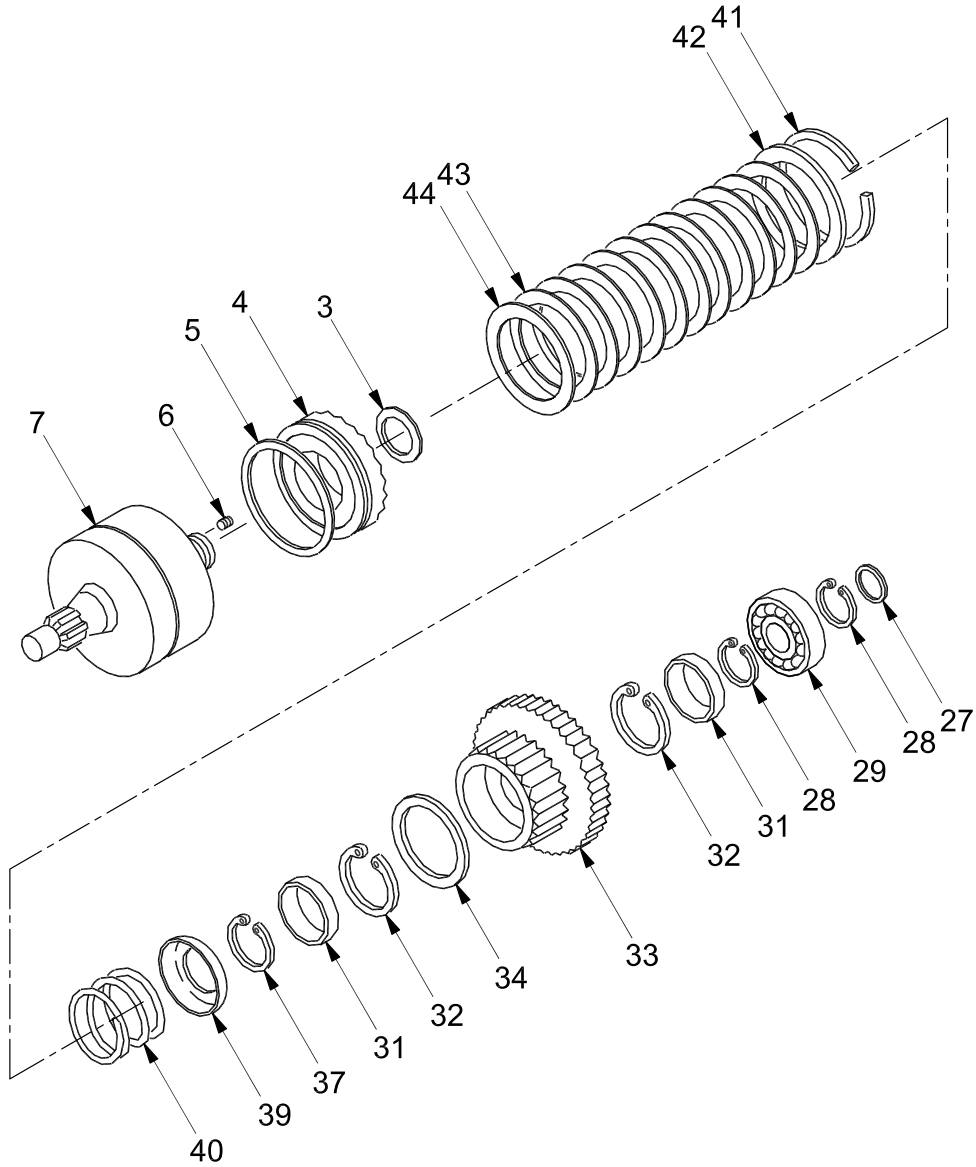
WD410-02, WD410-03



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R232379	Parts Group, Input Clutch	1				
3	*a R230857	. Seal	1	34	2303483W	. Ring	1
4	R245897	. Assembly, Clutch Piston	1	37	12944W	. Snap Ring	1
5	*a R224771	. Seal	1	39	R232089	. Retainer, Spring	1
7	2304513W	. Assembly, Clutch Shaft (Drop Box)	1	40	R230822	. Spring	1
6	15483W	. Plug	1	41	R215190	. Snap Ring	1
27	R215183	. Ring	2	42	R224774	. Plate, Clutch Disc Backing	1
28	R224083	. Snap Ring	2	43	*a R230911	. Disc, Clutch Inner	6
29	*a 43308W	. Bearing	1	44	*a R224772	. Disc, Clutch Outer	6
31	*a R230829	. Bearing	2				
32	R223877	. Snap Ring	2				
33	R231261	. Gear, Clutch Hub, 45T	1				
				*a	Included in Input Clutch Parts Group Service Kit, 2315499		

Input Clutch Parts Group

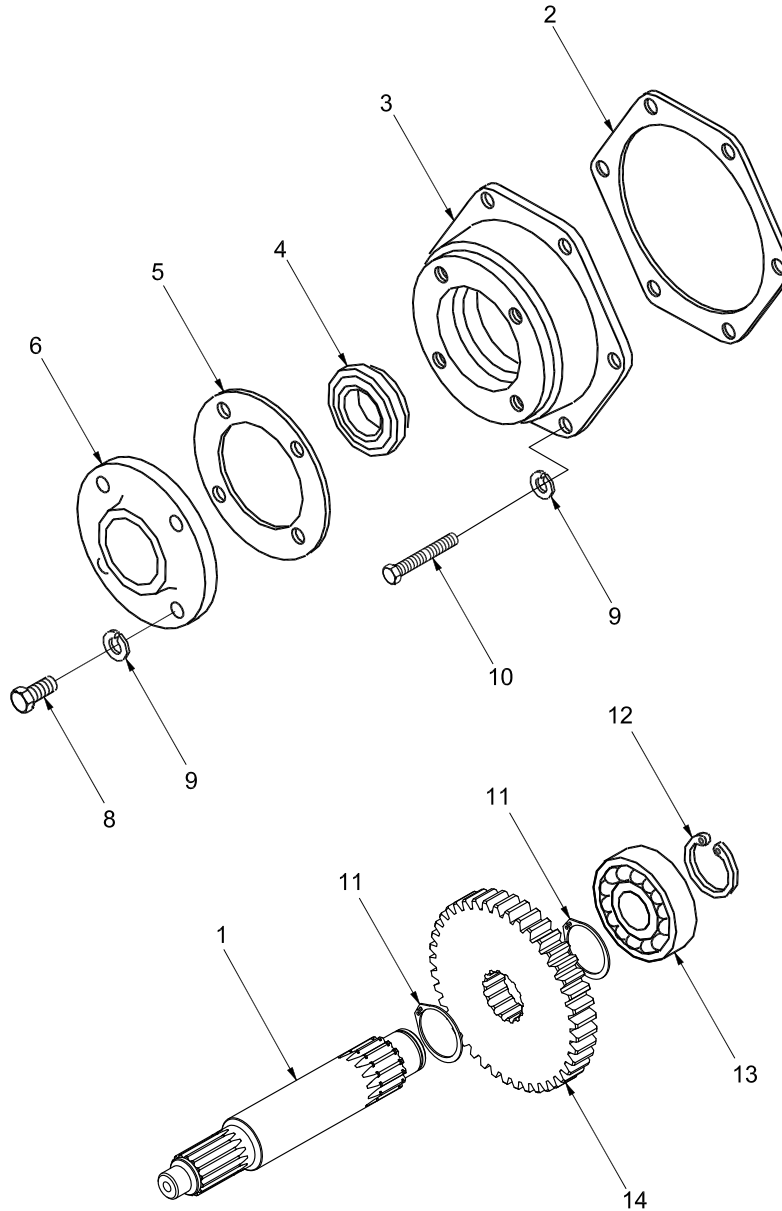
WD411-05



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R232288	Parts Group, Input Clutch	1				
3	*a R230857	. Seal	1	34	2303483W	. Ring	1
4	R245897	. Assembly, Clutch Piston	1	37	12944W	. Snap Ring	1
5	*a R224771	. Seal	1	39	R232089	. Retainer, Spring	1
7	2304513W	. Assembly, Clutch Shaft (Drop Box)	1	40	R230822	. Spring	1
6	15483W	. Plug	1	41	R215190	. Snap Ring	1
27	R215183	. Ring	2	42	R224774	. Plate, Clutch Disc Backing	1
28	R224083	. Snap Ring	2	43	*a R230911	. Disc, Clutch Inner	6
29	*a 43308W	. Bearing	1	44	*a R224772	. Disc, Clutch Outer	6
31	*a R230829	. Bearing	2				
32	R223877	. Snap Ring	2				
33	R231743	. Gear, Clutch Hub, 41T	1				
				*a	Included in Input Clutch Parts Group Service Kit, 2315499		

Input Without Clutch Parts Group

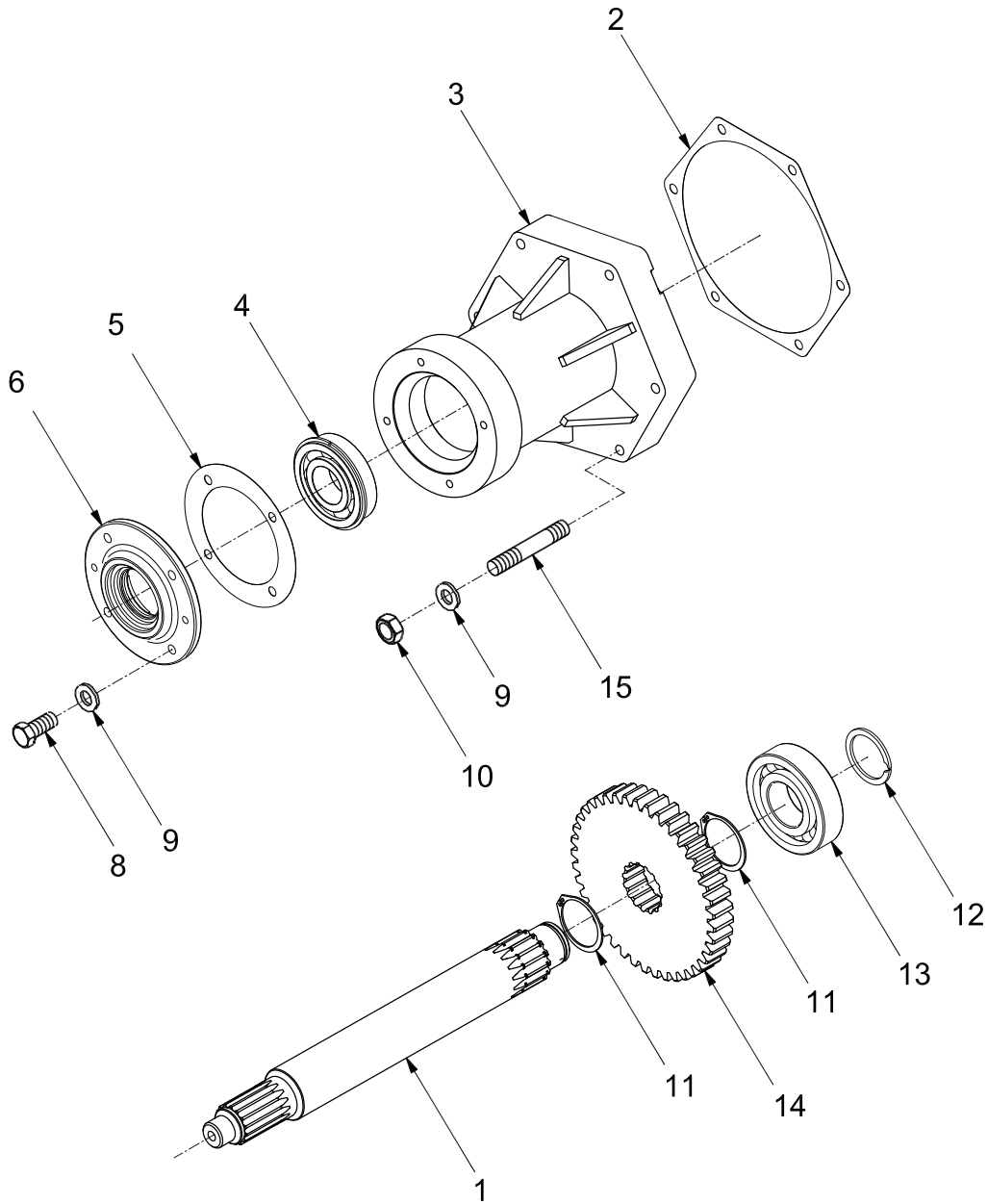
W411-05



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306697W	Parts Group, Input - w/o Clutch	1				
1	2312234	. Shaft, Input	1	9	15156W	. Washer	10
2	*a R231264	. Gasket, Input Bearing Cap	1	10	2313377	. Capscrew	6
3	R231260	. Cap, Input Bearing	1	11	58954W	. Ring, Snap	2
4	*a R225956	. Bearing, Input Clutch Front	1	12	R224083	. Ring, Snap	1
5	*a R231262	. Gasket, Input Bearing Retainer	1	13	*a 43308W	. Bearing, Input Clutch Rear	1
6	R231385	. Assembly, Input Bearing Retainer	1		*a	Included in Input Without Clutch Parts Group	
	R231259	. Retainer	1			Service Kit, 2315503	
	*a R206864	. Oil Seal	1				
8	16805W	. Capscrew	4				

Input Without Clutch Parts Group

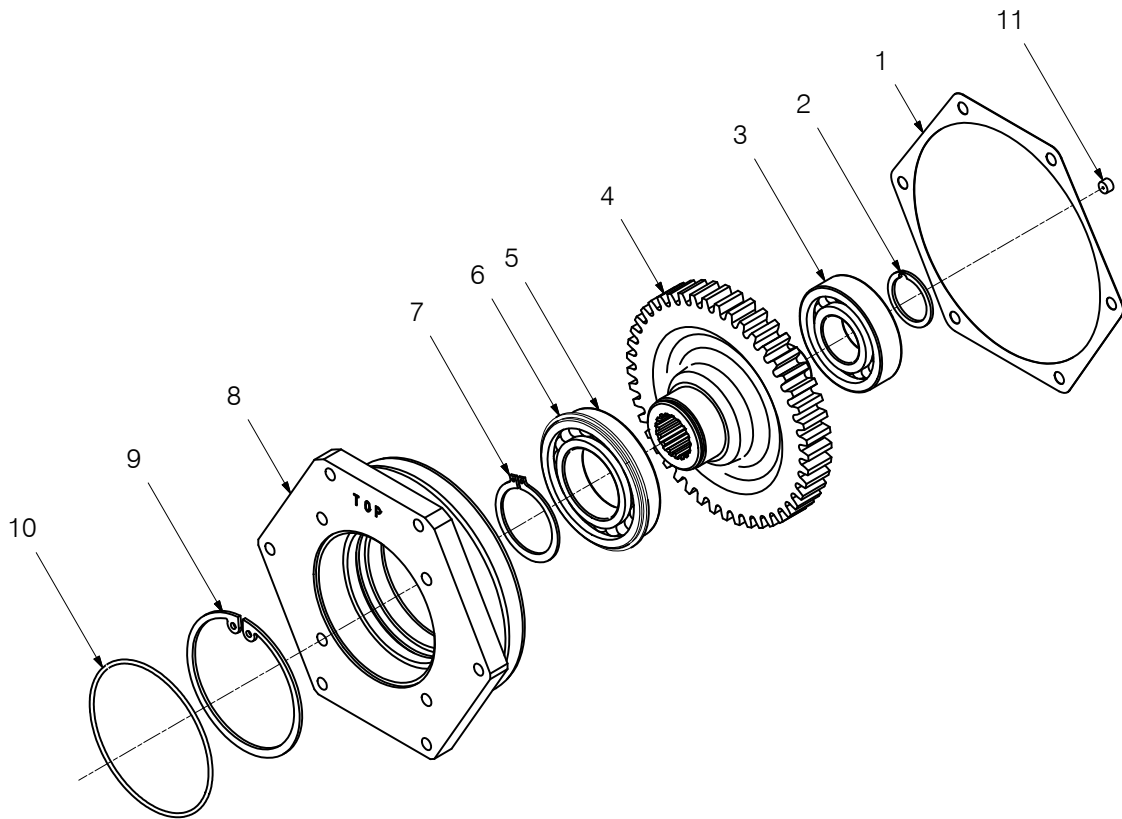
W411-06



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311463	Parts Group, Input - w/o Clutch	1				
1	2311601	. Shaft, Input	1	11	58954W	. Snap Ring	2
2	*a R231264	. Gasket	1	12	R224083	. Snap Ring	1
3	2311461	. Housing	1	13	*a 43308W	. Bearing	1
4	*a 41308W	. Bearing	1	14	2311602	. Gear, 41T	1
5	*a R231262	. Gasket	1	15	2311468	. Stud	6
6	R231385	. Retainer & Oil Seal Assembly	1				
8	16805W	. Capscrew	4		*a	Included in Input Without Clutch Parts Group Service Kit, 2315504	
9	15156W	. Washer	10				
10	221707W	. Nut	6				

Input Without Clutch Parts Group

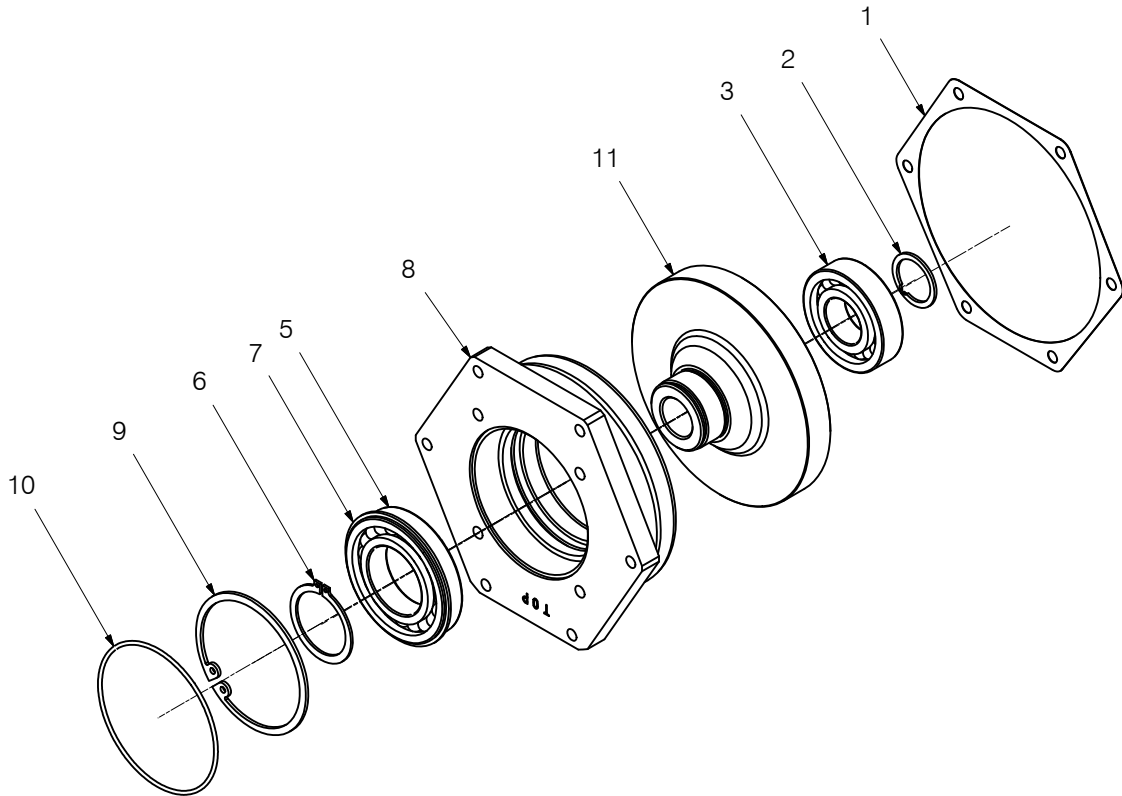
WH411-01



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400107	Parts Group, Input	1				
1	*a R231264	. Gasket, Input Bearing Carrier	1	8	R400100	. Bearing Carrier, Input	1
2	R224083	. Snap Ring, Rear Bearing	1	9	304562W	. Snap Ring	1
3	*a 43308W	. Bearing, Ball	1	10	*a 57597W	. O-Ring	1
4	R400120	. Assembly, Input Gear/Shaft	1	11	2303631W	. Plug, Orifice	1
5	*a 2303628W	. Bearing, Ball	1				
6	NSS	. Snap Ring	1		*a	Included in Input Without Clutch Parts Group Service Kit, 2315505	
7	12975W	. Snap Ring	1				

Input Motor Parts Group

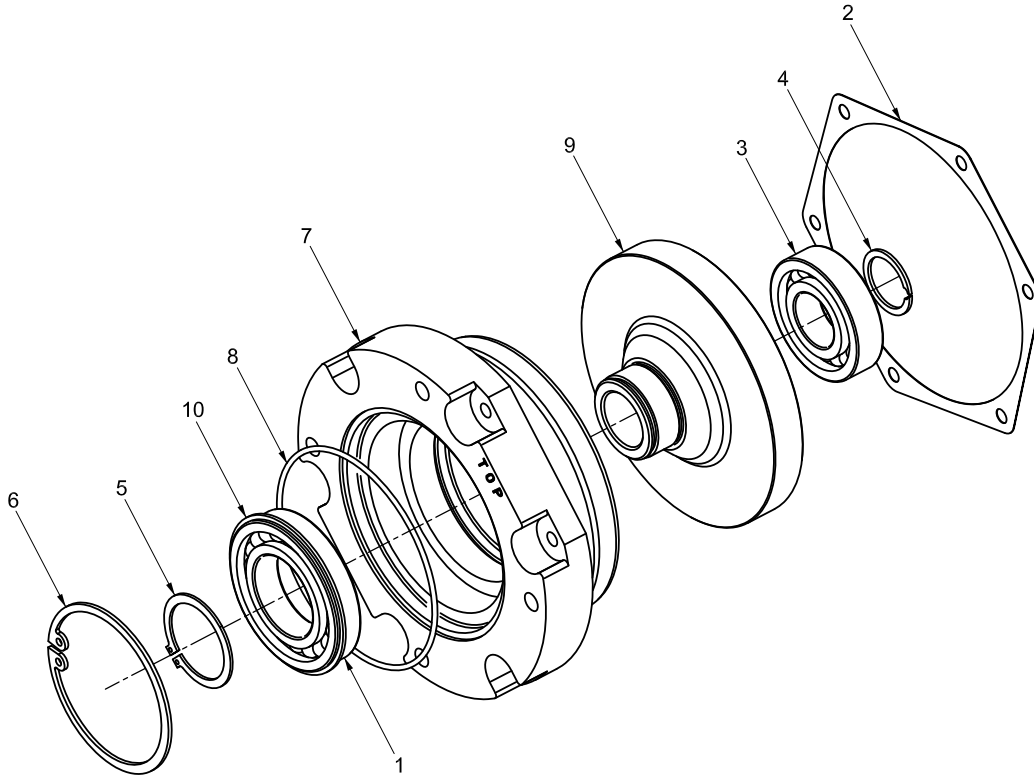
WH410-01



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306212W	Parts Group, Input Motor	1				
1	*a R231264	. Gasket, Input Bearing Carrier	1	9	304562W	. Snap Ring	1
2	R224083	. Snap Ring, Rear Bearing	1	10	*a 57597W	. O-Ring	1
3	*a 43308W	. Bearing, Ball	1	11	2306211W	. Gear, Input, 45T	1
5	*a 2303628W	. Bearing, Ball	1		*a	Included in Input Motor Parts Group Service Kit, 2315506	
7	12975W	. Snap Ring	1				
6	12975W	. Snap Ring, EXT	1				
8	R400100	. Bearing Carrier, Input	1				

Input Motor Parts Group

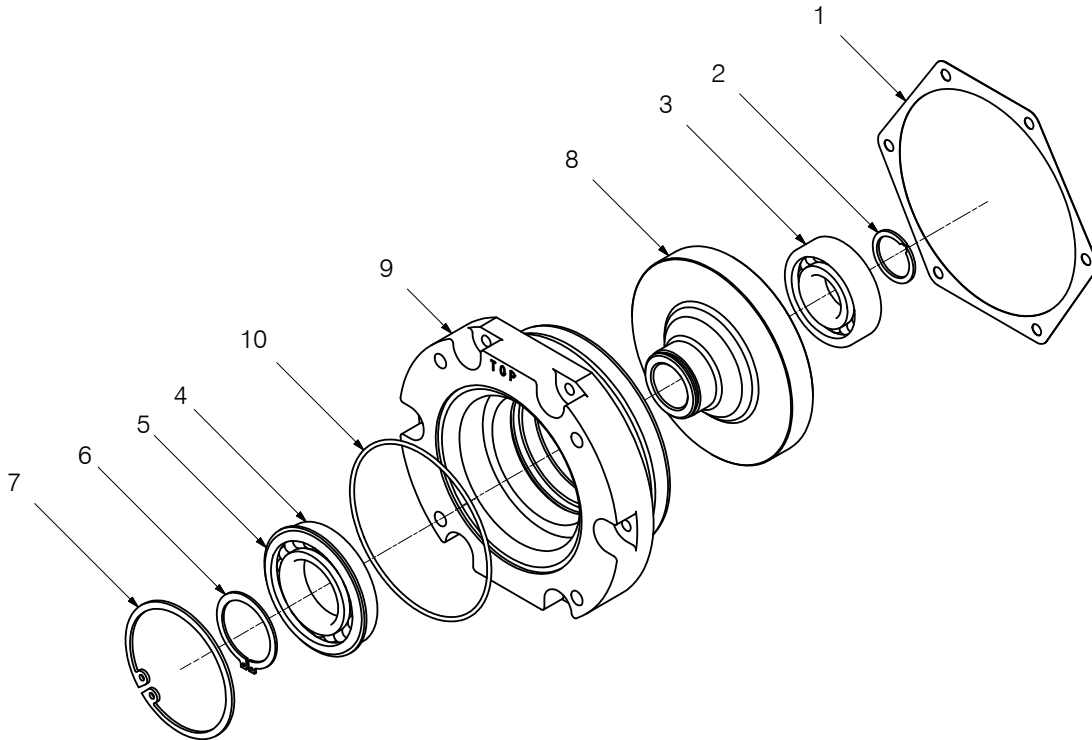
WH410-02



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2307553W	Parts Group, Input Motor	1				
1	*a 2303628W	. Bearing, Ball	1	8	*a 60988W	. O-Ring	1
2	*a R231264	. Gasket	1	9	2307552W	. Gear, Input, 45T-16T	
3	*a 43308W	. Bearing, Ball	1	10	NSS	. Snap Ring (Included in Item 1)	1
4	R224083	. Snap Ring, Rear Bearing	1		*a	Included in Input Motor Parts Group Service Kit, 2315507	
5	12975W	. Snap Ring, EXT	1				
6	304562W	. Snap Ring	1				
7	2306730W	. Bearing Carrier	1				

Input Motor Parts Group

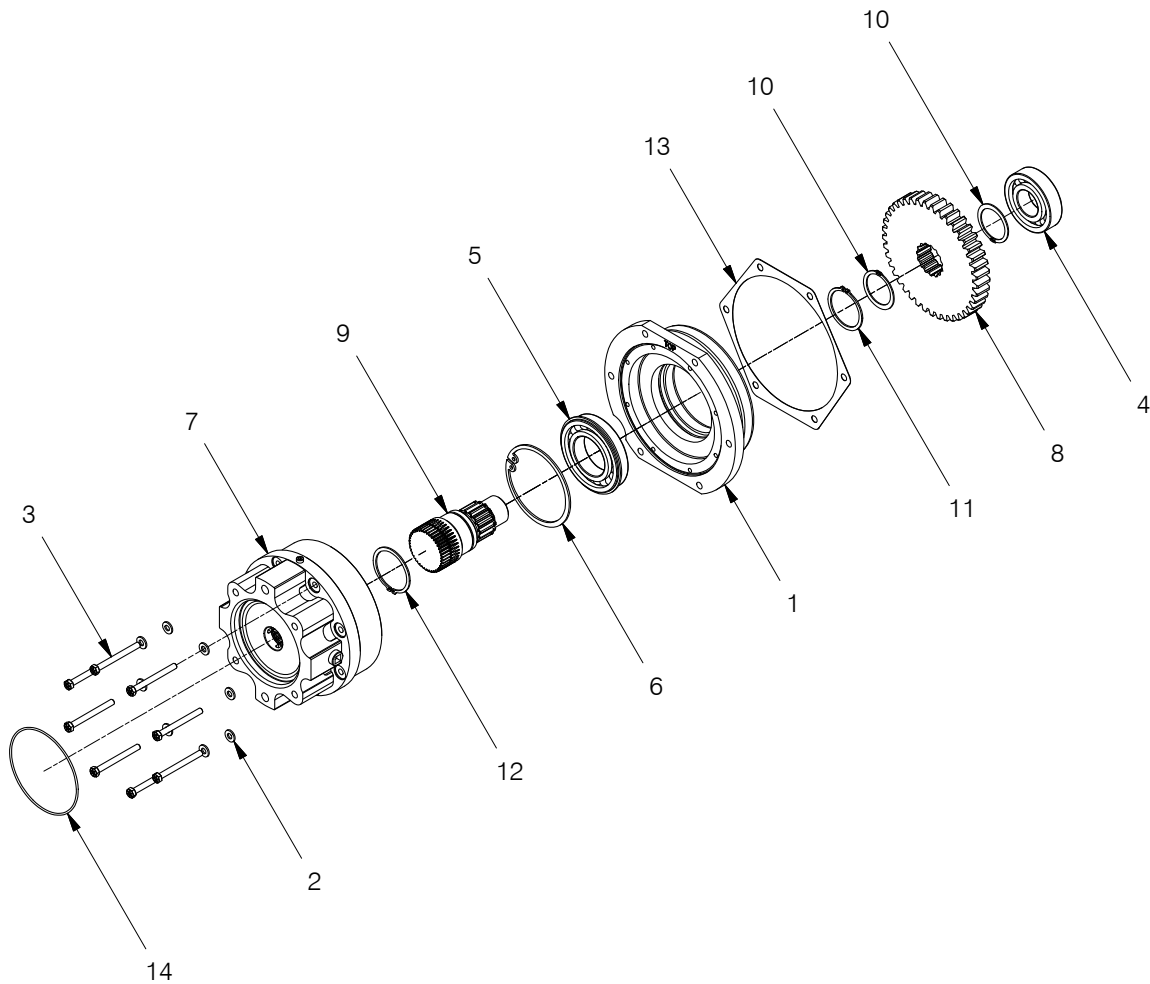
WH411-02



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306783W	Parts Group, Input Motor	1				
1	*a R231264	. Gasket	1	8	2306732W	. Gear, Input, 41T	1
2	R224083	. Snap Ring	1	9	2306730W	. Bearing Carrier, Input	1
3	*a 43308W	. Ball Bearing	1	10	*a 60988W	O-Ring	1
4	*a 2303628W	. Ball Bearing	1				
5	NSS	. Snap Ring	1		*a	Included in Input Motor Parts Group Service Kit,	
6	12975W	. Snap Ring	1			2315507	
7	304562W	. Snap Ring	1				

Input 3.75:1 Planetary Parts Group

WH411-02D



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2314047	Parts Group, Input Planetary	1				
1	2313975	. Carrier, Input Bearing	1	10	58954W	. Ring, Snap	2
2	R13802914	. Washer	8	11	12917W	. Ring, Snap	1
3	R13801023	. Capscrew	8	12	73688W	. Ring, Snap	1
4	*a 43308W	. Bearing, Ball	1	13	*a R231264	. Gasket, Input	1
5	*a 2303628W	. Bearing, Ball	1	14	*a 27725	. O-Ring	1
6	304562W	. Ring, Snap	1				
7	2313977	. Bearing Carrier	1		*a	Included in Input 3.75:1 Planetary Parts Group	
8	2311602	. Gear, 41T	1			Service Kit, 2315516	
9	2313974	. Shaft, Input	1				

Gear Train

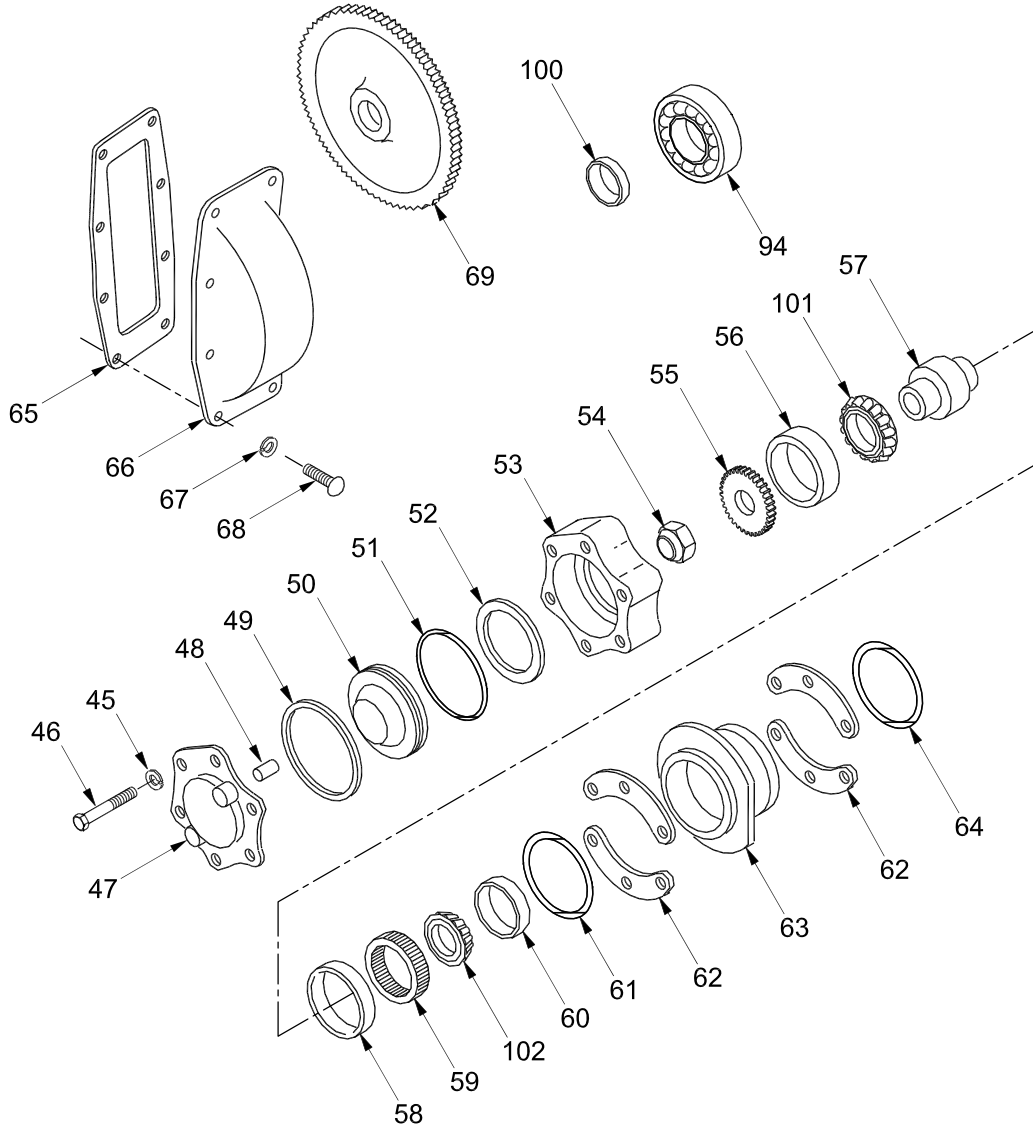
Cable Drum Clutch	4-24 thru 4-35
Cable Drum Plunger	4-39 & 4-40
Drag Brake for Optional BRAKE-OFF	4-41 & 4-42
Drum Drive Shaft	4-18 thru 4-23
Pinion Shaft	4-2 thru 4-13
Ring Gear, Pinion & Ring Gear Hub Assembly	4-36 thru 4-38
Ring Gear Shaft	4-14 & 4-17

Pinion Shaft

W410-04, W410-05, W410-06, W410-08

WD410-02, WD410-03

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Pinion Shaft

W410-04, W410-05, W410-06, W410-08

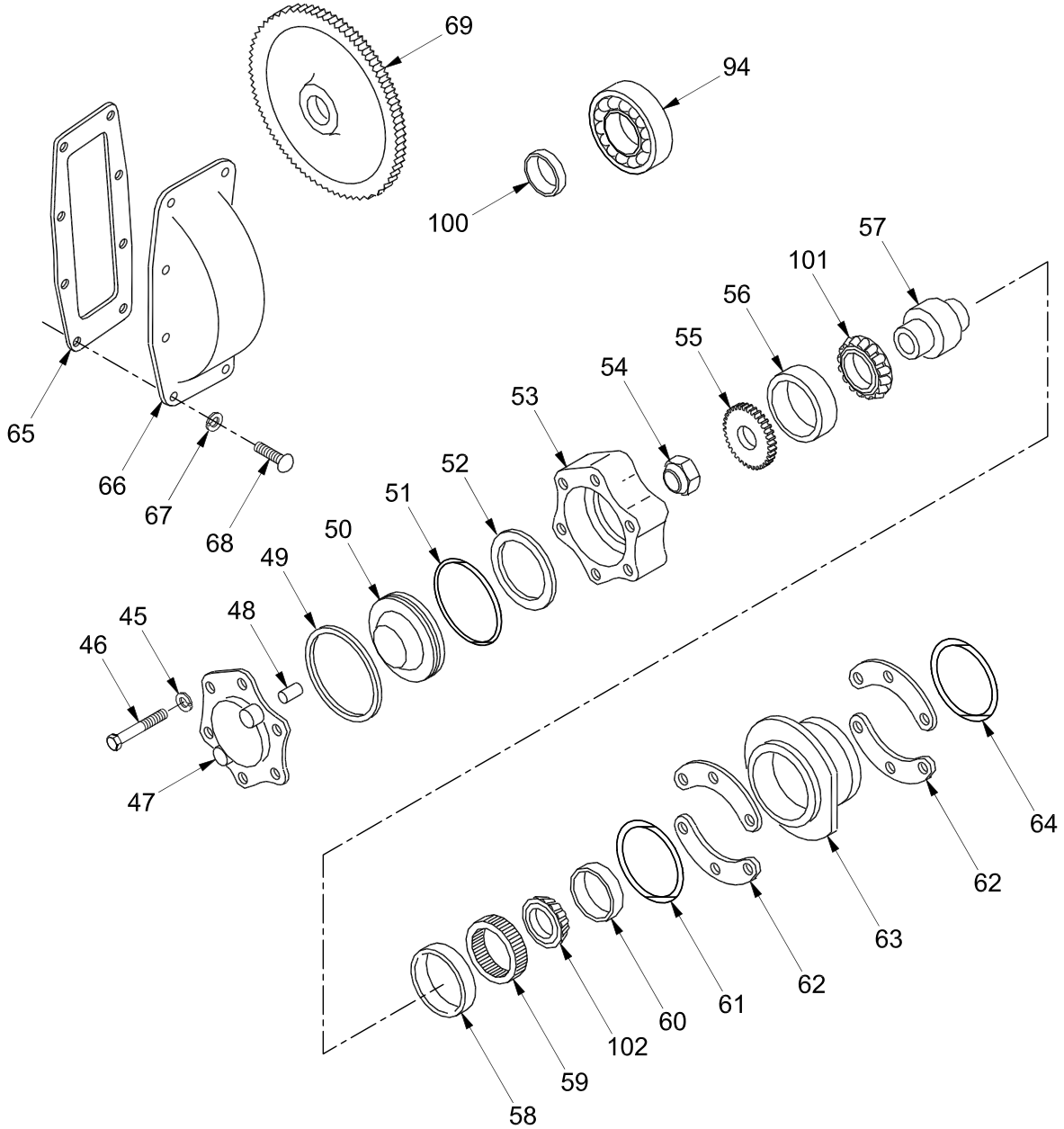
WD410-02, WD410-03

Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400083	Assembly, Pinion Shaft	1				
45	15158W	. Lockwasher	6	62	R231274	. Shim, .004	AR
46	2313376	. Capscrew	6	62	R231275	. Shim, .007	AR
47	R232162	. Assembly, End Cap & Pin	1	62	R232715	. Shim, .020	AR
48	R211853	. Pin, Dowel	2	63	R232349	. Race	1
49	*a 57597W	. O-Ring	1	64	*a 15891W	. O-Ring	1
50	R232157	. Piston	1	65	*a R231279	. Gasket	1
51	R217420	. Ring	1	66	R400082	. Cover	1
52	*a R232159	. Disc	1	67	15156W	. Lockwasher	8
53	R232357	. Housing	1	68	252928W	. Capscrew	8
54	17411W	. Nut	1	69	R231267	. Gear, 64T	1
55	R232160	. Hub	1	94	*a 2306097W	. Bearing	1
56	*a R4064001	. Cup	1	100	R400041	. Spacer, Pinion Bearing	1
57	R232350	. Race	1	101	*a R4064002	. Cone	1
58	R233850	. Retainer	1	102	*a 2303791W	. Cone	1
59	R232351	. Assembly, Sprag	1				
60	*a 45733W	. Cup	1		*a	Included in Pinion Shaft Service Kit, 2315508	
61	*a 15891W	. O-Ring	2				

Pinion Shaft

W411-02, W411-03, W411-04, W411-05;
WD411-05
Page 1 of 2



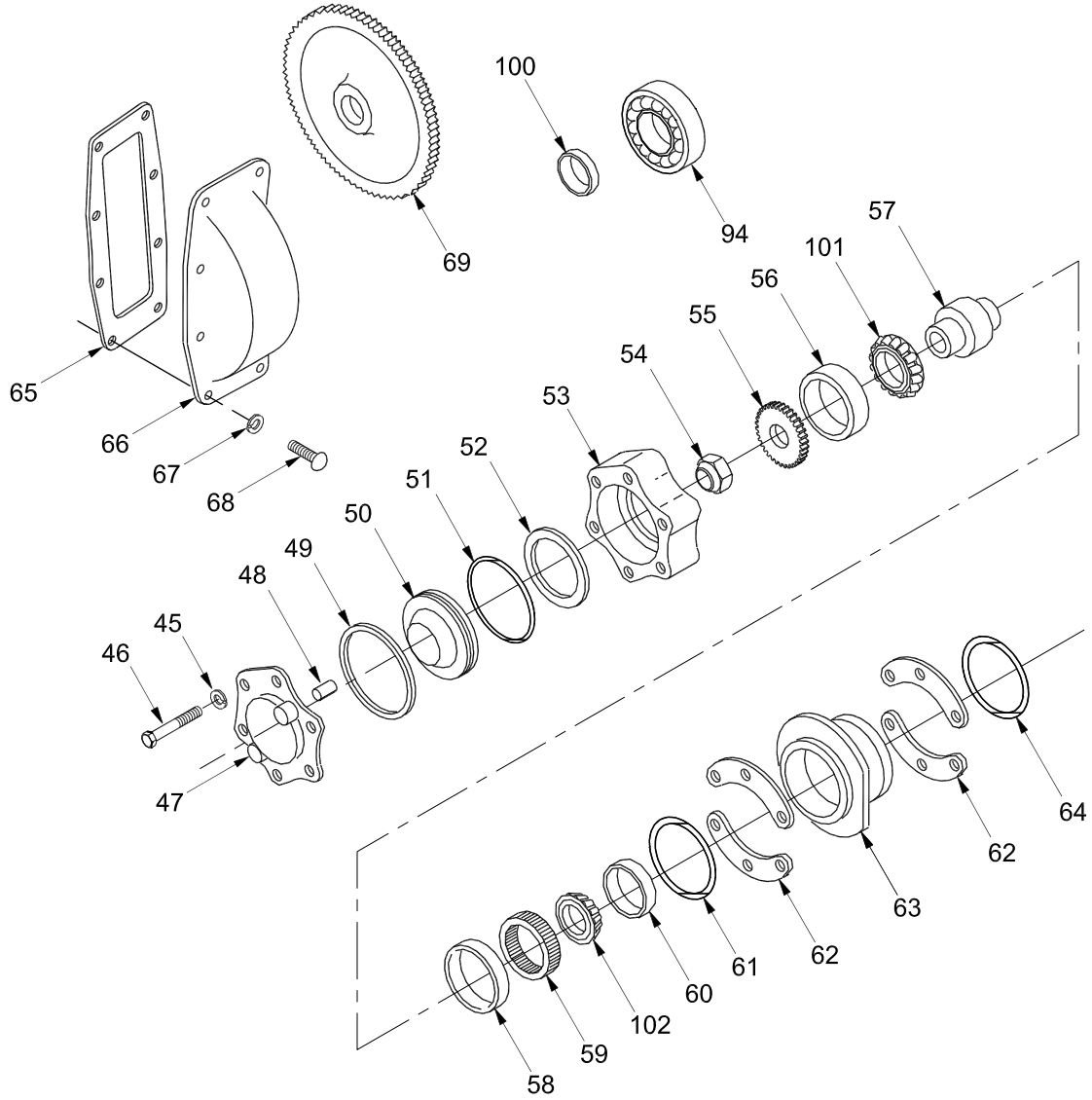
Pinion Shaft

W411-02, W411-03, W411-04, W411-05;
WD411-05
Page 1 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400084	Parts Group, Pinion Shaft	1				
45	15158W	. Lockwasher	6	62	R231274	. Shim, .004	AR
46	2313376	. Capscrew	6	62	R231275	. Shim, .007	AR
47	R232162	. Cover	1	62	R232715	. Shim, .020	AR
48	R211853	. . Pin, Dowel	2	63	R232349	. Race	1
49	*a 57597W	. O-Ring	1	64	*a 15891W	. O-Ring	1
50	R232157	. Piston	1	65	*a R231279	. Gasket	1
51	R217420	. Ring	1	66	R400082	. Cover	1
52	*a R232159	. Disc	1	67	15156W	. Lockwasher	8
53	R232357	. Housing	1	68	252928W	. Capscrew	8
54	17411W	. Nut	1	69	R231744	. Gear, 67T	1
55	R232160	. Hub	1	94	*a 2306097W	. Bearing	1
56	*a R4064001	. Cup	1	100	R400041	. Spacer, Pinion Bearing	1
57	R232350	. Race	1	101	*a R4064002	. Cone	1
58	R233850	. Retainer	1	102	*a 2303791W	. Cone	1
59	R232351	. Sprag	1				
60	*a 45733W	. Cup	1		*a	Included in Pinion Shaft Service Kit, 2315508	
61	*a 15891W	. O-Ring	2				

Pinion Shaft

W428-03
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Pinion Shaft

W428-03

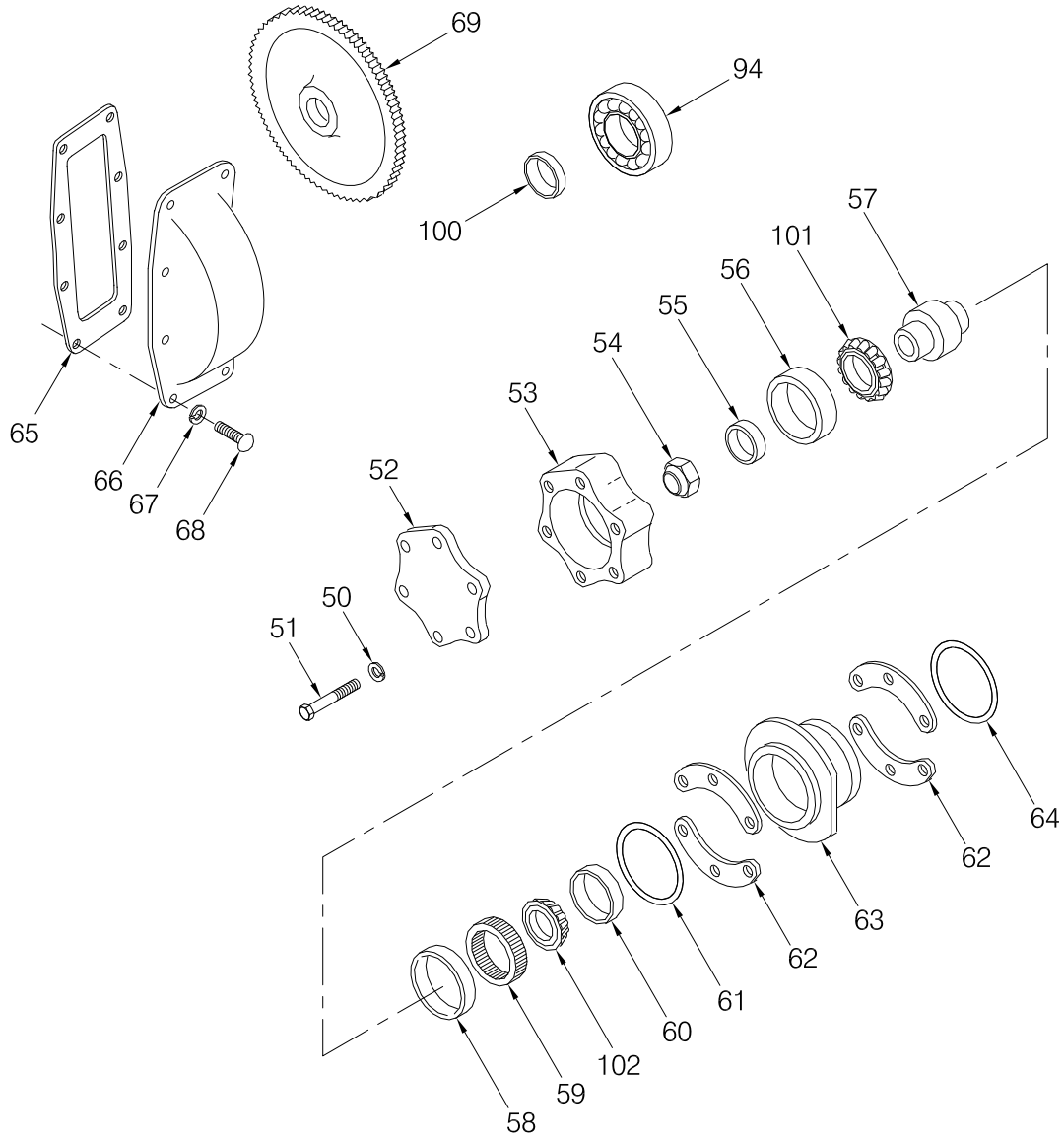
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2303697W	Assembly, Pinion Shaft	1				
45	15158W	. Lockwasher	6	62	R231274	. Shim, .004	AR
46	16918W	. Capscrew	6	62	R231275	. Shim, .007	AR
47	R232162	. Assembly, End Cap & Pin	1	62	R232715	. Shim, .020	AR
48	R211853	. Pin, Dowel	2	63	R232349	. Race	1
49	*a 57597W	. O-Ring	1	64	*a 15891W	. O-Ring	1
50	R232157	. Piston	1	65	*a R231279	. Gasket	1
51	2303687W	. Seal, Lip	1	66	R400082	. Cover	1
52	*a R232159	. Disc	1	67	15156W	. Lockwasher	8
53	R232357	. Housing	1	68	16828W	. Capscrew	8
54	17411W	. Nut	1	69	R231267	. Gear, 64T	1
55	R232160	. Hub	1	94	*a 2306097W	. Bearing	1
56	*a R4064001	. Cup	1	100	R400041	. Spacer, Pinion Bearing	1
57	R232350	. Race	1	101	*a R4064002	. Cone	1
58	R233850	. Retainer	1	102	*a 2303791W	. Cone	1
59	R232351	. Assembly, Sprag	1				
60	*a 45733W	. Cup	1		*a	Included in Pinion Shaft Service Kit, 2315508	
61	*a 15891W	. O-Ring	2				

Pinion Shaft

WH410-01, WH410-02

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Pinion Shaft

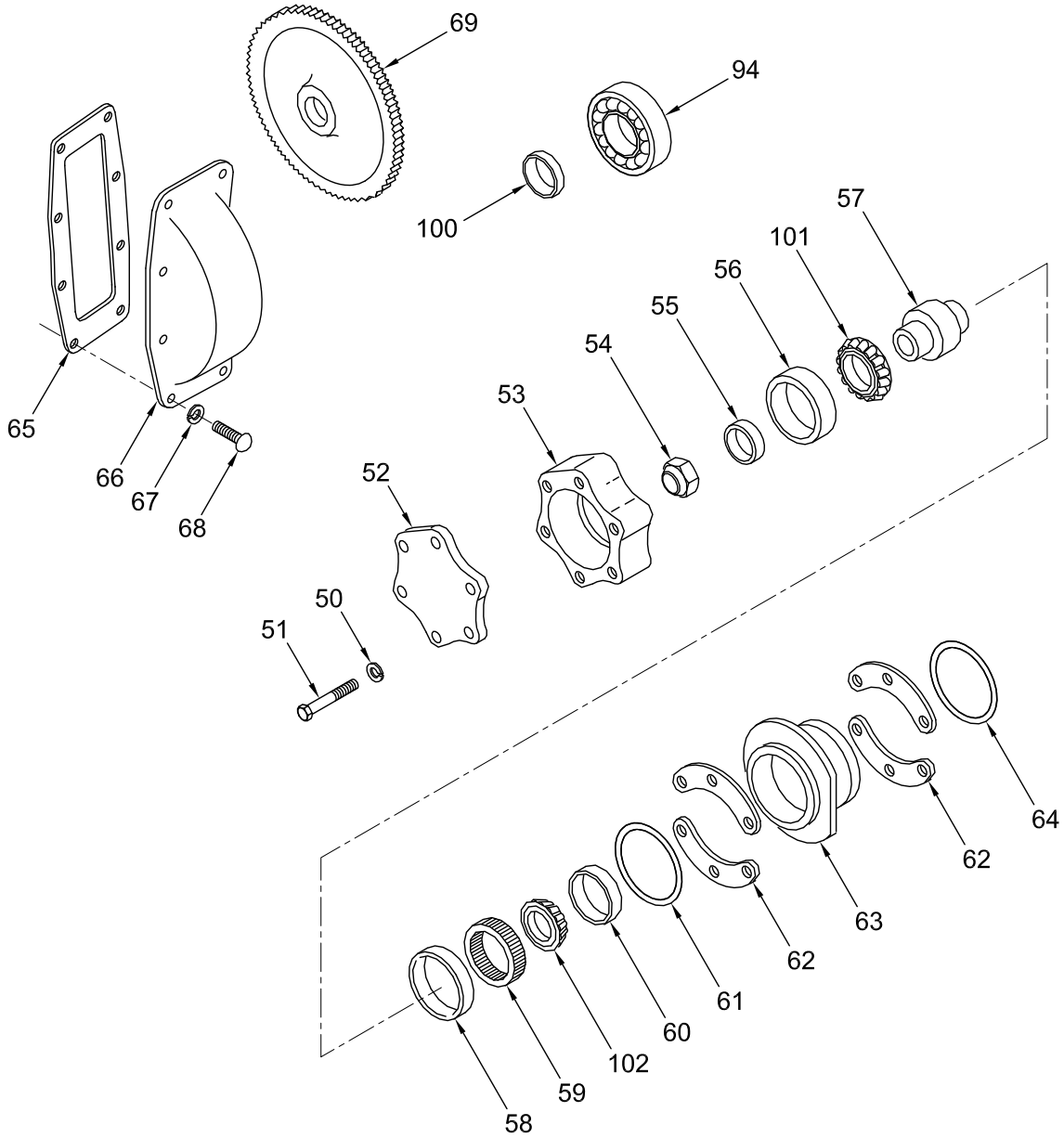
WH410-01, WH410-02
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306195W	Assembly, Pinion Shaft	1				
50	15158W	. Lockwasher	6	63	R232349	. Race	1
51	2313376	. Capscrew	6	64	*b 15891W	. O-Ring	1
52	*a 2306197W	. Housing Cover	1	65	*b R231279	. Gasket	1
53	*a 2306193W	. Housing	1	66	R400082	. Cover	1
54	17411W	. Nut	1	67	15156W	. Washer	8
55	R400103	. Spacer	1	68	252928W	. Capscrew	8
56	*b R4064001	. Bearing Cup	1	69	R231267	. Gear, Pinion Shaft, 64T	1
57	R232350	. Race	1	94	*b 2306097W	. Bearing	1
58	R233850	. Retainer	1	100	R400041	. Spacer	1
59	R232351	. Assembly, Sprag	1	101	*b R4064002	. Bearing Cone	1
60	*b 45733W	. Bearing Cup	1	102	*b 2303791W	. Bearing Cone	1
61	*b 15891W	. O-Ring	2				
62	R231274	. Shim, .004	AR		*a	Apply Loctite 515 Sealant to Mating Surface	
62	R231275	. Shim, .007	AR		*b	Included in Pinion Shaft Service Kit, 2315509	
62	R232715	. Shim, .020	AR				

Pinion Shaft

W411-06; WH411-02; WH411-02D

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Pinion Shaft

W411-06; WH411-02; WH411-02D

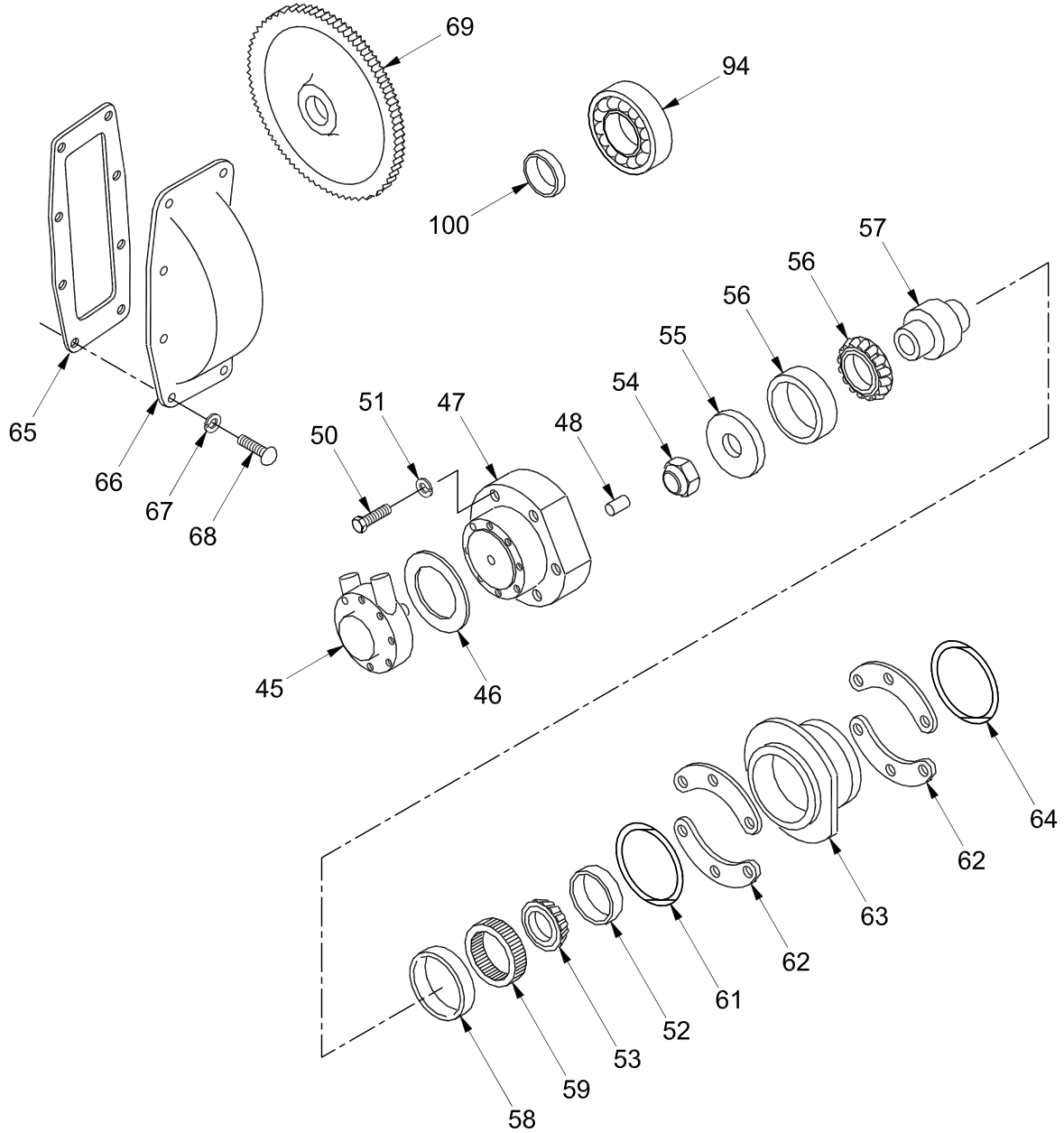
Page 1 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306791W	Parts Group, Pinion Shaft	1				
50	15158W	. Lockwasher	6	63	R232349	. Race	1
51	2313376	. Capscrew	6	64	*b 15891W	. O-Ring	1
52	*a 2306197W	. Housing Cover	1	65	*b R231279	. Gasket	1
53	*a 2306193W	. Housing	1	66	R400082	. Cover	1
54	17411W	. Nut	1	67	15156W	. Washer	8
55	R400103	. Spacer	1	68	252928W	. Capscrew	8
56	*b R4064001	. Bearing Cup	1	69	R231744	. Gear, 67T	1
57	R232350	. Race	1	94	*b 2306097W	. Bearing	1
58	R233850	. Retainer	1	100	R400041	. Spacer	1
59	R232351	. Assembly, Sprag	1	101	*b R4064002	. Bearing Cone	1
60	*b 45733W	. Bearing Cup	1	102	*b 2303791W	. Bearing Cone	1
61	*b 15891W	. O-Ring	2				
62	R231274	. Shim, .004	AR		*a	Apply Loctite 515 Sealant to Mating Surface	
62	R231275	. Shim, .007	AR		*b	Included in Pinion Shaft Service Kit, 2315509	
62	R232715	. Shim, .020	AR				

Pinion Shaft

WH411-01

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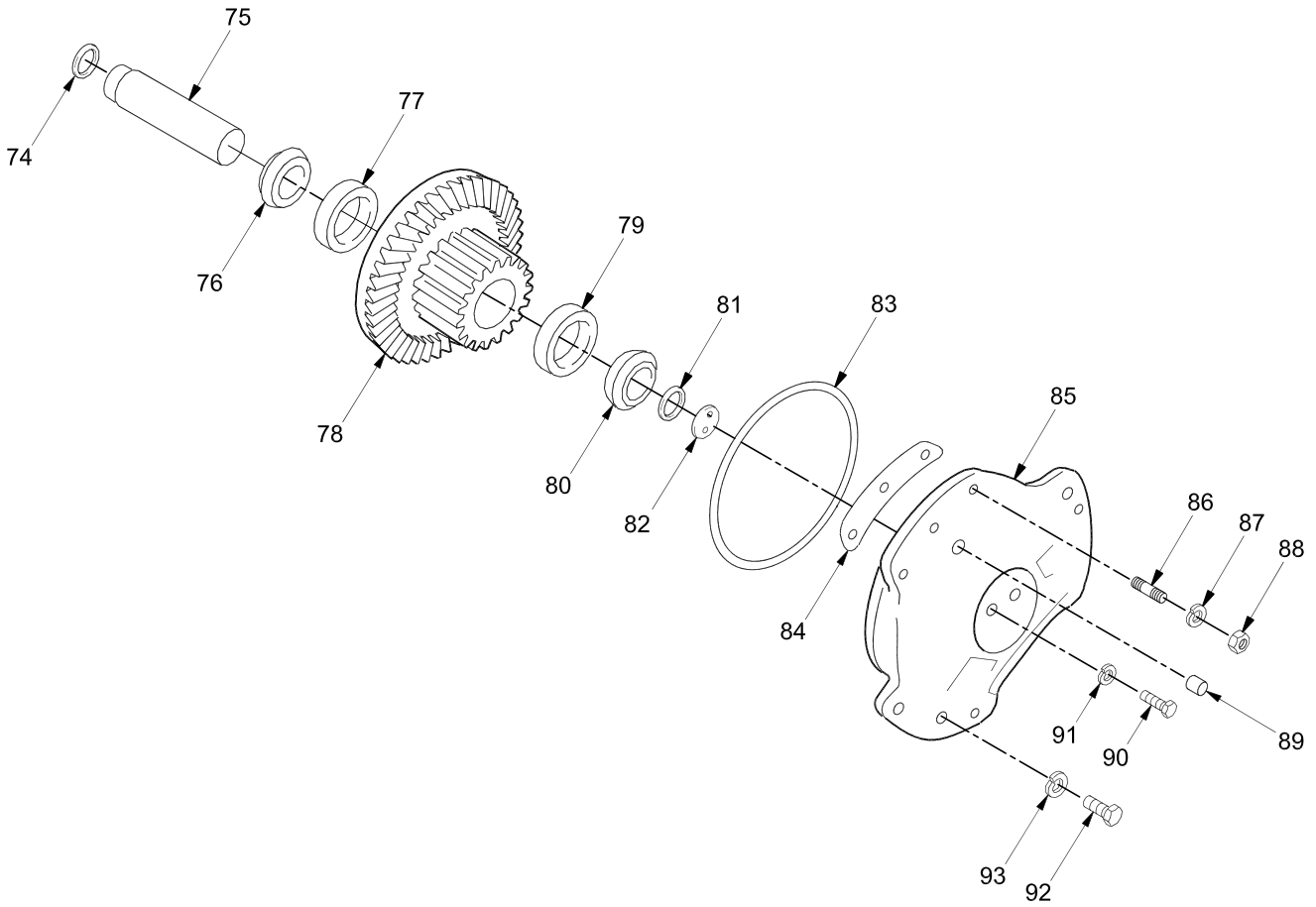
Pinion ShaftWH411-01
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400109	Parts Group, Pinion Shaft	1				
45	2303632W	. Pump	1	61	*a 15891W	. O-Ring	1
46	*a 2303630W	. Gasket, Pump	1	62	R231274	. Shim, .004	AR
47	R400102	. Retainer	1	62	R231275	. Shim, .007	AR
48	2303629W	. . Bushing, Pump Shaft	1	62	R232715	. Shim, .020	AR
50	307788W	. Capscrew	6	63	R232349	. Race	1
51	15158W	. Lockwasher	6	64	*a 15891W	. O-Ring	1
52	*a 45733W	. Cup, Bearing	1	65	*a R231279	. Gasket	1
53	*a 2303791W	. Cone, Bearing	1	66	R400082	. Cover	1
54	17411W	. Nut	1	67	15156W	. Lockwasher	8
55	R400103	. Spacer	1	68	252928W	. Capscrew	8
56	*a R4064001	. Cup, Bearing	1	69	R231267	. Gear, 64T	1
56	*a R4064002	. Cone, Bearing	1	94	*a 2306097W	. Bearing	1
57	R232350	. Race	1	100	R400041	. Spacer	1
58	R233850	. Retainer	1				
59	R232351	. Assembly, Sprag	1		*a	Included in Pinion Shaft Service Kit, 2315510	

Ring Gear Shaft

All Except WH411-01

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Ring Gear Shaft

All Except WH411-01

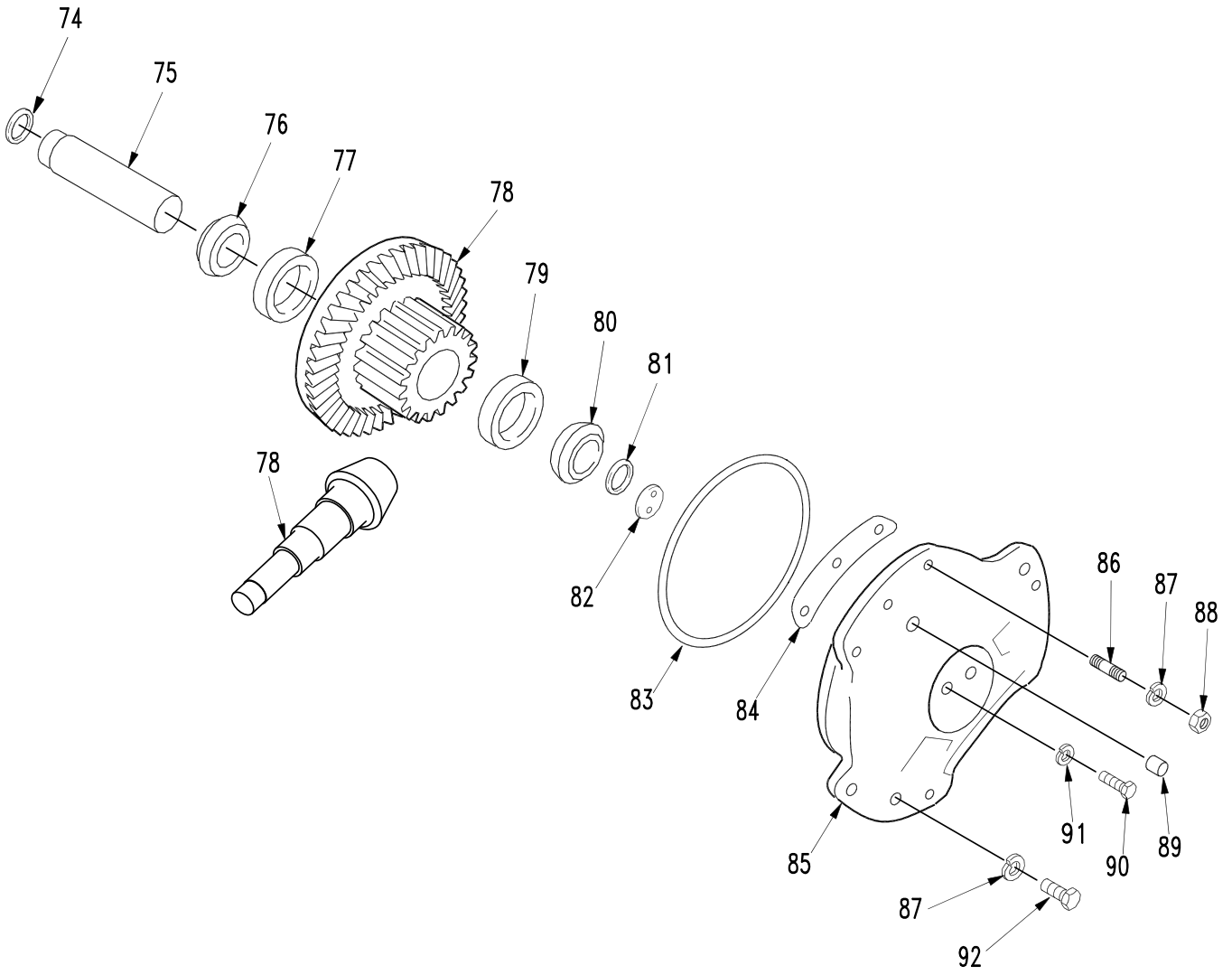
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R232380	Parts Group, Ring Gear Shaft	1				
74	*a 203444	. O-Ring	1		R232366	. Shim, .007	AR
75	R232363	. Shaft	1		R232367	. Shim, .020	AR
76	*a R1314773	. Cone, Bearing	1	85	R233194	. Cover, Ring Gear	1
77	*a R1314774	. Cup, Bearing	1	86	2313419	. Stud	5
78	R233360	. Ring Gear & Pinion Assembly (See 4-28)	1	87	15158W	. Lockwasher	5
79	*a R1304638	. Cup, Bearing	1	88	221712W	. Nut	5
80	*a R232362	. Cone, Bearing	1	89	15319W	. Plug	1
81	*a 59229W	. O-Ring	1	90	134328W	. Capscrew	2
82	R231283	. Shim, .004	AR	91	15157W	. Lockwasher	2
	R231284	. Shim, .007	AR	92	178402W	. Capscrew	4
	R231285	. Shim, .010	AR	93	15158W	. Lockwasher	4
83	*a 14718W	. O-Ring	1		*a	Included in Pinion Shaft Service Kit, 2315511	
84	R232365	. Shim, .005	AR				

Ring Gear Shaft

WH411-01

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Ring Gear Shaft

WH411-01

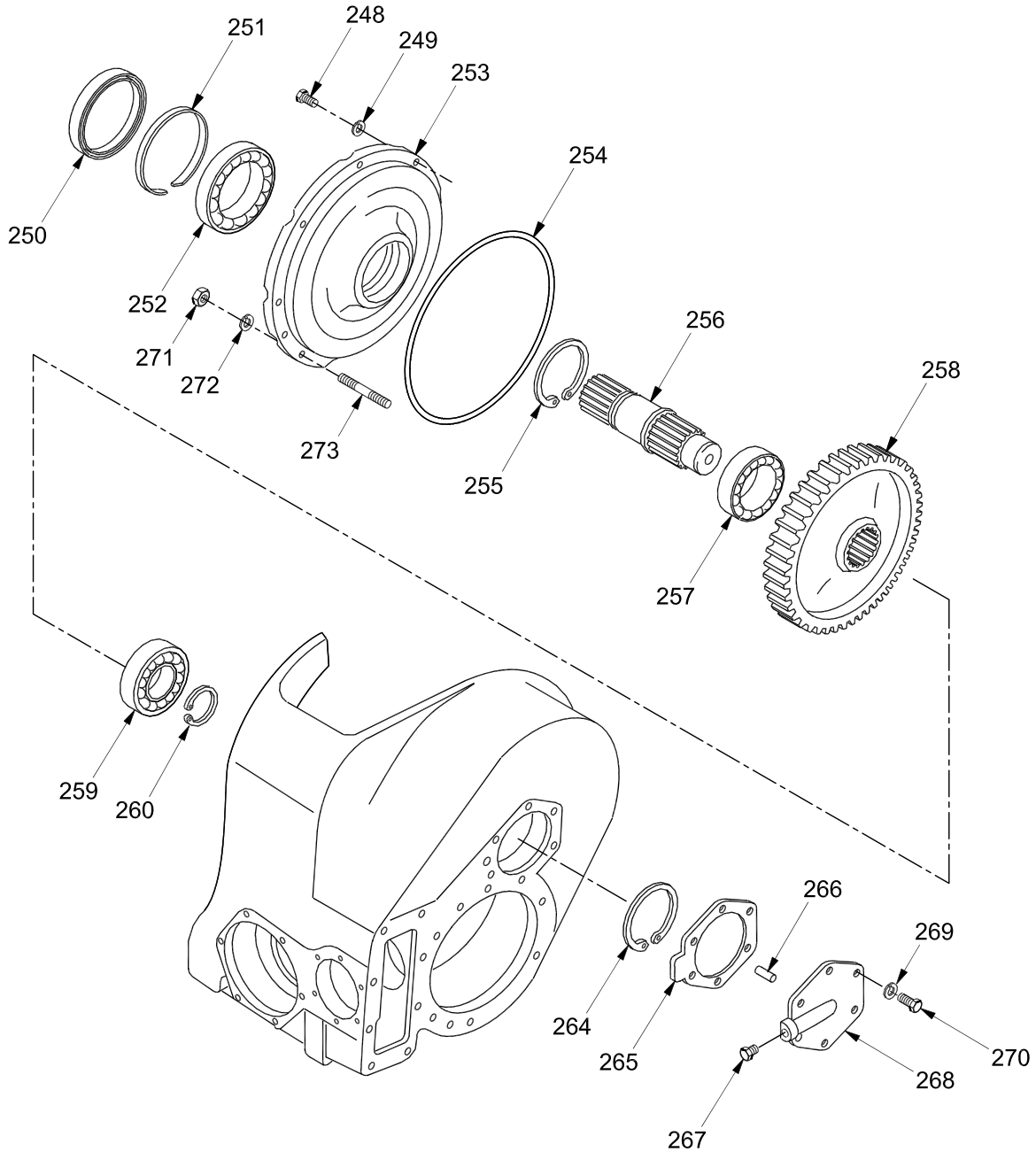
Page 1 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2312799	Assembly - Shaft, Ring Gear	1				
74	*a 203444	. O-Ring	1	84	R232365	. Shim .005	AR
75	R232363	. Shaft	1		R232366	. Shim .007	AR
76	*a R1314773	. Cone, Bearing	1		R232367	. Shim .020	AR
77	*a R1314774	. Cup, Bearing	1	85	R233194	. Cover, Ring Gear	1
78	R400038	. Ring Gear & Pinion Assembly (See 4-27)	1	86	2313419	. Stud	5
79	*a R1304638	. Cup, Bearing	1	87	15158W	. Washer	9
80	*a R232362	. Cone, Bearing	1	88	221712W	. Nut	5
81	*a 59229W	. O-Ring	1	89	15319W	. Plug	1
82	R231283	. Shim, .004	AR	90	134328W	. Capscrew	2
	R231284	. Shim, .007	AR	91	15157W	. Washer	2
	R231285	. Shim, .010	AR	92	178402W	. Capscrew	4
83	*a 14718W	. O-Ring	1		*a	Included in Pinion Shaft Service Kit, 2315511	

Drum Drive Shaft

W410-04, W410-05, W410-08;
W411-02, W411-03, W411-04, W411-05;
WD410-02, WD410-03, WD411-05;
WH410-01, WH411-01, WH411-02

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Drum Drive Shaft

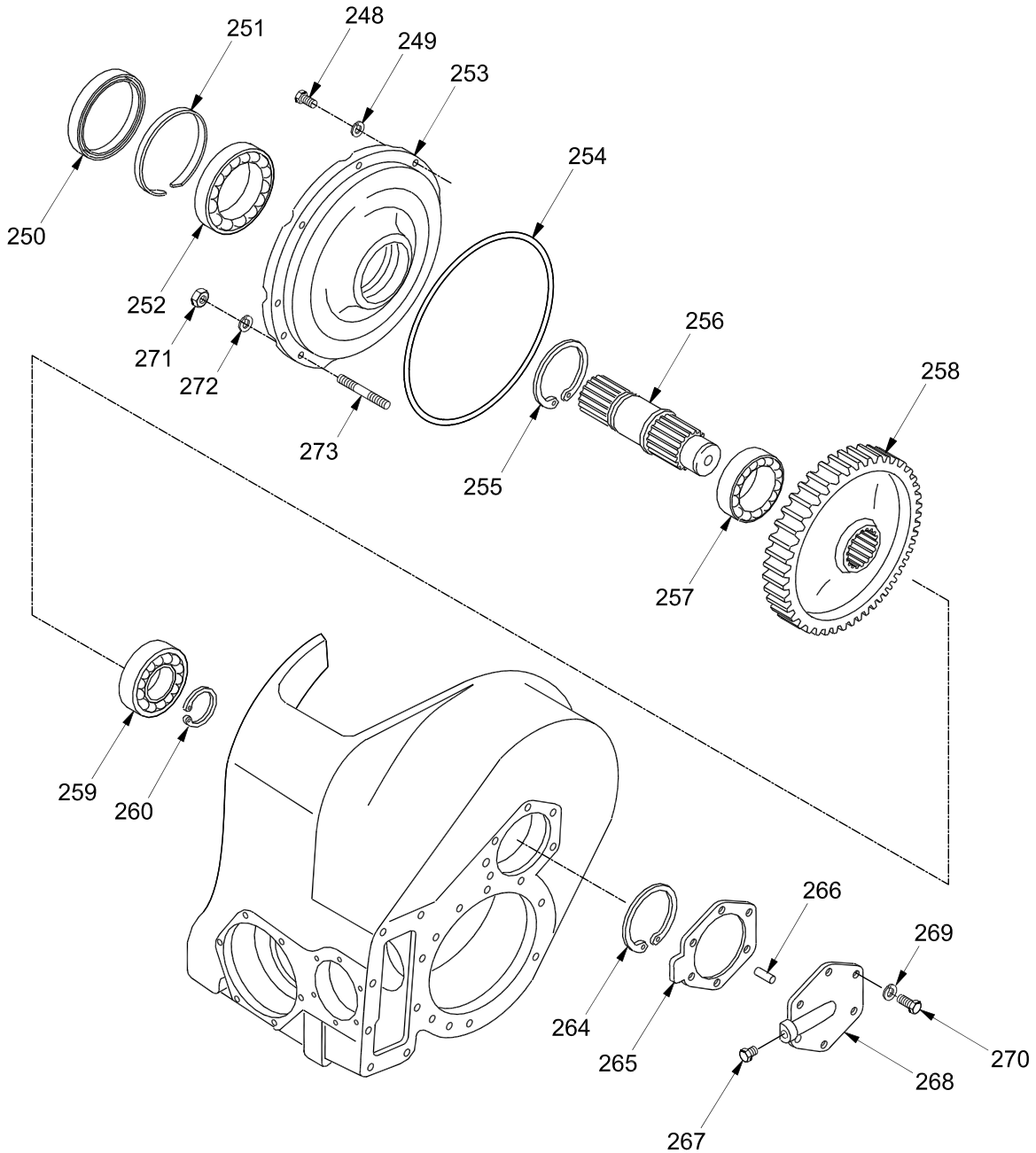
W410-04, W410-05, W410-08;
 W411-02, W411-03, W411-04, W411-05;
 WD410-02, WD410-03, WD411-05;
 WH410-01, WH411-01, WH411-02

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R232382	Parts Group, Drum Drive Shaft	1				
248	179443W	. Capscrew	6	265	*b R231293	. Gasket	1
249	15156W	. Lockwasher	6	266	*a R222031	. Tube	1
250	*b R231842	. Seal	1	267	14349W	. Plug, Pipe	1
251	R217693	. Snap Ring	1	268	*a R231292	. Cover	1
252	*b 44322W	. Bearing	1	269	15156W	. Lockwasher	6
253	R231294	. Support	1	270	252928W	. Capscrew	6
254	*b R218777	. O-Ring	1	271	R13803692	. Nut	2
255	12925W	. Ring, Retaining	1	272	15156W	. Lockwasher	2
256	R231290	. Shaft	1	273	2313421	. Stud	2
257	*b 41215W	. Bearing	1				
258	R232368	. Gear, 56T	1		*a	Apply Loctite 270 to the tube where it is inserted into the cover.	
259	*b 43313W	. Bearing	1		*b	Included in Drum Drive Shaft Service Kit, 2315512	
260	73688W	. Snap Ring	1				
264	12981W	. Snap Ring, Int.	1				

Drum Drive Shaft

W410-06, W428-03

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Drum Drive Shaft

W410-06, W428-03

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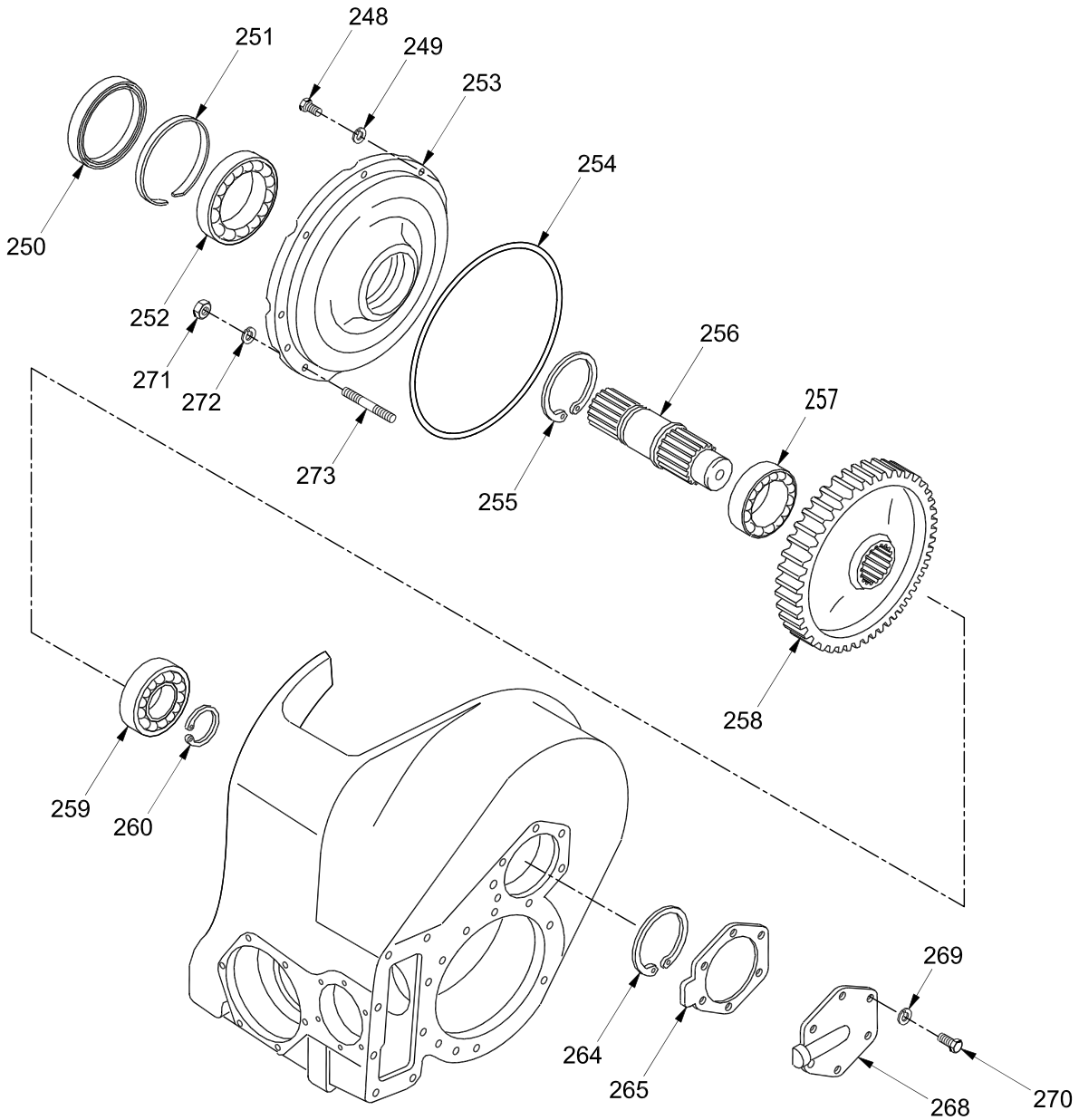
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400015	Parts Group, Drum Drive Shaft	1				
248	179443W	. Capscrew	6	265	*b R231293	. Gasket	1
249	15156W	. Lockwasher	6	266	*a R222031	. Tube	1
250	*b R231842	. Seal	1	267	14349W	. Plug, Pipe	1
251	R217693	. Snap Ring	1	268	*a R231292	. Cover	1
252	*b 44322W	. Bearing	1	269	15156W	. Lockwasher	6
253	R231294	. Support	1	270	252928W	. Capscrew	6
254	*b R218777	. O-Ring	1	271	R13803692	. Nut	2
255	12925W	. Ring, Retaining	1	272	15156W	. Lockwasher	2
256	R231290	. Shaft	1	273	2313421	. Stud	2
257	*b 41215W	. Bearing	1				
258	R400001	. Gear, 33T	1	*a	Apply Loctite 270 to the tube where it is inserted into the cover.		
259	*b 43313W	. Bearing	1	*b	Included in Drum Drive Shaft Service Kit, 2315512		
260	73688W	. Snap Ring	1				
264	12981W	. Snap Ring, Int.	1				

Drum Drive Shaft

Without Force Lube

W411-05, W411-06, WH411-02D

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Drum Drive Shaft

Without Force Lube

W411-05, W411-06, WH411-02D

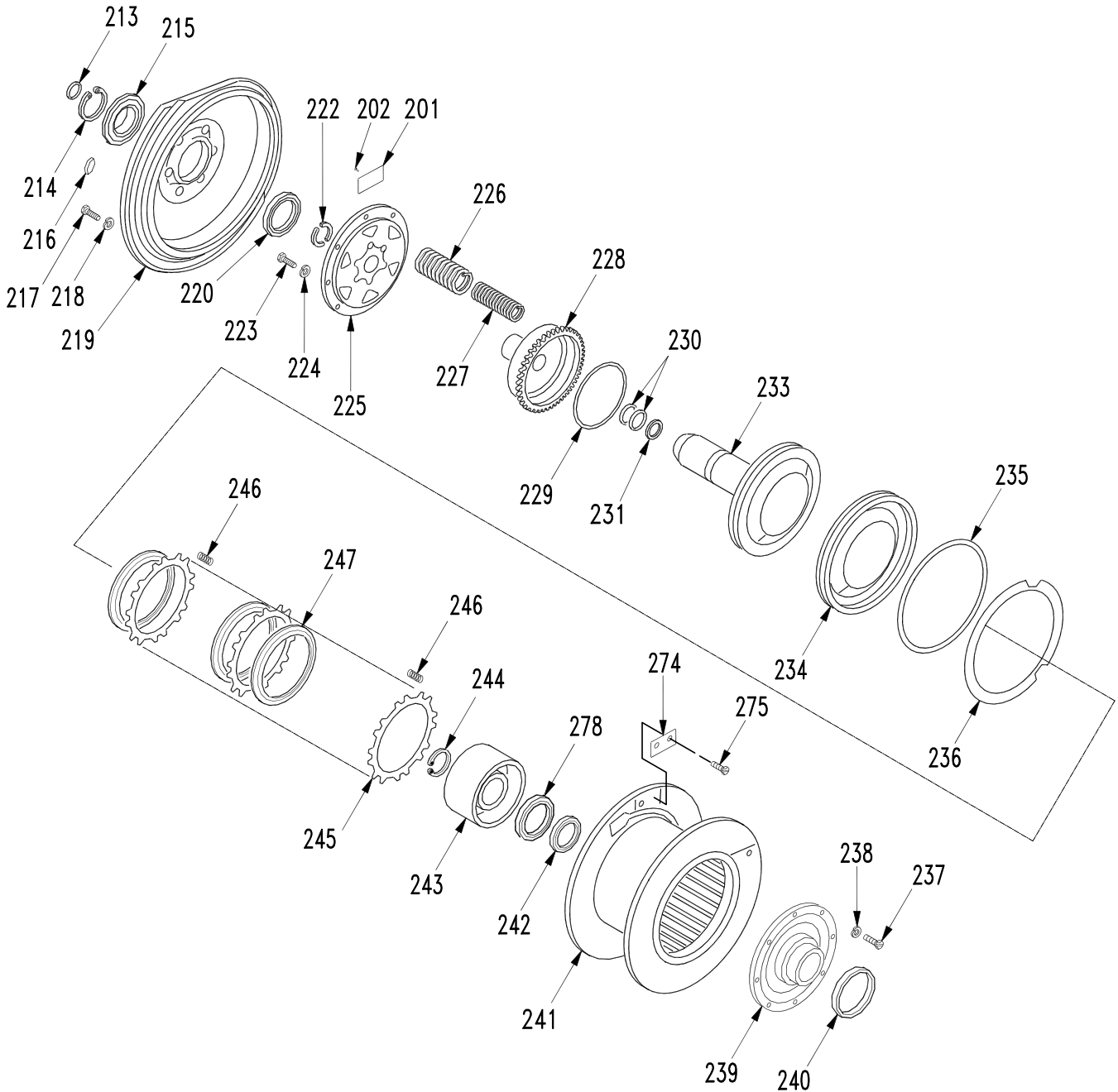
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306706W	Parts Group, Drum Drive Shaft w/o Force Lube	1				
248	179443W	. Capscrew	6	260	73688W	. Snap Ring	1
249	15156W	. Lockwasher	6	264	12981W	. Snap Ring, INT	1
250	*a R231842	. Seal	1	265	*a R231293	. Gasket	1
251	R217693	. Snap Ring	1	268	2306722W	. Cover	1
252	*a 44322W	. Bearing	1	269	15156W	. Lockwasher	6
253	R231294	. Support	1	270	252928W	. Capscrew	6
254	*a R218777	. O-Ring	1	271	R13803692	. Nut	2
255	12925W	. Ring, Retaining	1	272	15156W	. Lockwasher	2
256	R231290	. Shaft	1	273	2313421	. Stud	2
257	*a 41215W	. Bearing	1				
258	R232368	. Gear, 56T	1		*a	Included in Drum Drive Shaft Service Kit, 2315512	
259	*a 43313W	. Bearing	1				

Cable Drum Clutch

WH410-01

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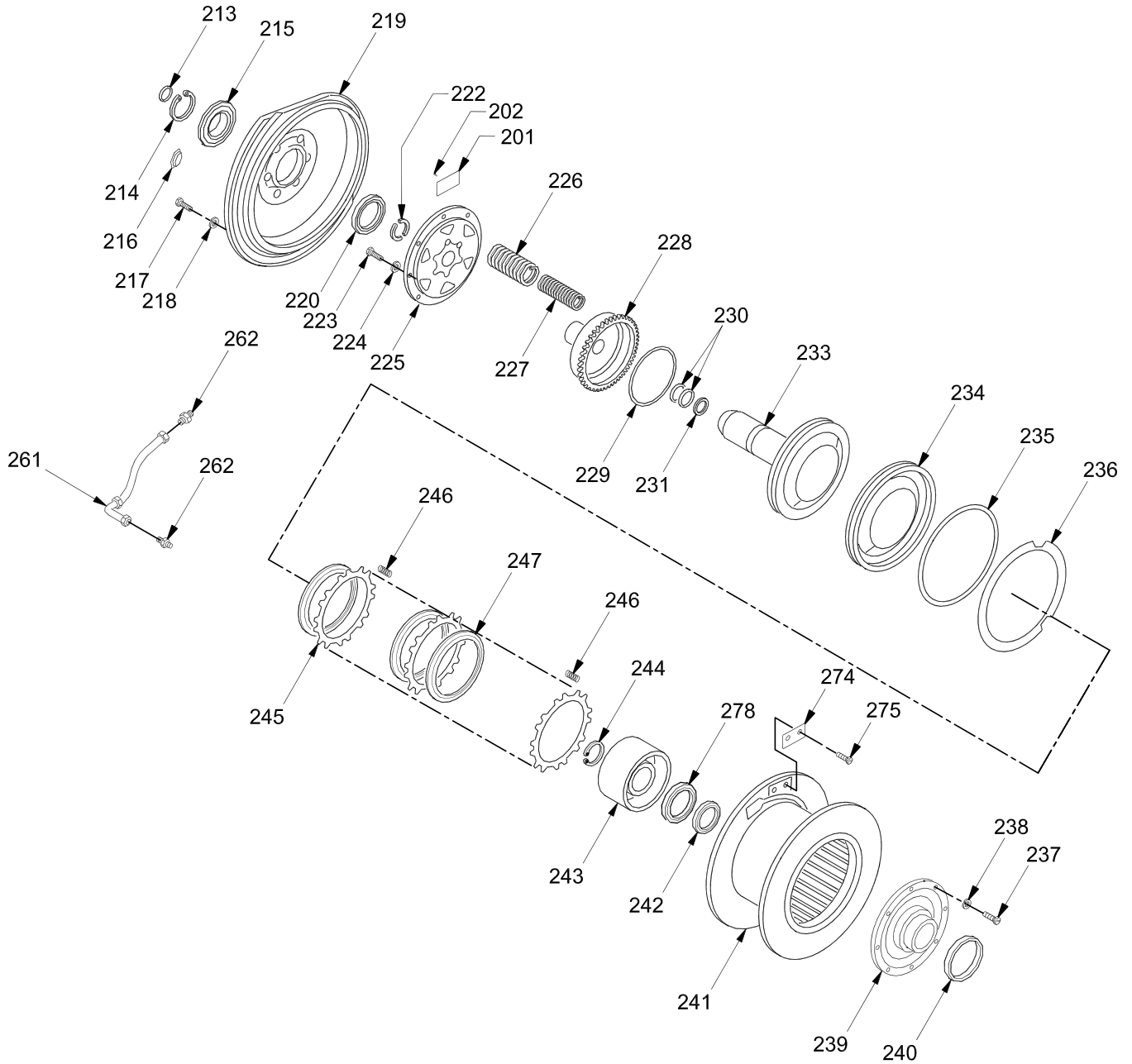
Cable Drum Clutch

WH410-01
Page 2 of 2

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306733W	Parts Group, Cable Drum w/o Freespool Drain	1				
201	----	. Tag, Warning (Included in Item 225)	-	231	*a R231017	. Seal	1
202	----	. Screw (Included in Item 225)	-	233	R239216	. Assembly, Clutch Shaft	1
213	R223084	. Ring, Piston	1	234	R232240	. Plug, Piston	1
214	307276W	. Ring	1	235	*a 17147W	. O-Ring	1
215	*a R231338	. Bearing	1	236	R223989	. Ring	1
216	2314074	. Plug	1	237	----	. Capscrew (Included in Item 223)	-
217	18588W	. Capscrew	9	238	----	. Lockwasher (Included in Item 224)	-
218	----	. Lockwasher (Included in Item 224)	-	239	2304617W	. Assembly, Cable Drum Hub	1
219	R232901	. Cover, Cable Drum	1	240	R231843	. Sleeve, Wear	1
220	*a R231336	. Seal	1	241	R400111	. Drum, Cable	1
222	R231811	. Ring	2	242	*a R247014	. Seal	1
223	200454W	. Capscrew	31	243	R232370	. Assembly, Hub & Washer	1
224	15158W	. Lockwasher	40	244	12940W	. Ring, Snap - EXT.	1
225	R237329	. Support, Cable Drum	1	245	*a R400129	. Disc, Outer Clutch	19
	R234597	. Support, Drum Release	1	246	R233029	. Spring	12
	R232338	. Tag, Warning	1	247	*a 2311825	. Disc, Friction	18
	16602W	. Screw, Drive	2	274	R400119	. Retainer, Cable	1
226	R231332	. Spring, Outer	6	275	16378W	. Capscrew	2
227	R231333	. Spring, Inner	6	278	*a 2304326W	. Seal	1
228	R232239	. Piston	1				
229	*a R231303	. Seal	1		*a	Included in Cable Drum Clutch Service Kit, 2315513	
230	*a 59229W	. O-Ring	2				

Cable Drum Clutch

W410-04, W410-05, W410-06;
W411-02, W411-03, W411-04, W411-05; W428-03;
WD410-02, WD410-03, WD411-05; WH411-01
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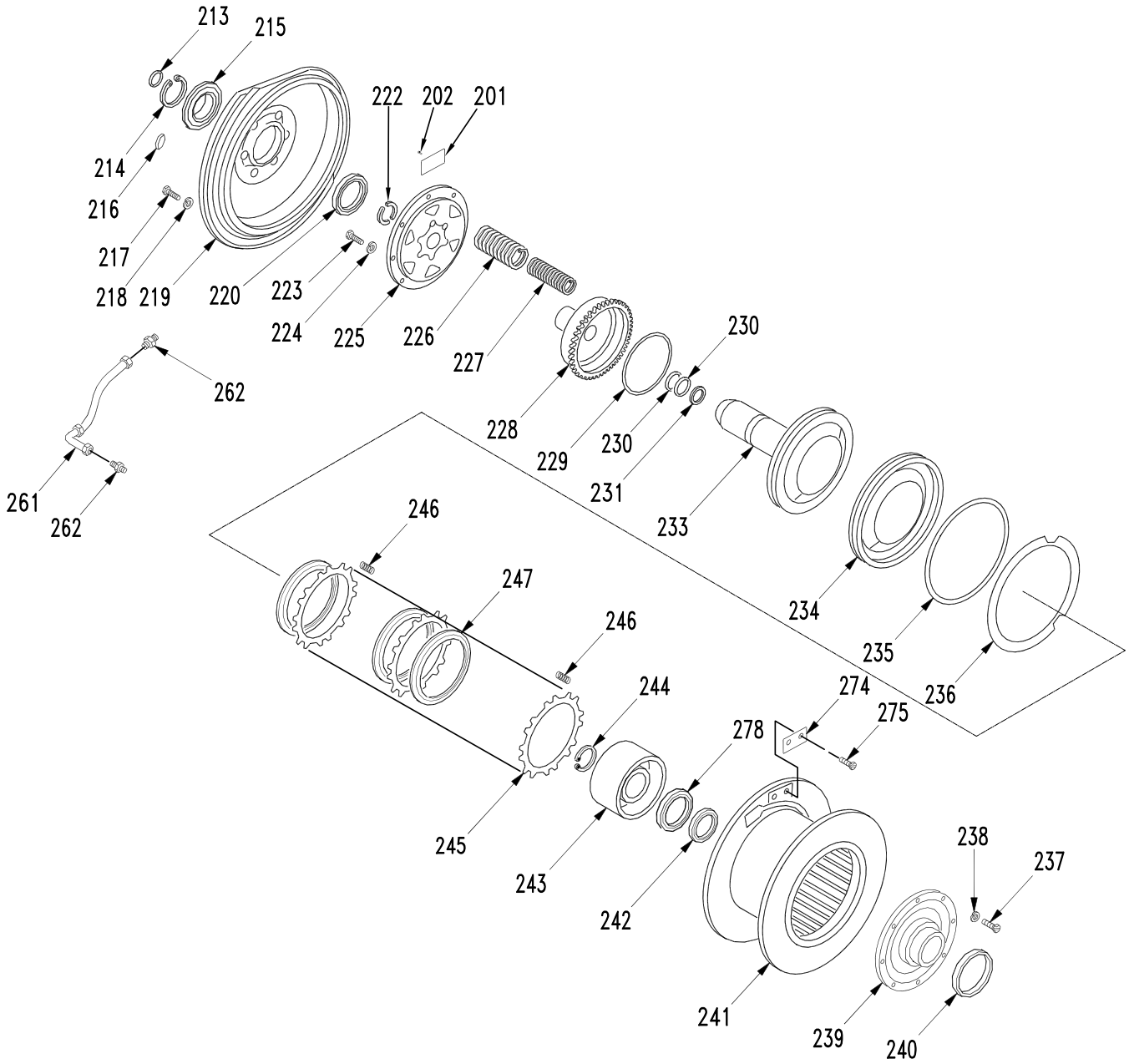
Cable Drum Clutch

W410-04, W410-05, W410-06;
 W411-02, W411-03, W411-04, W411-05; W428-03;
 WD410-02, WD410-03, WD411-05; WH411-01

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400037	Parts Group, Cable Drum Clutch	1				
201	----	. Tag, Warning (Included in Item 225)	-	234	R232240	. Plug, Piston	1
202	----	. Screw (Included in Item 225)	-	235	*b 17147W	. O-Ring	1
213	R223084	. Ring, Piston	1	236	R223989	. Ring	1
214	307276W	. Ring	1	237	----	. Screw (Included in Item 223)	-
215	*b R231338	. Bearing	1	238	----	. Lockwasher (Included in Item 224)	-
216	2314074	. Plug	1	239	R232574	. Support	1
217	18588W	. Capscrew	9	239	*a 2304617W	. Assembly, Cable Drum	1
218	----	. Lockwasher (Included in Item 224)	-	240	R231843	. Sleeve, Wear	1
219	R232901	. Cover, Cable Drum	1	241	R400111	. Drum, Cable	1
220	*b R231336	. Seal	1	242	*b R247014	. Seal	1
222	R231811	. Ring	2	243	R232370	. Hub	1
223	200454W	. Capscrew	31	244	12940W	. Ring, Snap	1
224	15158W	. Lockwasher	40	245	*b R400129	. Disc, Outer	19
225	R237329	. Support, Cable Drum	1	246	R233029	. Spring	12
	R234597	. Support, Drum Release	1	247	*b 2311825	. Disc, Friction	18
	R232338	. Tag, Warning	1	261	R400112	. Tube Assembly	1
	16602W	. Screw, Drive	2	262	131460W	. Adapter	2
226	R231332	. Spring, Outer	6	274	R400119	. Retainer, Cable	1
227	R231333	. Spring, Inner	6	275	R13810990	. Capscrew	2
228	R232239	. Piston	1	278	*a, *b 2304326W	. Seal	1
229	*b R231303	. Seal	1				
230	*b 59229W	. O-Ring	2		*a	First Used on S/N W4##-1071	
231	*b R231017	. Seal	1		*b	Included in Cable Drum Clutch Service Kit, 2315513	
233	R239216	. Clutch Shaft Assembly	1				

Cable Drum Clutch

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Cable Drum Clutch

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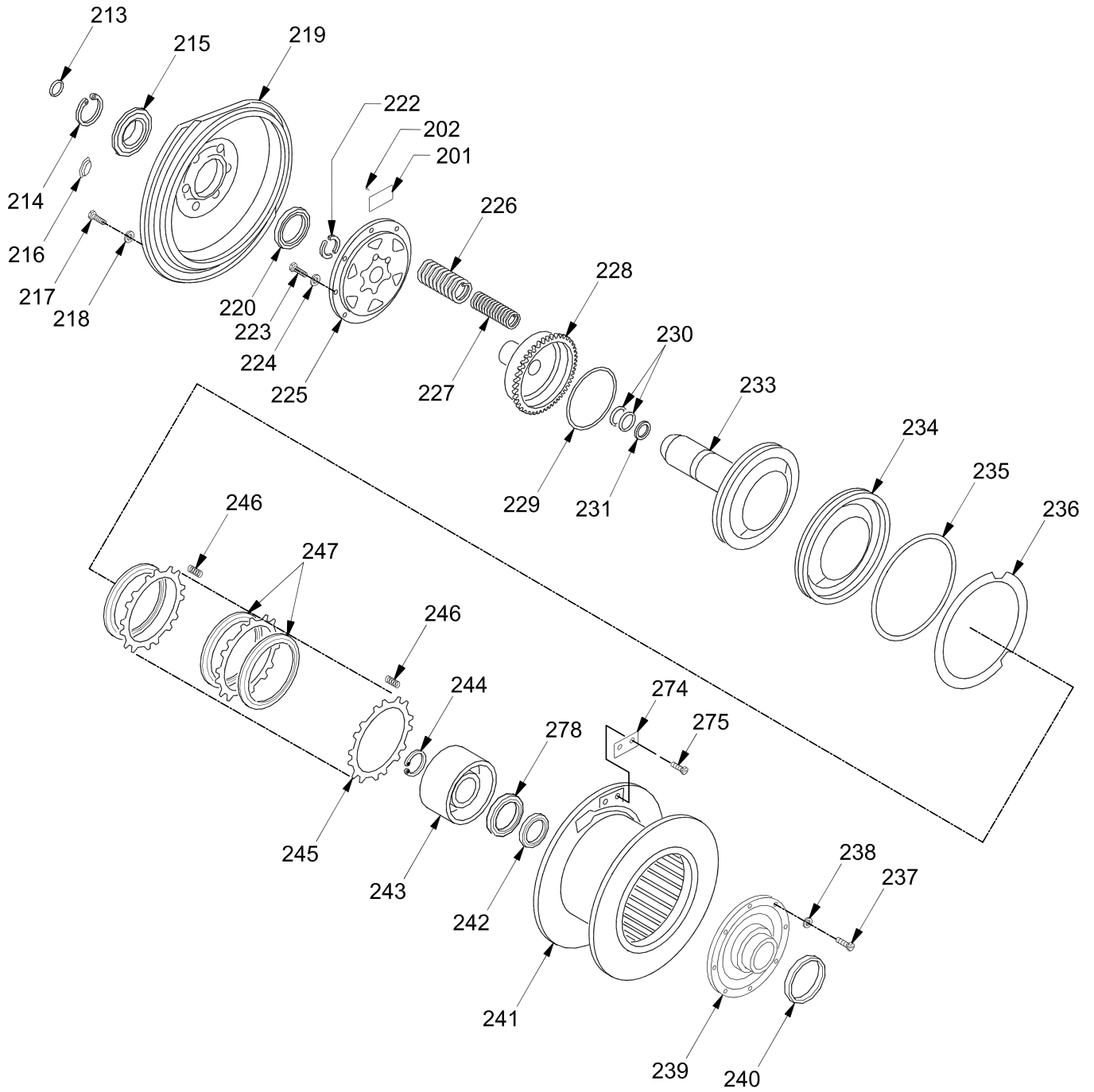
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313310	Parts Group, Cable Drum Clutch	1				
201	----	. Tag, Warning (Included in Item 225)	-	233	R239216	. Assembly, Clutch Shaft	1
202	----	. Screw (Included in Item 225)	-	234	R232240	. Plug, Piston	1
213	R223084	. Ring, Drum Release Support Piston	1	235	*a 17147W	. O-Ring	1
214	307276W	. Ring, Retaining	1	236	R223989	. Ring	1
215	*a R231338	. Bearing	1	237	----	. Capscrew (Included in Item 223)	-
216	2314074	. Plug, Cable Drum Cover	1	238	----	. Lockwasher (Included in Item 224)	-
217	18588W	. Capscrew	9	239	2304617W	. Assembly, Cable Drum Hub Support	1
218	----	. Lockwasher (Included in Item 224)	-	240	R231843	. Sleeve, Wear	1
219	2313309	. Cover, Cable Drum	1	241	R400111	. Drum, Cable	1
220	*a R231336	. Seal	1	242	*a R247014	. Seal	1
222	R231811	. Ring	2	243	R232370	. Assembly, Hub & Washer	1
223	200454W	. Capscrew	31	244	12940W	. Snap Ring, External	1
224	15158W	. Lockwasher	40	245	*a R400129	. Disc, Outer Clutch	19
225	R237329	. Support, Cable Drum	1	246	R233029	. Spring	12
	R234597	. Support, Drum Release	1	247	*a 2311825	. Disc, Friction	18
	R232338	. Tag, Warning	1	261	R400112	. Assembly, Drain Tube	1
	16602W	. Screw, Drive	2	262	131460W	. Fitting, O-Ring	2
226	R231332	. Spring, Outer	6	274	R400119	. Retainer, Cable	1
227	R231333	. Spring, Inner	6	275	R13810990	. Capscrew	2
228	R232239	. Piston	1	278	*a 2304326W	. Seal	1
229	*a R231303	. Seal	1				
230	*a 59229W	. O-Ring	2		*a	Included in Cable Drum Clutch Service Kit, 2315513	
231	*a R231017	. Seal	1				

Cable Drum Clutch

W411-06

First Used on S/N W4##-1071

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Cable Drum Clutch

W411-06

First Used on S/N W4##-1071

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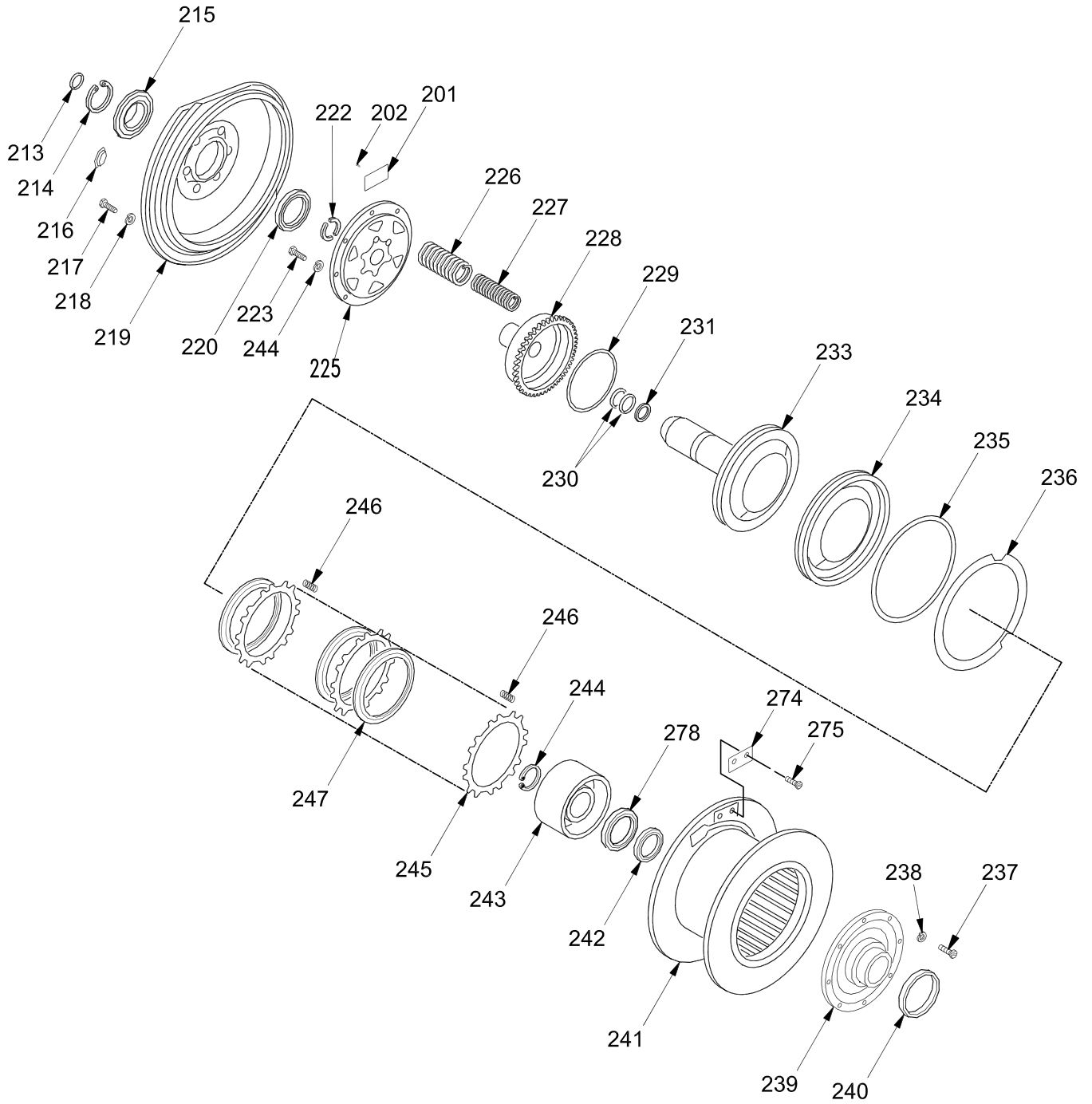
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2311708	Parts Group, Cable Drum Clutch	1				
201	----	. Tag, Warning (Included in Item 225)	-	233	R239216	. Assembly, Clutch Shaft	1
202	----	. Screw (Included in Item 225)	-	234	R232240	. Plug, Piston	1
213	R223084	. Ring, Piston	1	235	*a 17147W	. O-Ring	1
214	307276W	. Ring	1	236	R223989	. Ring	1
215	*a R231338	. Bearing	1	237	----	. Screw (Included in Item 223)	-
216	2314074	. Plug	1	238	----	. Lockwasher (Included in Item 224)	-
217	18588W	. Capscrew	9	239	2304617W	. Assembly, Cable Drum Hub	1
218	----	. Lockwasher (Included in Item 224)	-	240	R231843	. Sleeve, Wear	1
219	R232901	. Cover, Cable Drum	1	241	R400111	. Drum, Cable	1
220	*a R231336	. Seal	1	242	*a R247014	. Seal	1
222	R231811	. Ring	2	243	R232370	. Assembly, Hub & Washer	1
223	200454W	. Capscrew	31	244	12940W	. Ring, Snap - EXT.	1
224	15158W	. Lockwasher	40	245	*a R400129	. Disc, Outer Clutch	19
225	R237329	. Support, Cable Drum	1	246	R233029	. Spring	12
	R234597	. Support, Drum Release	1	247	*a 2311825	. Disc, Friction	18
	R232338	. Tag, Warning	1	261	2311835	. Assembly, Hose	1
	16602W	. Screw, Drive	2	262	R833112	. Fitting	2
226	R231332	. Spring, Outer	6	274	R400119	. Retainer, Cable	1
227	R231333	. Spring, Inner	6	275	R13810990	. Capscrew	2
228	R232239	. Piston	1	278	*a 2304326W	. Seal	1
229	*a R231303	. Seal	1				
230	*a 59229W	. O-Ring	2		*a	Included in Cable Drum Clutch Service Kit, 2315513	
231	*a R231017	. Seal	1				

Cable Drum Clutch

Without FREESPOOL Drain, Splined for Drag Brake

WH410-02; WH411-02

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Cable Drum Clutch

Without FREESPOOL Drain, Splined for Drag Brake

WH410-02; WH411-02

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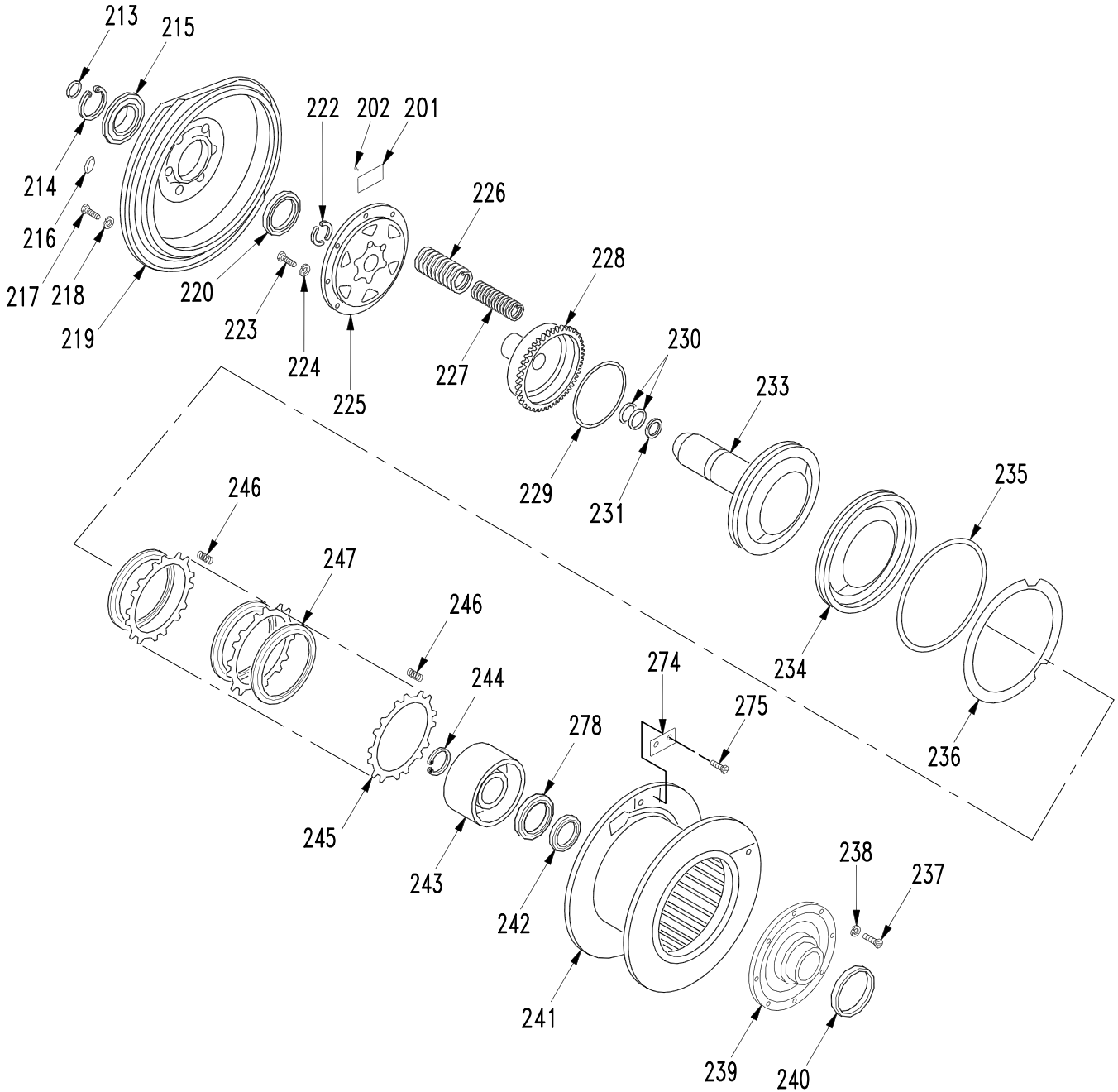
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306793W	Parts Group, Cable Drum Clutch w/o Freespool Drain, Splined for Drag Brake	1				
201	----	. Tag, Warning (Included in Item 225)	-	231	*a R231017	. Seal	1
202	----	. Screw (Included in Item 225)	-	233	R239216	. Assembly, Clutch Shaft	1
213	R223084	. Ring, Piston	1	234	R232240	. Plug, Piston	1
214	307276W	. Ring	1	235	*a 17147W	. O-Ring	1
215	*a R231338	. Bearing	1	236	R223989	. Ring	1
216	2314074	. Plug	1	237	----	. Screw (Included in Item 223)	-
217	18588W	. Capscrew	9	238	----	. Lockwasher (Included in Item 224)	-
218	----	. Lockwasher (Included in Item 224)	-	239	2304617W	. Assembly, Cable Drum Hub	1
219	R232901	. Cover, Cable Drum	1	240	R231843	. Sleeve, Wear	1
220	*a R231336	. Seal	1	241	R400111	. Drum, Cable	1
222	R231811	. Ring	2	242	*a R247014	. Seal	1
223	200454W	. Capscrew	31	243	R232370	. Assembly, Hub & Washer	1
224	15158W	. Lockwasher	40	244	12940W	. Ring, Snap - EXT.	1
225	2306774W	. Support, Cable Drum	1	245	*a R400129	. Disc, Outer Clutch	19
	2306771W	. Support, Drum Release	1	246	R233029	. Spring	12
	R232338	. Tag, Warning	1	247	*a 2311825	. Disc, Friction	18
	16602W	. Screw, Drive	2	274	R400119	. Retainer, Cable	1
226	R231332	. Spring, Outer	6	275	R13810990	. Capscrew	2
227	R231333	. Spring, Inner	6	278	*a 2304326W	. Seal	1
228	R232239	. Piston	1				
229	*a R231303	. Seal	1		*a	Included in Cable Drum Clutch Service Kit, 2315513	
230	*a 59229W	. O-Ring	2				

Cable Drum Clutch

Without FREESPOOL Drain, Splined for Drag Brake

WH411-02D

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Cable Drum Clutch

Without FREESPOOL Drain, Splined for Drag Brake

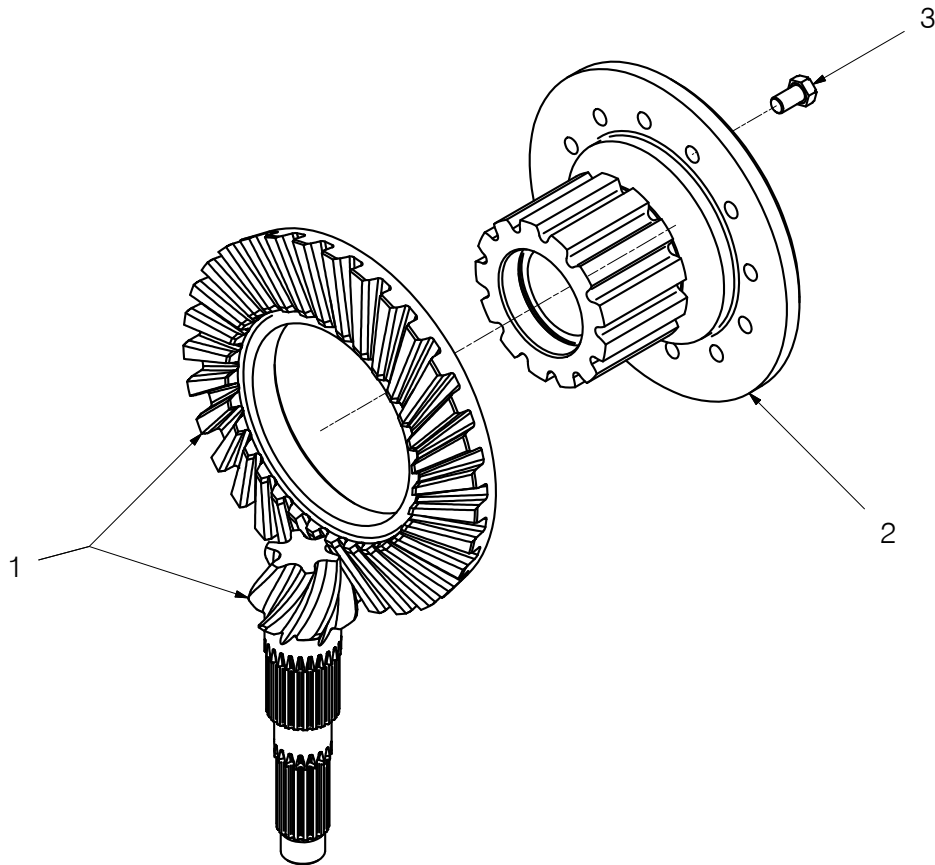
WH411-02D

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Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2313870	Parts Group, Cable Drum w/o Freespool Drain, Splined for Drag Brake	1				
201	----	. Tag, Warning (Included in Item 225)	-	231	*a R231017	. Seal	1
202	----	. Screw (Included in Item 225)	-	233	R239216	. Assembly, Clutch Shaft	1
213	R223084	. Ring, Piston	1	234	R232240	. Plug, Piston	1
214	307276W	. Ring	1	235	*a 17147W	. O-Ring	1
215	*a R231338	. Bearing	1	236	R223989	. Ring	1
216	2314074	. Plug	1	237	----	. Capscrew (Included in Item 223)	-
217	18588W	. Capscrew	9	238	----	. Lockwasher (Included in Item 224)	-
218	----	. Lockwasher (Included in Item 224)	-	239	2304617W	. Assembly, Cable Drum Hub	1
219	R232901	. Cover, Cable Drum	1	240	R231843	. . Wear Sleeve	1
220	*a R231336	. Seal	1	241	R400111	. Drum, Cable	1
222	R231811	. Ring	2	242	*a R247014	. Seal	1
223	200454W	. Capscrew	31	243	R232370	. Assembly, Hub & Washer	1
224	15158W	. Lockwasher	40	244	12940W	. Ring, Snap - EXT.	1
225	2306774W	. Support, Cable Drum	1	245	*a R400129	. Disc, Outer Clutch	19
	2306771W	. . Support, Drum Release	1	246	R233029	. Spring	12
	R232338	. . Tag, Warning	1	247	*a 2311825	. Disc, Friction	18
	16602W	. . Screw, Drive	2	274	R400119	. Retainer, Cable	1
226	R231332	. Spring, Outer	6	275	16378W	. Capscrew	2
227	R231333	. Spring, Inner	6	278	*a 2304326W	. Seal	1
228	R232239	. Piston	1				
229	*a R231303	. Seal	1		*a	Included in Cable Drum Clutch Service Kit, 2315513	
230	*a 59229W	. O-Ring	2				

Ring Gear, Pinion & Ring Gear Hub Assembly

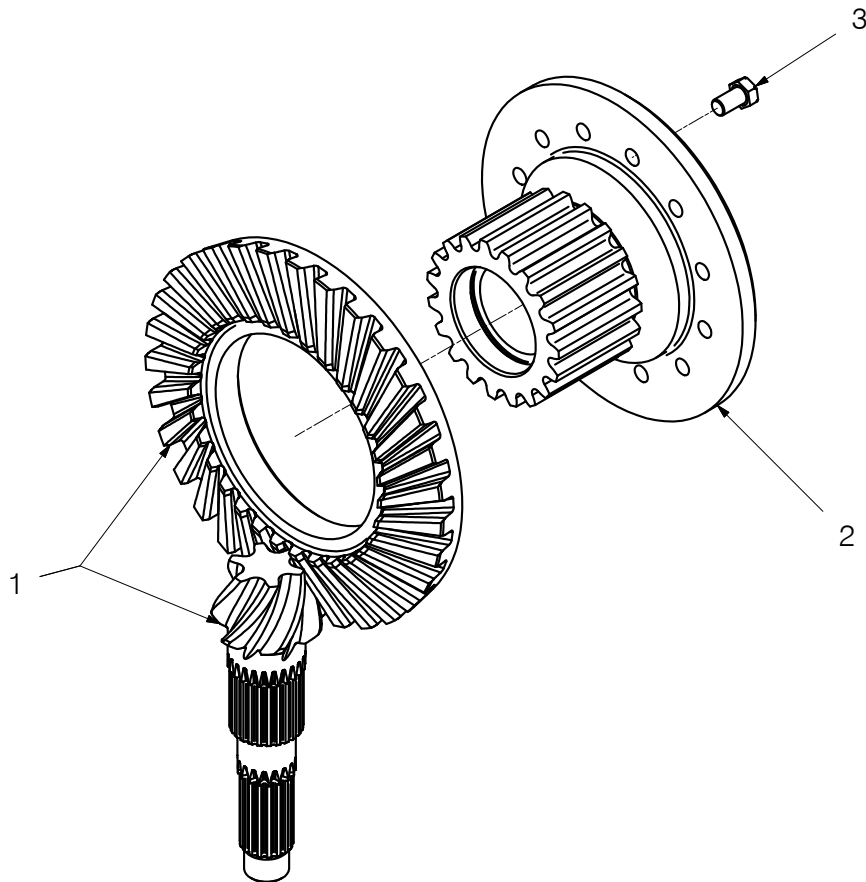
W428-03



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400013	Assembly, Ring Gear Pinion & Ring Gear Hub	1	2	R400002	. Ring Gear Hub (13T)	1
1	R233361	. Ring Gear & Pinion Set	1	3	2303603W	. Bolt	12

Ring Gear, Pinion & Ring Gear Hub Assembly

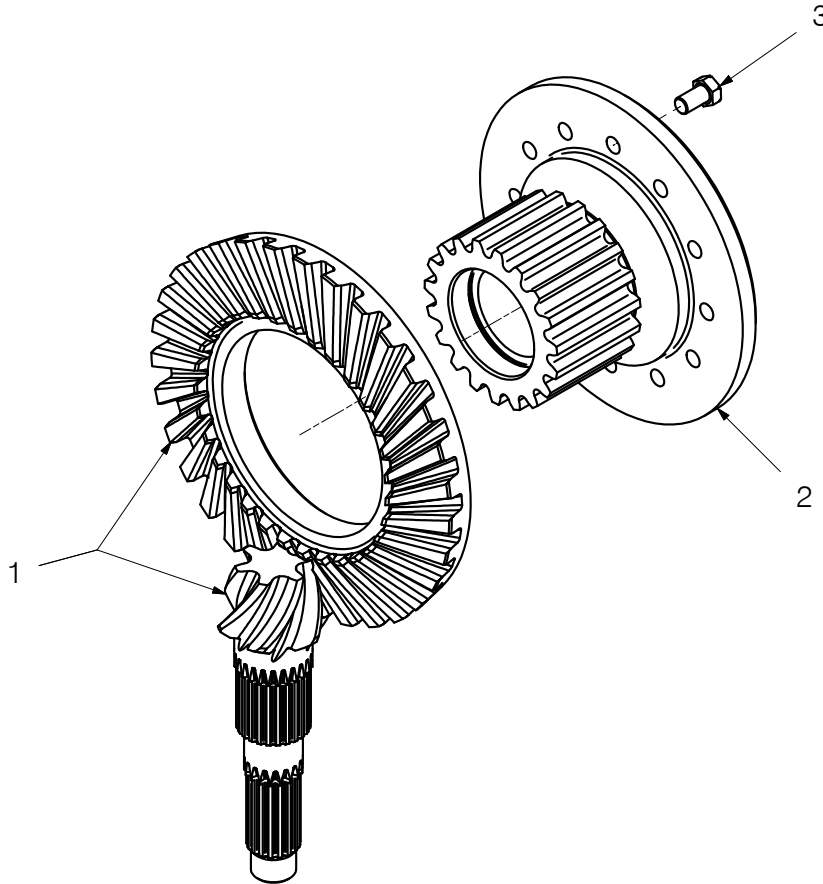
WH411-01



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400038	Assembly, Ring Gear Pinion & Ring Gear Hub	1	2	R233302	. Ring Gear Hub (19T)	1
1	R400101	. Ring Gear & Pinion Set	1	3	2303603W	. Bolt	12

Ring Gear, Pinion & Ring Gear Hub Assembly

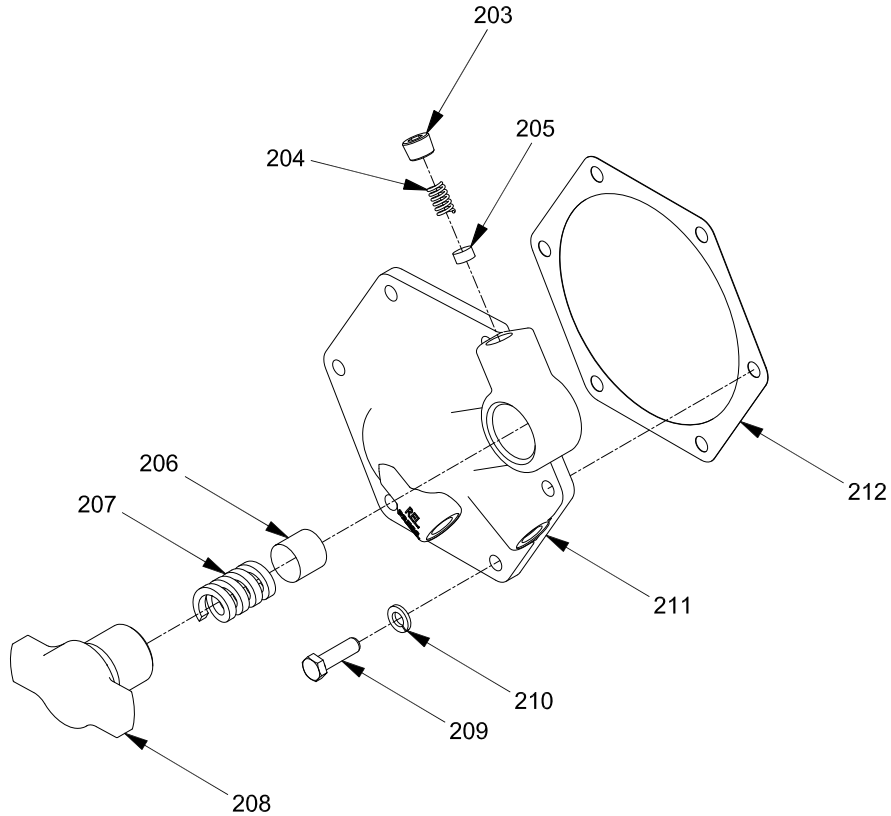
WD410-02/-03



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R233360	Assembly, Ring Gear Pinion & Ring Gear Hub	1	2	R233302	. Ring Gear Hub (19T)	1
1	R233361	. Ring Gear & Pinion Set	1	3	2303603W	. Bolt	12

Cable Drum Plunger

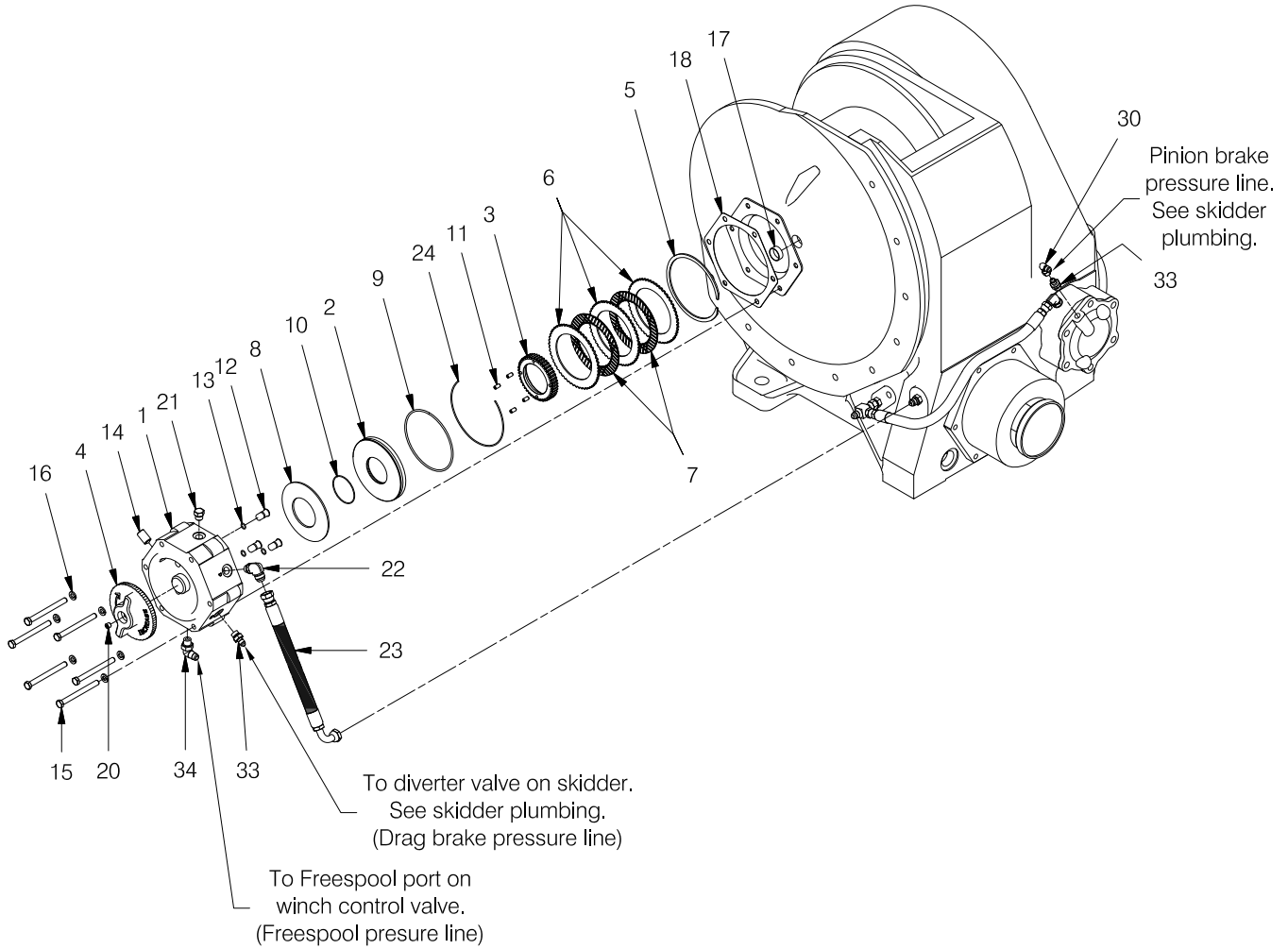
Last used on S/N W4XX-1149*



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R400085	Parts Group, Cable Drum Plunger	1				
203	15314W	. Plug	1	210	15156W	. Lockwasher	6
204	R201413	. Spring	1	211	R400113	. Cap, Clutch Release Bearing	1
205	R232947	. Lock	1	212	R231308	. Gasket	1
206	R245669	. Button	1				
207	R232903	. Spring	1				
208	R232944	. Bolt, Adjusting	1				
209	16828W	. Capscrew	6				
					*	For Units with Optional Brake-Off, see pages 4-31 and 4-32.	

Drag Brake for Optional BRAKE-OFF

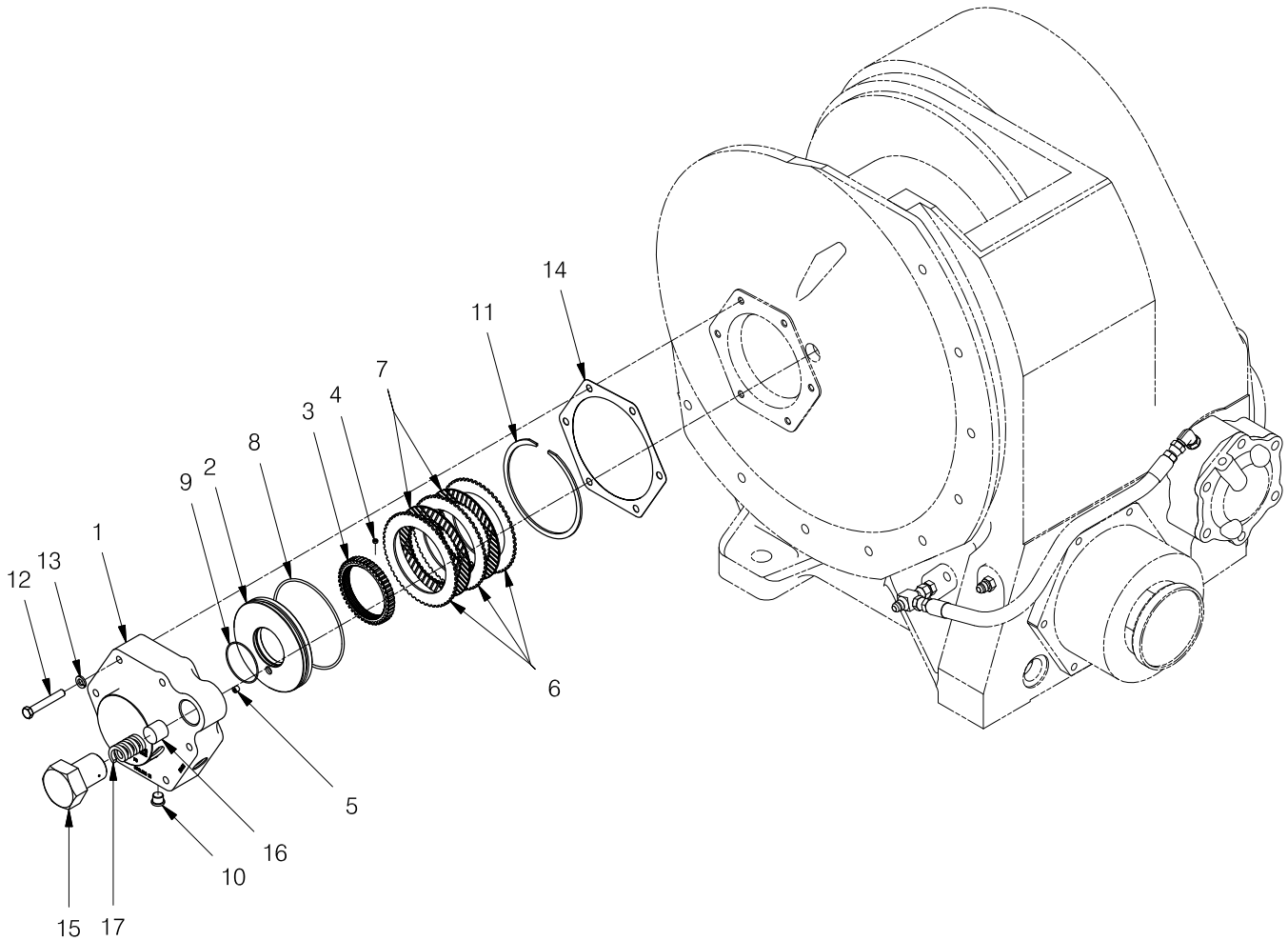
W410-04B, W410-05B, W410-06B;
 W411-02B, W411-03B, W411-04B, W411-05B; W428-03B;
 WD410-02B, WD410-03B, WD411-05B



Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2303679W	Assembly, Drag Brake	1	15	18545W	. Capscrew	6
1	2303703W	. Housing, Drag Brake	1	16	15156W	. Washer	6
2	2303702W	. Piston, Drag Brake	1	17	2303649W	. Plug	1
3	2303579W	. Hub, Drag Brake	1	18	*a R231308	. Gasket, Bearing Cap	1
4	2303580W	. Handwheel, Drag Brake	1	20	15483W	. Plug	1
5	2303715W	. Snap Ring, Int.	1	21	14594W	. Fitting	1
6	*a 2304874W	. Plate, Separator	3	22	96521W	. Fitting	1
7	*a 2304873W	. Plate, Friction	2	23	2303739W	. Hose Assembly	1
8	2303704W	. Clutch Disk, Spring	1	24	2304919W	. Ring	1
9	*a 57597W	. O-Ring	1	30	16987W	. Fitting	1
10	*a 36363W	. O-Ring	1	33	17753W	. Fitting	2
11	16246W	. Screw	4	34	16558W	. Fitting	1
12	2303581W	. Pin	3				
13	*a 15860W	. O-Ring	3				
14	2303626W	. Ball Plunger	1				
				*a	Included in Drag Brake for Optional BRAKE-OFF Service Kit, 2315514		

Drag Brake for Optional BRAKE-OFF

WH411-02B



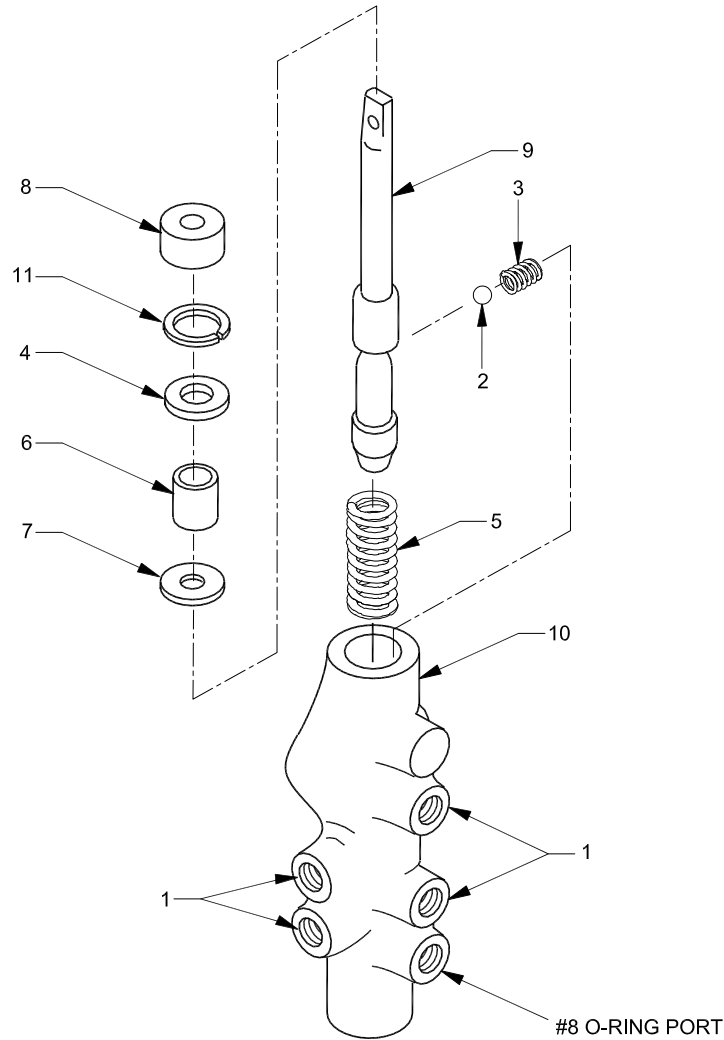
Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	2306773W	Assembly, Drag Brake	1				
1	2307610W	. Housing, Drag Brake	1	13	15156W	. Washer	6
2	2307615W	. Piston, Drag Brake	1	14	*b R231308	. Gasket, Bearing Cap	1
3	2306757W	. Spline, Coupling	1	15	2306760W	. Bolt, Adjusting	1
4	*a 2306758W	. Setscrew	1	16	R245669	. Wear Button	1
6	*b 2304874W	. Separator	3	17	R232903	. Spring, Rectangular	1
7	*b 2304873W	. Plate, Friction	2				
8	*b 57597W	. O-Ring	1		*a	Uses 383789W Adhesive Sealant	
9	*b 36363W	. O-Ring	1		*a	Included in Drag Brake for Optional BRAKE-OFF Service Kit, 2315515	
11	2303715W	. Snap Ring, INT.	1				
12	18537W	. Capscrew	6				

Control Valve Assembly

Control Valve Assembly 5-2

Control Valve Assembly

W410-08, W411-04, W411-05B, W411-06A

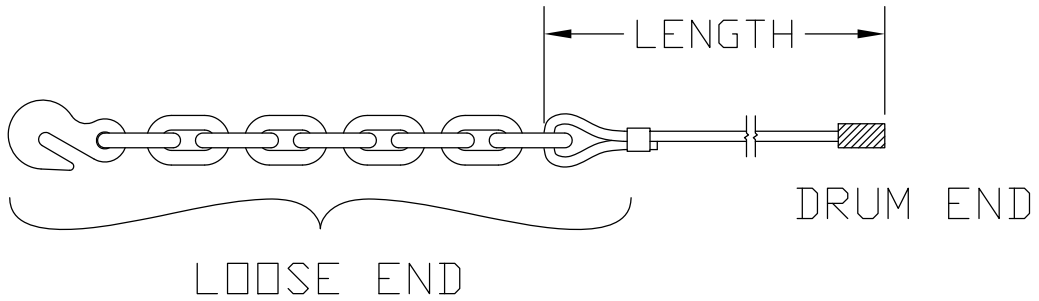


Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
	R242044	Assembly, Control Valve					
1	134436W	. Fitting, O-Ring	4	7	R231387	. Retainer	1
2	21278W	. Ball	1	8	R234651	. Oil Seal	1
3	R202200	. Spring	1	9	R242042	. Valve, Spool	1
4	R217657	. Washer	1	10	NSS	. Housing	1
5	R231319	. Spring	1	11	58926W	. Snap Ring	1
6	R231320	. Spacer	1				

Accessories

Wire Rope Assemblies 6-2

Wire Rope Assemblies



	Wire Rope	Tail Chain & Hook
Wire Rope Diameter Dia (in)	Breaking Strength New (lbs)	Working Load Limit (lbs) 3.5:1 Design Factor
3/4	58,800	34,200
7/8	79,600	34,200
1	103,400	47,700

Part No.	Wire Diameter	Length Ft (M)	Part No.	Wire Diameter	Length Ft (M)
WR6-142B	3/4"	142 (43) *	WR8-60J	1"	60 (18) *
WR6-215B	3/4"	215 (65) **	WR8-92J	1"	92 (28) **
WR7-106J	7/8"	106 (32) *			
WR7-160J	7/8"	160 (48) **			

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

Suggested Spares Guide

Recommended Service Kits	7-2
• Input Clutch Parts Group Service Kit, P/N 2315497	7-2
• Input Clutch Parts Group Service Kit, P/N 2315498	7-2
• Input Clutch Parts Group Service Kit, P/N 2315499	7-3
• Drop Box Service Kit, P/N 2315500	7-3
• Hydraulics Parts Group Hose Kit, P/N 2315501	7-3
• Hydraulics Parts Group Hose Kit, P/N 2315502	7-4
• Input Without Clutch Parts Group Service Kit, P/N 2315503	7-4
• Input Without Clutch Parts Group Service Kit, P/N 2315504	7-4
• Input Without Clutch Parts Group Service Kit, P/N 2315505	7-4
• Input Motor Parts Group Service Kit, P/N 2315506	7-5
• Input Motor Parts Group Service Kit, P/N 2315507	7-5
• Pinion Shaft Service Kit, P/N 2315508	7-5
• Pinion Shaft Service Kit, P/N 2315509	7-6
• Pinion Shaft Service Kit, P/N 2315510	7-6
• Ring Gear Shaft Service Kit, P/N 2315511	7-6
• Drum Drive Shaft Service Kit, P/N 2315512	7-7
• Cable Drum Clutch Service Kit, P/N 2315513	7-7
• Drag Brake for Optional BRAKE-OFF Service Kit, P/N 2315514 ..	7-7
• Drag Brake for Optional BRAKE-OFF Service Kit, P/N 2315515 ..	7-8
• Input 3.75:1 Planetary Parts Group Service Kit, P/N 2315516	7-8
• Wire Rope Assemblies	7-8
• Tool Kits	7-9
• Diagnostic Tools	7-9



Suggested Spares Guide

W400 Series Winch

Recommended Service Kits

The following pages list the service kits and hose kits that are available for your Allied W400 series winch. Each kit includes all parts listed in the table. Select the kit number relevant for your winch, and order a quantity of kits necessary. Order the kits in preparation for your scheduled maintenance.

Page 7-9 contains a list of Tool Kits and a list of Diagnostic Tools, which will help you install and maintain your winch(es).

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

Service Kit, Input Clutch Parts Group, P/N 2315497

Applies to:		W410-04, W410-05, W410-06, W410-08, W411-02, W411-03, W411-04	See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity	
2315497	Service Kit, Input Clutch Parts Group			
R230857	. Seal, Inner Piston	1		
R224771	. Seal	1		
R231264	. Gasket	1		
R225956	. Bearing	1		
R231262	. Gasket	1		
R206864	. Seal, Oil	1		
43308W	. Bearing	1		
R230829	. Bearing	2		
R230911	. Disc, Inner Clutch	6		
R224772	. Disc, Outer Clutch	6		

Service Kit, Input Clutch Parts Group, P/N 2315498

Applies to:		W428-03	See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity	
2315498	Service Kit, Input Clutch Parts Group			
R230857	. Seal	1		
R231264	. Gasket	1		
R225956	. Bearing	1		
R231262	. Gasket	1		
R206864	. Seal, Oil	1		
43308W	. Bearing	1		
R230829	. Bearing	2		
R230911	. Disc, Clutch Inner	6		
R224772	. Disc, Clutch Outer	6		
2303689W	. O-Ring	1		



Suggested Spares Guide

Service Kit, Input Clutch Parts Group, P/N 2315499

Applies to:		WD410-02, WD410-03, WD411-05	See Section 3 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315499	Service Kit, Input Clutch Parts Group			
R230857	. Seal		1	
R224771	. Seal		1	
43308W	. Bearing		1	
R230829	. Bearing		2	
R230911	. Disc, Clutch Inner		6	
R224772	. Disc, Clutch Outer		6	

Service Kit, Drop Box, P/N 2315500

Applies to:		WD410-02, WD410-03; WD411-05	See Section 3 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315500	Service Kit, Drop Box			
R206864	. Seal		1	
17147W	. O-Ring		1	
R225956	. Bearing		1	
43308W	. Bearing		1	
90207W	. O-Ring		1	
R232282	. Bearing		1	
2306117W	. Bearing, Needle Roller		1	
203508	. O-Ring		2	
2306116W	. Bearing, Sleeve Cup		1	

Hose Kit, Hydraulics Parts Group, P/N 2315501

Applies to:		W410-08	See Section 3 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315501	Hose Kit, Hydraulics Parts Group			
R12117	. Assembly, Hose		1	
2311337	. Assembly, Hose		1	
2311340	. Assembly, Hose		1	
2311399	. Assembly, Hose		1	
2312026	. Assembly, Hose		1	
2312025	. Assembly, Hose		1	
2312020	. Assembly, Hose		1	



Suggested Spares Guide

Hose Kit, Hydraulics Parts Group, P/N 2315502

Applies to: W411-06		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315502	Hose Kit, Hydraulics Parts Group		
2311834	. Assembly, Hose	1	
2311835	. Assembly, Hose	1	
2311833	. Assembly, Hose	1	

Service Kit, Input Without Clutch Parts Group, P/N 2315503

Applies to: W411-05		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315503	Service Kit, Input Without Clutch Parts Group		
R231264	. Gasket, Input Bearing Cap	1	
R225956	. Bearing, Input Clutch Front	1	
R231262	. Gasket, Input Bearing Retainer	1	
R206864	. Oil Seal	1	
43308W	. Bearing, Input Clutch Rear	1	

Service Kit, Input Without Clutch Parts Group, P/N 2315504

Applies to: W411-06		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315504	Service Kit, Input Without Clutch Parts Group		
R231264	. Gasket	1	
41308W	. Bearing	1	
R231262	. Gasket	1	
43308W	. Bearing	1	

Service Kit, Input Without Clutch Parts Group, P/N 2315505

Applies to: WH411-01		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315505	Service Kit, Input Without Clutch Parts Group		
R231264	. Gasket, Input Bearing Carrier	1	
43308W	. Bearing, Ball	1	
2303628W	. Bearing, Ball	1	
57597W	. O-Ring	1	



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Service Kit, Input Motor Parts Group, P/N 2315506

Applies to: WH410-01		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315506	Service Kit, Input Motor Parts Group		
R231264	. Gasket, Input Bearing Carrier	1	
43308W	. Bearing, Ball	1	
2303628W	. Bearing, Ball	1	
57597W	. O-Ring	1	

Service Kit, Input Motor Parts Group, P/N 2315507

Applies to: WH410-02, WH411-02		See Section 3 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315507	Service Kit, Input Motor Parts Group		
2303628W	. Bearing, Ball	1	
R231264	. Gasket	1	
43308W	. Bearing, Ball	1	
60988W	. O-Ring	1	

Service Kit, Pinion Shaft, P/N 2315508

Applies to: W410-04, W410-05, W410-06, W410-08; W428-03; WD410-02, WD410-03; W411-02, W411-03, W411-04, W411-05; WD411-05		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315508	Service Kit, Pinion Shaft		
57597W	. O-Ring	1	
R232159	. Disc	1	
R4064001	. Cup	1	
45733W	. Cup	1	
15891W	. O-Ring	2	
15891W	. O-Ring	1	
R231279	. Gasket	1	
2306097W	. Bearing	1	
R4064002	. Cone	1	
2303791W	. Cone	1	



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Service Kit, Pinion Shaft, P/N 2315509

Applies to:		W411-06; WH410-01, WH410-02; WH411-02, WH411-02D	See Section 4 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315509	Service Kit, Pinion Shaft			
R4064001	. Bearing Cup		1	
45733W	. Bearing Cup		1	
15891W	. O-Ring		2	
15891W	. O-Ring		1	
R231279	. Gasket		1	
2306097W	. Bearing		1	
R4064002	. Bearing Cone		1	
2303791W	. Bearing Cone		1	

Service Kit, Pinion Shaft, P/N 2315510

Applies to:		WH411-01	See Section 4 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315510	Service Kit, Pinion Shaft			
2303630W	. Gasket, Pump		1	
45733W	. Cup, Bearing		1	
2303791W	. Cone, Bearing		1	
R4064001	. Cup, Bearing		1	
R4064002	. Cone, Bearing		1	
15891W	. O-Ring		1	
15891W	. O-Ring		1	
R231279	. Gasket		1	
2306097W	. Bearing		1	

Service Kit, Ring Gear Shaft, P/N 2315511

Applies to:		All W400	See Section 4 in Parts Manual	
Allied P/N	Description		Quantity in Kit	Order Quantity
2315511	Service Kit, Ring Gear Shaft			
203444	. O-Ring		1	
R1314773	. Cone, Bearing		1	
R1314774	. Cup, Bearing		1	
R1304638	. Cup, Bearing		1	
R232362	. Cone, Bearing		1	
59229W	. O-Ring		1	
14718W	. O-Ring		1	



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Service Kit, Drum Drive Shaft, P/N 2315512

Applies to: All W400		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315512	Service Kit, Drum Drive Shaft		
R231842	. Seal	1	
44322W	. Bearing	1	
R218777	. O-Ring	1	
41215W	. Bearing	1	
43313W	. Bearing	1	
R231293	. Gasket	1	

Service Kit, Cable Drum Clutch, P/N 2315513

Applies to: All W400		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315513	Service Kit, Cable Drum Clutch		
R231338	. Bearing	1	
R231336	. Seal	1	
R231303	. Seal	1	
59229W	. O-Ring	2	
R231017	. Seal	1	
17147W	. O-Ring	1	
R247014	. Seal	1	
R400129	. Disc, Outer Clutch	19	
2311825	. Disc, Friction	18	
2304326W	. Seal	1	

Service Kit, Drag Brake for Optional BRAKE-OFF, P/N 2315514

Applies to: W410-04B, W410-05B, W410-06B; W411-02B, W411-03B, W411-04B, W411-05B; W428-03B; WD410-02B, WD410-03B, WD411-05B		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315514	Service Kit, Drag Brake for Optional BRAKE-OFF		
2304874W	. Plate, Separator	3	
2304873W	. Plate, Friction	2	
57597W	. O-Ring	1	
36363W	. O-Ring	1	
15860W	. O-Ring	3	
R231308	. Gasket, Bearing Cap	1	



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Service Kit, Drag Brake for Optional BRAKE-OFF, P/N 2315515

Applies to: WH411-02B		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315515	Service Kit, Drag Brake for Optional BRAKE-OFF		
2304874W	. Separator	3	
2304873W	. Plate, Friction	2	
57597W	. O-Ring	1	
36363W	. O-Ring	1	
R231308	. Gasket, Bearing Cap	1	

Service Kit, Input 3.75:1 Planetary Parts Group, P/N 2315516

Applies to: WH411-02D		See Section 4 in Parts Manual	
Allied P/N	Description	Quantity in Kit	Order Quantity
2315516	Service Kit, Input 3.75:1 Planetary Parts Group		
43308W	. Bearing, Ball	1	
2303628W	. Bearing, Ball	1	
R231264	. Gasket, Input	1	
27725	. O-Ring	1	

Wire Rope Assemblies

Applies to: W400 series winches		Order as Required		
Allied P/N	Description	Length	Will Fill Drum To:	Order Quantity
WR6-142B	Wire Rope Assembly, 3/4"	142 FT (43 M)	2/3 Capacity (recommended)	
WR6-215B	Wire Rope Assembly, 3/4"	215 FT (65 M)	Full Capacity	
WR7-106J	Wire Rope Assembly, 7/8"	106 FT (32 M)	2/3 Capacity (recommended)	
WR7-160J	Wire Rope Assembly, 7/8"	160 FT (48 M)	Full Capacity	
WR8-60J	Wire Rope Assembly, 1"	60 FT (18 M)	2/3 Capacity (recommended)	
WR8-92J	Wire Rope Assembly, 1"	92 FT (28 M)	Full Capacity	



Suggested Spares Guide

Tool Kits

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

Allied P/N	Description	Order Quantity
588466	Socket Set, 3/8DR 3/8" to 7/8" STD/Deep, 22 PC	
588467	Socket Set, 1/2DR 3/8" to 1-1/4" STD/Deep, 30 PC	
588468	Socket Set, 3/4DR 7/8" to 2-3/8" STD, 29 PC	
588469	Wrench Set, 5/16" to 2-1/2", 31 PC	
588527	Hex Key Sets, .025" to 5/8", 18 PC	
588530	Socket Sets, 3/8DR 6mm-19mm 12 Point	
588529	Socket Sets, 1/2DR 10mm-26mm 12 Point	
588528	Wrench Sets, 7mm-24mm, 18 PC	
588526	Hex Key Sets, .07mm-17mm, 15 PC	

Diagnostic Tools

Order 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

QD Female

906601
Kit, Digital Pressure Gauge
W/ Female QD Connector
0 to 8700 PSI

Intentionally Blank

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27725	7-8		2313310	2-8	F	1314454W	2-28	10	15154W	2-6	9
28490	3-5	14	2313310	4-19		1314454W	2-29	10	15154W	2-7	9
203444	2-17	5	2313376	4-2	46	1314454W	2-31	10	15154W	2-9	9
203444	2-18	5	2313376	4-3	46	1314454W	2-32	10	15156W	2-27	20
203444	2-2	5	2313376	4-5	51	131460W	4-17	262	15156W	2-28	11
203444	2-3	5	2313376	4-6	51	131460W	4-19	262	15156W	2-29	11
203444	2-4	5	2313377	2-27	19	132860W	2-28	15	15156W	2-30	17
203444	2-5	5	2313377	2-28	8	132860W	2-29	15	15156W	2-31	11
203444	2-6	5	2313377	2-29	8	132860W	2-31	15	15156W	2-32	11
203444	2-7	5	2313377	2-30	16	132860W	2-32	15	15156W	3-10	19
203444	2-8	5	2313377	2-31	8	134328W	4-8	90	15156W	3-13	9
203444	4-9	74	2313377	2-32	8	134328W	4-9	90	15156W	3-14	9
203508	3-4	119	2313377	3-13	10	134436W	5-2	1	15156W	3-2	25
209488	3-5	10	2313377	3-4	100	137852W	2-10	11	15156W	3-3	4
211550	3-5	17	2313377	3-8	20	137852W	2-11	7	15156W	3-4	99
211560	3-5	15	2313419	4-8	86	137852W	2-12	7	15156W	3-5	8
211562	3-5	19	2313419	4-9	86	137852W	2-13	15	15156W	3-6	16
211563	3-5	13	2313420	3-4	116	137852W	2-14	15	15156W	3-7	19
212393	3-5	21	2313421	4-10	273	137852W	2-15	15	15156W	3-8	19
214316	3-5	20	2313421	4-11	273	137852W	2-16	15	15156W	3-9	19
224298	3-5	12	2313421	4-12	273	137852W	2-17	3	15156W	4-10	249
230454	3-5	18	2313594	2-8	G	137852W	2-18	3	15156W	4-10	269
231440	3-6	1	2313594	3-5		137852W	2-2	11	15156W	4-10	272
231452	3-6	9	2313689	3-5	1	137852W	2-21	11	15156W	4-11	249
231822	3-6	19	2313693	3-5	33	137852W	2-22	11	15156W	4-11	269
232984	3-6	18	2313870	2-31		137852W	2-23	11	15156W	4-11	272
2311337	3-5	26	2313870	2-32		137852W	2-24	11	15156W	4-12	249
2311340	3-5	56	2313870	2-33	F	137852W	2-25	15	15156W	4-12	269
2311399	3-5	57	2313870	4-25		137852W	2-26	15	15156W	4-12	272
2311461	3-14	3	2313974	3-19	9	137852W	2-3	11	15156W	4-2	67
2311463	2-17	A	2313975	3-19	1	137852W	2-30	14	15156W	4-29	210
2311463	2-18	A	2313977	3-19	7	137852W	2-4	11	15156W	4-3	67
2311463	3-14		2314001	2-33	8	137852W	2-5	11	15156W	4-30	210
2311468	3-14	15	2314047	2-33	B	137852W	2-6	11	15156W	4-31	16
2311502	2-17	I	2314047	3-19		137852W	2-7	11	15156W	4-32	13
2311502	2-18	I	2314048	2-33	K	137852W	2-8	11	15156W	4-4	67
2311601	3-14	1	2314049	2-33	16	137852W	2-9	11	15156W	4-5	67
2311602	3-14	14	2314050	2-33	17	14349W	4-10	267	15156W	4-6	67
2311602	3-19	8	2314074	2-17	2	14349W	4-11	267	15156W	4-7	67
2311708	2-17	E	2314074	2-18	2	14550W	2-30	7	15157W	3-4	115
2311708	2-18	E	2314074	4-15	216	14594W	2-30	+	15157W	4-8	91
2311708	4-21		2314074	4-17	216	14594W	4-31	21	15157W	4-9	91
2311709	2-17	J	2314074	4-19	216	14718W	4-8	83	15158W	4-15	224
2311709	2-18	J	2314074	4-21	216	14718W	4-9	83	15158W	4-17	224
2311825	4-15	247	2314074	4-23	216	14718W	7-6		15158W	4-19	224
2311825	4-17	247	2314074	4-25	216	15154W	2-10	9	15158W	4-2	45
2311825	4-19	247	2314083	2-33	J	15154W	2-11	5	15158W	4-21	224
2311825	4-21	247	12917W	3-19	11	15154W	2-12	5	15158W	4-23	224
2311825	4-23	247	12925W	4-10	255	15154W	2-13	9	15158W	4-25	224
2311825	4-25	247	12925W	4-11	255	15154W	2-14	9	15158W	4-3	45
2311833	3-6	12	12925W	4-12	255	15154W	2-15	9	15158W	4-4	45
2311834	3-6	10	12940W	4-15	244	15154W	2-16	9	15158W	4-5	50
2311835	3-6	11	12940W	4-17	244	15154W	2-19	19	15158W	4-6	50
2311835	4-21	261	12940W	4-19	244	15154W	2-2	9	15158W	4-8	87
2311983	3-5	22	12940W	4-21	244	15154W	2-20	19	15158W	4-8	93
2311985	3-5	24	12940W	4-23	244	15154W	2-21	9	15158W	4-9	87
2312020	3-5	60	12940W	4-25	244	15154W	2-22	9	15158W	4-7	51
2312025	3-5	59	12944W	3-10	37	15154W	2-23	9	15314W	4-29	203
2312026	3-5	58	12944W	3-11	37	15154W	2-24	9	15319W	4-8	89
2312122	3-5	2	12944W	3-12	37	15154W	2-25	9	15319W	4-9	89
2312234	3-13	1	12944W	3-7	37	15154W	2-26	9	15483W	3-10	7
2312620	2-34	4	12944W	3-8	37	15154W	2-27	5	15483W	3-11	6
2312660	2-17	K	12944W	3-9	37	15154W	2-28	5	15483W	3-12	6
2312660	3-6		12975W	3-15	7	15154W	2-29	5	15483W	3-7	6
2312670	3-6	2	12975W	3-16	7	15154W	2-3	9	15483W	3-8	6
2312799	4-9		12975W	3-16	6	15154W	2-30	5	15483W	3-9	6
2313306	2-8	I	12975W	3-17	5	15154W	2-31	5	15483W	4-31	20
2313307	3-3	1	12975W	3-18	6	15154W	2-32	5	15860W	4-31	13
2313308	2-8	A	12981W	4-10	264	15154W	2-33	5	15860W	7-7	
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15891W	4-3	61	16602W	2-22	2	178402W	4-8	92	222441W	2-20	23
15891W	4-3	64	16602W	2-23	2	178402W	4-9	92	222441W	2-21	+
15891W	4-4	61	16602W	2-24	2	179443W	3-4	105	222441W	2-22	+
15891W	4-4	64	16602W	2-25	2	179443W	4-10	248	222441W	2-23	+
15891W	4-5	61	16602W	2-26	2	179443W	4-11	248	222441W	2-24	+
15891W	4-5	64	16602W	2-27	2	179443W	4-12	248	222441W	2-25	+
15891W	4-6	61	16602W	2-28	2	18535W	3-3	5	222441W	2-26	+
15891W	4-6	64	16602W	2-29	2	18537W	4-32	12	222441W	2-27	12
15891W	4-7	61	16602W	2-3	2	18545W	4-31	15	222441W	2-28	12
15891W	4-7	64	16602W	2-30	2	18588W	4-15	217	222441W	2-29	12
15891W	7-5		16602W	2-31	2	18588W	4-17	217	222441W	2-3	+
15891W	7-5		16602W	2-32	2	18588W	4-19	217	222441W	2-30	+
15891W	7-6		16602W	2-33	2	18588W	4-21	217	222441W	2-31	12
15891W	7-6		16602W	2-34	2	18588W	4-23	217	222441W	2-32	12
15891W	7-6		16602W	2-4	2	18588W	4-25	217	222441W	2-33	12
15891W	7-6		16602W	2-5	2	194090W	2-11	10	222441W	2-4	+
16246W	4-31	11	16602W	2-6	2	194090W	2-12	10	222441W	2-5	+
16376W	3-10	20	16602W	2-7	2	200454W	4-15	223	222441W	2-6	+
16376W	3-9	20	16602W	2-9	2	200454W	4-17	223	222441W	2-7	+
16378W	2-10	10	16602W	4-15	225	200454W	4-19	223	222441W	2-8	+
16378W	2-11	6	16602W	4-17	225	200454W	4-21	223	222441W	2-9	+
16378W	2-12	6	16602W	4-19	225	200454W	4-23	223	222441W	2-9	19
16378W	2-13	10	16602W	4-21	225	200454W	4-25	223	222441W	3-6	14
16378W	2-14	10	16602W	4-23	225	201771W	2-30	12	222443W	2-27	13
16378W	2-15	10	16602W	4-25	225	203444	7-6		222443W	2-28	13
16378W	2-16	10	16805W	3-10	18	203508	7-3		222443W	2-29	13
16378W	2-19	20	16805W	3-13	8	21278W	5-2	2	222443W	2-31	13
16378W	2-2	10	16805W	3-14	8	221569W	2-27	11	222443W	2-32	13
16378W	2-20	20	16805W	3-7	18	221707W	3-14	10	222443W	2-33	13
16378W	2-21	10	16805W	3-8	18	221707W	3-5	6	2303483W	3-10	34
16378W	2-22	10	16805W	3-9	18	221710W	3-4	114	2303483W	3-11	34
16378W	2-23	10	16816W	3-5	3	221711W	3-5	7	2303483W	3-12	34
16378W	2-24	10	16816W	3-6	15	221712W	4-8	88	2303483W	3-7	34
16378W	2-25	10	16828W	4-29	209	221712W	4-9	88	2303483W	3-8	34
16378W	2-26	10	16828W	4-30	209	221767W	2-27	16	2303483W	3-9	34
16378W	2-27	6	16828W	4-4	68	221767W	2-33	11	2303519W	2-10	+
16378W	2-28	6	16830W	3-5	4	221771W	2-27	10	2303519W	2-11	+
16378W	2-29	6	16918W	4-4	46	221771W	3-5	34	2303519W	2-12	+
16378W	2-3	10	16987W	4-31	30	221780W	2-10	6	2303519W	2-13	+
16378W	2-30	6	17061W	2-13	13	221780W	2-13	6	2303519W	2-14	+
16378W	2-31	6	17061W	2-14	13	221780W	2-14	6	2303519W	2-15	+
16378W	2-32	6	17061W	2-25	13	221780W	2-15	6	2303519W	2-16	+
16378W	2-33	6	17061W	2-26	13	221780W	2-16	6	2303519W	2-17	8
16378W	2-4	10	17147W	3-4	96	221780W	2-17	6	2303519W	2-18	8
16378W	2-5	10	17147W	4-15	235	221780W	2-18	6	2303519W	2-2	+
16378W	2-6	10	17147W	4-17	235	221780W	2-19	16	2303519W	2-21	+
16378W	2-7	10	17147W	4-19	235	221780W	2-2	6	2303519W	2-22	+
16378W	2-9	10	17147W	4-21	235	221780W	2-20	16	2303519W	2-23	+
16378W	4-15	275	17147W	4-23	235	221780W	2-21	6	2303519W	2-24	+
16378W	4-25	275	17147W	4-25	235	221780W	2-22	6	2303519W	2-25	+
16540W	2-13	14	17147W	7-3		221780W	2-23	6	2303519W	2-26	+
16540W	2-14	14	17147W	7-7		221780W	2-24	6	2303519W	2-3	+
16540W	2-25	14	17411W	4-2	54	221780W	2-25	6	2303519W	2-30	+
16540W	2-26	14	17411W	4-3	54	221780W	2-26	6	2303519W	2-4	+
16558W	2-13	12	17411W	4-4	54	221780W	2-3	6	2303519W	2-5	+
16558W	2-14	12	17411W	4-5	54	221780W	2-4	6	2303519W	2-6	+
16558W	2-25	12	17411W	4-6	54	221780W	2-5	6	2303519W	2-7	+
16558W	2-26	12	17411W	4-7	54	221780W	2-6	6	2303519W	2-8	+
16558W	2-30	+	17636W	2-27	7	221780W	2-7	6	2303519W	2-9	+
16558W	4-31	34	17636W	2-28	7	221780W	2-8	6	2303532W	2-10	1
16576W	2-30	11	17636W	2-29	7	221780W	2-9	6	2303532W	2-11	1
16597W	2-27	17	17636W	2-31	7	222441W	2-10	+	2303532W	2-12	1
16602W	2-10	2	17636W	2-32	7	222441W	2-10	19	2303532W	2-13	1
16602W	2-11	2	17636W	2-33	7	222441W	2-11	+	2303532W	2-14	1
16602W	2-12	2	17636W	3-6	8	222441W	2-12	+	2303532W	2-15	1
16602W	2-13	2	17753W	4-31	33	222441W	2-13	+	2303532W	2-16	1
16602W	2-14	2	177949W	2-28	14	222441W	2-14	+	2303532W	2-2	1
16602W	2-15	2	177949W	2-29	14	222441W	2-15	+	2303532W	2-21	1
16602W	2-16	2	177949W	2-31	14	222441W	2-16	+	2303532W	2-22	1
16602W	2-2	2	177949W	2-32	14	222441W	2-19	23	2303532W	2-23	1

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2303532W	2-26	1	2303679W	2-24	G	2304958W	2-11	9	2306730W	3-17	7
2303532W	2-27	1	2303679W	2-26	G	2304958W	2-12	9	2306730W	3-18	9
2303532W	2-28	1	2303679W	2-3	H	230519W	2-19	24	2306731W	2-28	J
2303532W	2-29	1	2303679W	2-5	H	230519W	2-20	24	2306731W	2-29	J
2303532W	2-3	1	2303679W	2-7	H	2305240W	2-13		2306731W	2-31	J
2303532W	2-30	1	2303679W	4-31		2305240W	2-14		2306731W	2-32	J
2303532W	2-31	1	2303687W	4-4	51	2305241W	2-13	J	2306732W	3-18	8
2303532W	2-32	1	2303688W	3-10	5	2305241W	2-14	J	2306733W	2-27	F
2303532W	2-33	1	2303689W	3-10	46	2305243W	2-13	4	2306733W	4-15	
2303532W	2-4	1	2303689W	7-2		2305243W	2-14	4	2306757W	4-32	3
2303532W	2-5	1	2303695W	2-23	J	2305243W	2-15	4	2306758W	4-32	4
2303532W	2-6	1	2303695W	2-24	J	2305243W	2-16	4	2306760W	4-30	208
2303532W	2-7	1	2303697W	2-19	C	2305243W	2-17	4	2306760W	4-32	15
2303532W	2-9	1	2303697W	2-20	C	2305243W	2-18	4	2306771W	4-23	225
2303579W	4-31	3	2303697W	4-4		2305921W	2-10		2306771W	4-25	225
2303580W	4-31	4	2303698W	2-19	B	2305921W	2-9		2306773W	2-29	H
2303581W	4-31	12	2303698W	2-20	B	2305922W	2-10	I	2306773W	2-32	H
2303603W	4-26	3	2303698W	3-10		2305922W	2-9	I	2306773W	2-33	H
2303603W	4-27	3	2303702W	4-31	2	2306097W	4-2	94	2306773W	4-32	
2303603W	4-28	3	2303703W	4-31	1	2306097W	4-3	94	2306774W	4-23	225
2303624W	2-10	12	2303704W	4-31	8	2306097W	4-4	94	2306774W	4-25	225
2303624W	2-11	8	2303706W	2-2	I	2306097W	4-5	94	2306783W	2-31	B
2303624W	2-12	8	2303706W	2-3	I	2306097W	4-6	94	2306783W	2-32	B
2303624W	2-13	16	2303707W	2-30	K	2306097W	4-7	94	2306783W	3-18	
2303624W	2-14	16	2303715W	4-31	5	2306097W	7-5		2306784W	2-28	K
2303624W	2-15	16	2303715W	4-32	11	2306097W	7-6		2306784W	2-29	K
2303624W	2-16	16	2303739W	4-31	23	2306097W	7-6		2306784W	2-31	K
2303624W	2-17	1	2303743W	2-21	J	2306116W	3-4	120	2306784W	2-32	K
2303624W	2-18	1	2303743W	2-22	J	2306116W	7-3		2306791W	2-17	B
2303624W	2-2	12	2303791W	4-2	102	2306117W	3-4	118	2306791W	2-18	B
2303624W	2-21	12	2303791W	4-3	102	2306117W	7-3		2306791W	2-31	C
2303624W	2-22	12	2303791W	4-4	102	2306186W	2-27	J	2306791W	2-32	C
2303624W	2-23	12	2303791W	4-5	102	2306192W	2-27	K	2306791W	2-33	C
2303624W	2-24	12	2303791W	4-6	102	2306193W	4-5	53	2306791W	4-6	
2303624W	2-25	16	2303791W	4-7	53	2306193W	4-6	53	2306793W	2-28	F
2303624W	2-26	16	2303791W	7-5		2306195W	2-27	C	2306793W	2-29	F
2303624W	2-3	12	2303791W	7-6		2306195W	2-28	C	2306793W	2-31	F
2303624W	2-30	15	2303791W	7-6		2306195W	2-29	C	2306793W	2-32	F
2303624W	2-4	12	2303879W	2-4	I	2306195W	4-5		2306793W	4-23	
2303624W	2-5	12	2303879W	2-5	I	2306197W	4-5	52	2306794W	2-28	16
2303624W	2-6	12	2304326W	4-15	278	2306197W	4-6	52	2306794W	2-29	16
2303624W	2-7	12	2304326W	4-17	278	2306211W	3-16	11	2306794W	2-31	16
2303624W	2-8	12	2304326W	4-19	278	2306212W	2-27	B	2306794W	2-32	16
2303624W	2-9	12	2304326W	4-21	278	2306212W	3-16		2306795W	2-28	17
2303626W	4-31	14	2304326W	4-23	278	2306240W	3-4	97	2306795W	2-29	17
2303628W	3-15	5	2304326W	4-25	278	2306297W	2-27	14	2306795W	2-31	17
2303628W	3-16	5	2304326W	7-7		2306696W	2-15	J	2306795W	2-32	17
2303628W	3-17	1	2304513W	3-11	7	2306696W	2-16	J	2306796W	4-30	211
2303628W	3-18	4	2304513W	3-12	7	2306697W	2-15	A	2307552W	3-17	9
2303628W	3-19	5	2304514W	3-10	6	2306697W	2-16	A	2307553W	2-28	B
2303628W	7-4		2304514W	3-7	7	2306697W	3-13		2307553W	2-29	B
2303628W	7-5		2304514W	3-8	7	2306706W	2-15	D	2307553W	3-17	
2303628W	7-5		2304514W	3-9	7	2306706W	2-16	D	2307610W	4-32	1
2303628W	7-8		2304617W	4-15	239	2306706W	2-17	D	2307615W	4-32	2
2303629W	4-7	48	2304617W	4-17	239	2306706W	2-18	D	2311337	7-3	
2303630W	4-7	46	2304617W	4-19	239	2306706W	2-27	E	2311340	7-3	
2303630W	7-6		2304617W	4-21	239	2306706W	2-28	E	2311399	7-3	
2303631W	3-15	11	2304617W	4-23	239	2306706W	2-29	E	2311825	7-7	
2303632W	4-7	45	2304617W	4-25	239	2306706W	2-31	E	2311833	7-4	
2303649W	4-31	17	2304873W	4-31	7	2306706W	2-32	E	2311834	7-4	
2303666W	2-25	J	2304873W	4-32	7	2306706W	2-33	E	2311835	7-4	
2303666W	2-26	J	2304873W	7-7		2306706W	4-12		2312020	7-3	
2303676W	2-6	I	2304873W	7-8		2306716W	2-15	I	2312025	7-3	
2303676W	2-7	I	2304874W	4-31	6	2306716W	2-16	I	2312026	7-3	
2303679W	2-10	G	2304874W	4-32	6	2306716W	2-27	A	2315497	7-2	
2303679W	2-12	F	2304874W	7-7		2306716W	2-28	A	2315498	7-2	
2303679W	2-14	G	2304874W	7-8		2306716W	2-29	A	2315499	7-3	
2303679W	2-16	G	2304919W	4-31	24	2306716W	2-31	A	2315500	7-3	
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2315504	7-4		41215W	4-10	257	58954W	3-19	10	R206864	3-10	13
2315505	7-4		41215W	4-11	257	59229W	4-15	230	R206864	3-13	6
2315506	7-5		41215W	4-12	257	59229W	4-17	230	R206864	3-4	13
2315507	7-5		41215W	7-7		59229W	4-19	230	R206864	3-7	13
2315508	7-5		41308W	3-14	4	59229W	4-21	230	R206864	3-8	13
2315509	7-6		41308W	7-4		59229W	4-23	230	R206864	3-9	13
2315510	7-6		43308W	3-10	29	59229W	4-25	230	R206864	7-2	
2315511	7-6		43308W	3-11	29	59229W	4-8	81	R206864	7-2	
2315512	7-7		43308W	3-12	29	59229W	4-9	81	R206864	7-3	
2315513	7-7		43308W	3-13	13	59229W	7-6		R206864	7-4	
2315514	7-7		43308W	3-14	13	59229W	7-7		R211853	4-2	48
2315515	7-8		43308W	3-15	3	60563W	2-10	5	R211853	4-3	48
2315516	7-8		43308W	3-16	3	60563W	2-13	5	R211853	4-4	48
233683W	2-10	+	43308W	3-17	3	60563W	2-14	5	R215183	3-10	27
233683W	2-11	+	43308W	3-18	3	60563W	2-15	5	R215183	3-11	27
233683W	2-12	+	43308W	3-19	4	60563W	2-16	5	R215183	3-12	27
233683W	2-13	+	43308W	3-4	111	60563W	2-19	15	R215183	3-7	27
233683W	2-14	+	43308W	3-7	29	60563W	2-20	15	R215183	3-8	27
233683W	2-15	+	43308W	3-8	29	60563W	2-21	5	R215183	3-9	27
233683W	2-16	+	43308W	3-9	29	60563W	2-22	5	R215190	3-10	41
233683W	2-19	21	43308W	7-2		60563W	2-23	5	R215190	3-11	41
233683W	2-2	+	43308W	7-2		60563W	2-24	5	R215190	3-12	41
233683W	2-20	21	43308W	7-3		60563W	2-25	5	R215190	3-7	41
233683W	2-21	+	43308W	7-3		60563W	2-26	5	R215190	3-8	41
233683W	2-22	+	43308W	7-4		60563W	2-9	5	R215190	3-9	41
233683W	2-23	+	43308W	7-4		60563W	4-8	74	R216058	2-10	7
233683W	2-24	+	43308W	7-4		60988W	3-17	8	R216058	2-13	7
233683W	2-25	+	43308W	7-5		60988W	3-18	10	R216058	2-14	7
233683W	2-26	+	43308W	7-5		60988W	7-5		R216058	2-15	7
233683W	2-27	9	43308W	7-8		61056W	2-27	15	R216058	2-16	7
233683W	2-28	9	43313W	4-10	259	69239W	2-30	9	R216058	2-17	7
233683W	2-29	9	43313W	4-11	259	69778	7-9		R216058	2-18	7
233683W	2-3	+	43313W	4-12	259	69782	7-9		R216058	2-19	17
233683W	2-30	+	43313W	7-7		70381	7-9		R216058	2-2	7
233683W	2-31	9	44322W	4-10	252	73688W	3-19	12	R216058	2-20	17
233683W	2-32	9	44322W	4-11	252	73688W	4-10	260	R216058	2-21	7
233683W	2-33	9	44322W	4-12	252	73688W	4-11	260	R216058	2-22	7
233683W	2-4	+	44322W	7-7		73688W	4-12	260	R216058	2-23	7
233683W	2-5	+	45733W	4-2	60	90207W	3-4	112	R216058	2-24	7
233683W	2-6	+	45733W	4-3	60	90207W	7-3		R216058	2-25	7
233683W	2-7	+	45733W	4-4	60	906601	7-9		R216058	2-26	7
233683W	2-8	+	45733W	4-5	60	96521W	4-31	22	R216058	2-3	7
233683W	2-9	+	45733W	4-6	60	R12117	3-5	25	R216058	2-4	7
233683W	3-4	117	45733W	4-7	52	R12117	7-3		R216058	2-5	7
233683W	3-6	13	45733W	7-5		R1304638	4-9	79	R216058	2-6	7
248321W	3-5	5	45733W	7-6		R1304638	4-8	79	R216058	2-7	7
252928W	4-10	270	45733W	7-6		R1304638	7-6		R216058	2-8	7
252928W	4-11	270	57597W	3-15	10	R1314773	4-8	76	R216058	2-9	7
252928W	4-12	270	57597W	3-16	10	R1314773	4-9	76	R216268	3-4	95
252928W	4-2	68	57597W	4-2	49	R1314773	7-6		R217420	4-2	51
252928W	4-3	68	57597W	4-3	49	R1314774	4-8	77	R217420	4-3	51
252928W	4-5	68	57597W	4-31	9	R1314774	4-9	77	R217657	5-2	4
252928W	4-6	68	57597W	4-32	8	R1314774	7-6		R217693	4-10	251
252928W	4-7	68	57597W	4-4	49	R13801023	3-19	3	R217693	4-11	251
304562W	3-15	9	57597W	7-4		R13801972	3-5	9	R217693	4-12	251
304562W	3-16	9	57597W	7-5		R13802914	3-19	2	R218777	4-10	254
304562W	3-17	6	57597W	7-5		R13803692	4-10	271	R218777	4-11	254
304562W	3-18	7	57597W	7-7		R13803692	4-11	271	R218777	4-12	254
304562W	3-19	6	57597W	7-8		R13803692	4-12	271	R218777	7-7	
307276W	4-15	214	588466	7-9		R13810990	4-17	275	R219395	2-19	14
307276W	4-17	214	588467	7-9		R13810990	4-19	275	R219395	2-20	14
307276W	4-19	214	588468	7-9		R13810990	4-21	275	R219395	2-6	4
307276W	4-21	214	588469	7-9		R13810990	4-23	275	R219395	2-7	4
307276W	4-23	214	588526	7-9		R13811435	2-33	19	R221408	3-4	104
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336870W	3-7	20	588529	7-9		R1905864	2-14	11	R222067	3-2	71
36363W	4-31	10	588530	7-9		R1905864	2-25	11	R222067	3-3	7
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R223084	4-23	213	R230829	3-12	31	R231264	7-5		R231333	4-25	227
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R223877	3-11	32	R230829	3-8	31	R231267	4-4	69	R231336	4-19	220
R223877	3-12	32	R230829	3-9	31	R231267	4-5	69	R231336	4-21	220
R223877	3-7	32	R230829	7-2		R231267	4-7	69	R231336	4-23	220
R223877	3-7	35	R230829	7-2		R231274	4-2	62	R231336	4-25	220
R223877	3-8	32	R230829	7-3		R231274	4-3	62	R231336	7-7	
R223877	3-9	32	R230857	3-10	3	R231274	4-4	62	R231338	4-15	215
R223901	3-4	110	R230857	3-11	3	R231274	4-5	62	R231338	4-17	215
R223989	4-15	236	R230857	3-12	3	R231274	4-6	62	R231338	4-19	215
R223989	4-17	236	R230857	3-7	3	R231274	4-7	62	R231338	4-21	215
R223989	4-19	236	R230857	3-8	3	R231275	4-2	62	R231338	4-23	215
R223989	4-21	236	R230857	3-9	3	R231275	4-3	62	R231338	4-25	215
R223989	4-23	236	R230857	7-2		R231275	4-4	62	R231338	7-7	
R223989	4-25	236	R230857	7-2		R231275	4-5	62	R231385	3-10	12
R224026	3-4	107	R230857	7-3		R231275	4-6	62	R231385	3-13	6
R224083	3-10	28	R230911	3-10	43	R231275	4-7	62	R231385	3-14	6
R224083	3-11	28	R230911	3-11	43	R231279	4-2	65	R231385	3-7	12
R224083	3-12	28	R230911	3-12	43	R231279	4-3	65	R231385	3-8	12
R224083	3-13	12	R230911	3-7	43	R231279	4-4	65	R231385	3-9	12
R224083	3-14	12	R230911	3-8	43	R231279	4-5	65	R231387	5-2	7
R224083	3-15	2	R230911	3-9	43	R231279	4-6	65	R231502	2-2	B
R224083	3-16	2	R230911	7-2		R231279	4-7	65	R231502	2-3	B
R224083	3-17	4	R230911	7-2		R231279	7-5		R231502	2-4	B
R224083	3-18	2	R230911	7-3		R231279	7-6		R231502	2-5	B
R224083	3-4	102	R231017	4-15	231	R231279	7-6		R231502	2-6	B
R224083	3-7	28	R231017	4-17	231	R231283	4-8	82	R231502	2-7	B
R224083	3-7	30	R231017	4-19	231	R231283	4-9	82	R231502	2-8	B
R224083	3-8	28	R231017	4-21	231	R231284	4-8	82	R231502	3-7	
R224083	3-9	28	R231017	4-23	231	R231284	4-9	82	R231553	2-23	4
R224771	3-11	5	R231017	4-25	231	R231285	4-8	82	R231553	2-24	4
R224771	3-12	5	R231017	7-7		R231285	4-9	82	R231553	2-25	4
R224771	3-7	5	R231059	2-21	4	R231290	4-10	256	R231553	2-26	4
R224771	3-8	5	R231059	2-22	4	R231290	4-11	256	R231743	3-12	33
R224771	3-9	5	R231259	3-13	6	R231290	4-12	256	R231743	3-8	33
R224771	7-2		R231260	3-10	9	R231292	4-10	268	R231743	3-9	33
R224771	7-3		R231260	3-13	3	R231292	4-11	268	R231744	4-3	69
R224772	3-10	44	R231260	3-7	9	R231293	4-10	265	R231744	4-6	69
R224772	3-11	44	R231260	3-8	9	R231293	4-11	265	R231760	2-10	A
R224772	3-12	44	R231260	3-9	9	R231293	4-12	265	R231760	2-13	A
R224772	3-7	44	R231261	3-10	33	R231293	7-7		R231760	2-14	A
R224772	3-8	44	R231261	3-11	33	R231294	4-10	253	R231760	2-9	A
R224772	3-9	44	R231261	3-7	33	R231294	4-11	253	R231760	3-8	
R224772	7-2		R231262	3-10	11	R231294	4-12	253	R231811	4-15	222
R224772	7-2		R231262	3-13	5	R231303	4-15	229	R231811	4-17	222
R224772	7-3		R231262	3-14	5	R231303	4-17	229	R231811	4-19	222
R224774	3-10	42	R231262	3-7	11	R231303	4-19	229	R231811	4-21	222
R224774	3-11	42	R231262	3-8	11	R231303	4-21	229	R231811	4-23	222
R224774	3-12	42	R231262	3-9	11	R231303	4-23	229	R231811	4-25	222
R224774	3-7	42	R231262	7-2		R231303	4-25	229	R231842	4-10	250
R224774	3-8	42	R231262	7-2		R231303	7-7		R231842	4-11	250
R224774	3-9	42	R231262	7-4		R231308	4-29	212	R231842	4-12	250
R225956	3-10	10	R231262	7-4		R231308	4-30	212	R231842	7-7	
R225956	3-13	4	R231264	3-10	8	R231308	4-31	18	R231843	4-15	240
R225956	3-4	101	R231264	3-13	2	R231308	4-32	14	R231843	4-17	240
R225956	3-7	10	R231264	3-14	2	R231308	7-7		R231843	4-19	240
R225956	3-8	10	R231264	3-15	1	R231308	7-8		R231843	4-21	240
R225956	3-9	10	R231264	3-16	1	R231319	5-2	5	R231843	4-23	240
R225956	7-2		R231264	3-17	2	R231320	5-2	6	R231843	4-25	240
R225956	7-2		R231264	3-18	1	R231332	4-15	226	R232089	3-10	39
R225956	7-3		R231264	3-19	13	R231332	4-17	226	R232089	3-11	39
R225956	7-4		R231264	3-7	8	R231332	4-19	226	R232089	3-12	39
R230822	3-10	40	R231264	3-8	8	R231332	4-21	226	R232089	3-7	39
R230822	3-11	40	R231264	3-9	8	R231332	4-23	226	R232089	3-8	39
R230822	3-12	40	R231264	7-2		R231332	4-25	226	R232089	3-9	39
R230822	3-7	40	R231264	7-2		R231333	4-15	227	R232157	4-2	50
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R232159	4-3	52	R232367	4-8	84	R232715	4-5	62	R234597	4-19	225
R232159	4-4	52	R232367	4-9	84	R232715	4-6	62	R234597	4-21	225
R232159	7-5		R232368	4-10	258	R232715	4-7	62	R234651	5-2	8
R232160	4-2	55	R232368	4-12	258	R232901	4-15	219	R235091	3-4	113
R232160	4-3	55	R232370	4-15	243	R232901	4-17	219	R237329	4-15	225
R232160	4-4	55	R232370	4-17	243	R232901	4-21	219	R237329	4-17	225
R232162	4-2	47	R232370	4-19	243	R232901	4-23	219	R237329	4-19	225
R232162	4-3	47	R232370	4-21	243	R232901	4-25	219	R237329	4-21	225
R232162	4-4	47	R232370	4-23	243	R232903	4-29	207	R239216	4-15	233
R232239	4-15	228	R232370	4-25	243	R232903	4-30	207	R239216	4-17	233
R232239	4-17	228	R232379	2-21	A	R232903	4-32	17	R239216	4-19	233
R232239	4-19	228	R232379	2-22	A	R232944	4-29	208	R239216	4-21	233
R232239	4-21	228	R232379	2-23	A	R232947	4-29	205	R239216	4-23	233
R232239	4-23	228	R232379	2-24	A	R233029	4-15	246	R239216	4-25	233
R232239	4-25	228	R232379	3-11		R233029	4-17	246	R242042	5-2	9
R232240	4-15	234	R232380	2-10	C	R233029	4-19	246	R242044	3-5	23
R232240	4-17	234	R232380	2-11	B	R233029	4-21	246	R242044	3-6	7
R232240	4-19	234	R232380	2-12	B	R233029	4-23	246	R242044	5-2	
R232240	4-21	234	R232380	2-13	C	R233029	4-25	246	R244673	2-6	+
R232240	4-23	234	R232380	2-14	C	R233194	4-8	85	R244673	2-7	+
R232240	4-25	234	R232380	2-15	C	R233194	4-9	85	R244673	2-8	+
R232281	3-4	97	R232380	2-16	C	R233302	4-27	2	R244763	2-10	+
R232282	3-4	118	R232380	2-17	C	R233302	4-28	2	R244763	2-11	+
R232282	7-3		R232380	2-18	C	R233360	2-10	F	R244763	2-12	+
R232283	3-4	109	R232380	2-19	D	R233360	2-11	E	R244763	2-13	+
R232287	2-21	H	R232380	2-2	D	R233360	2-12	E	R244763	2-14	+
R232287	2-22	H	R232380	2-20	D	R233360	2-13	F	R244763	2-15	+
R232287	2-23	H	R232380	2-21	C	R233360	2-14	F	R244763	2-16	+
R232287	2-24	H	R232380	2-22	C	R233360	2-15	F	R244763	2-19	22
R232287	2-25	H	R232380	2-23	C	R233360	2-16	F	R244763	2-2	+
R232287	2-26	H	R232380	2-24	C	R233360	2-21	F	R244763	2-20	22
R232287	3-4		R232380	2-25	C	R233360	2-22	F	R244763	2-21	+
R232288	2-25	A	R232380	2-26	C	R233360	2-23	F	R244763	2-22	+
R232288	2-26	A	R232380	2-27	D	R233360	2-24	F	R244763	2-23	+
R232288	3-12		R232380	2-28	D	R233360	2-25	F	R244763	2-24	+
R232338	4-15	225	R232380	2-29	D	R233360	2-26	F	R244763	2-25	+
R232338	4-17	225	R232380	2-3	D	R233360	2-27	G	R244763	2-26	+
R232338	4-19	225	R232380	2-30	D	R233360	2-28	G	R244763	2-3	+
R232338	4-21	225	R232380	2-31	D	R233360	2-29	G	R244763	2-30	+
R232338	4-23	225	R232380	2-32	D	R233360	2-31	G	R244763	2-4	+
R232338	4-25	225	R232380	2-33	D	R233360	2-32	G	R244763	2-5	+
R232349	4-2	63	R232380	2-4	D	R233360	2-9	F	R244763	2-9	+
R232349	4-3	63	R232380	2-5	D	R233360	4-28		R245669	4-29	206
R232349	4-4	63	R232380	2-6	D	R233361	4-26	1	R245669	4-30	206
R232349	4-5	63	R232380	2-7	D	R233361	4-28	1	R245669	4-32	16
R232349	4-6	63	R232380	2-8	D	R233598	2-11	3	R245897	3-10	4
R232349	4-7	63	R232380	2-9	C	R233598	2-12	3	R245897	3-11	4
R232350	4-2	57	R232380	4-8		R233598	2-13	3	R245897	3-12	4
R232350	4-3	57	R232382	2-10	D	R233598	2-14	3	R245897	3-7	4
R232350	4-4	57	R232382	2-11	C	R233598	2-15	3	R245897	3-8	4
R232350	4-5	57	R232382	2-12	C	R233598	2-16	3	R245897	3-9	4
R232350	4-6	57	R232382	2-13	D	R233598	2-19	1	R246818	3-2	23
R232350	4-7	57	R232382	2-14	D	R233598	2-2	3	R246818	3-3	2
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R232351	4-3	59	R232382	2-21	D	R233598	2-21	3	R247014	4-17	242
R232351	4-4	59	R232382	2-22	D	R233598	2-22	3	R247014	4-19	242
R232351	4-5	59	R232382	2-23	D	R233598	2-23	3	R247014	4-21	242
R232351	4-6	59	R232382	2-24	D	R233598	2-24	3	R247014	4-23	242
R232351	4-7	59	R232382	2-25	D	R233598	2-25	3	R247014	4-25	242
R232357	4-2	53	R232382	2-26	D	R233598	2-26	3	R247014	7-7	
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R232357	4-4	53	R232382	2-30	E	R233598	2-6	3	R400001	4-11	258
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R232362	7-6		R232382	2-8	E	R233850	4-3	58	R400013	2-20	G
R232363	4-8	75	R232382	2-9	D	R233850	4-4	58	R400013	4-26	
R232363	4-9	75	R232382	4-10		R233850	4-5	58	R400015	2-19	E
R232365	4-8	84	R232574	4-17	239	R233850	4-6	58	R400015	2-20	E
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R400017	2-2	4	R400083	2-8	C	R400111	4-15	241	R4064001	7-6	
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R400017	2-4	4	R400084	2-10	B	R400111	4-19	241	R4064002	4-2	101
R400017	2-5	4	R400084	2-11	A	R400111	4-21	241	R4064002	4-3	101
R400017	2-8	4	R400084	2-12	A	R400111	4-23	241	R4064002	4-4	101
R400017	2-9	4	R400084	2-13	B	R400111	4-25	241	R4064002	4-5	101
R400037	2-10	E	R400084	2-14	B	R400112	4-17	261	R4064002	4-6	101
R400037	2-11	D	R400084	2-15	B	R400112	4-19	261	R4064002	4-7	56
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R400037	2-19	F	R400085	2-11	F	R400119	4-15	274	R525293	2-12	15
R400037	2-2	F	R400085	2-13	G	R400119	4-17	274	R525293	2-13	21
R400037	2-20	F	R400085	2-15	G	R400119	4-19	274	R525293	2-14	21
R400037	2-21	E	R400085	2-17	G	R400119	4-21	274	R525293	2-15	21
R400037	2-22	E	R400085	2-19	H	R400119	4-23	274	R525293	2-16	21
R400037	2-23	E	R400085	2-2	H	R400119	4-25	274	R525293	2-17	9
R400037	2-24	E	R400085	2-21	G	R400120	3-15	4	R525293	2-18	9
R400037	2-25	E	R400085	2-23	G	R400126	2-30	13	R525293	2-2	17
R400037	2-26	E	R400085	2-25	G	R400127	2-30	8	R525293	2-21	17
R400037	2-3	F	R400085	2-27	H	R400128	2-30	10	R525293	2-22	17
R400037	2-30	F	R400085	2-28	H	R400129	4-15	245	R525293	2-23	17
R400037	2-4	F	R400085	2-30	H	R400129	4-17	245	R525293	2-24	17
R400037	2-5	F	R400085	2-31	H	R400129	4-19	245	R525293	2-25	21
R400037	2-6	F	R400085	2-4	H	R400129	4-21	245	R525293	2-26	21
R400037	2-7	F	R400085	2-6	H	R400129	4-23	245	R525293	2-27	18
R400037	2-9	E	R400085	2-8	H	R400129	4-25	245	R525293	2-28	18
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R400041	4-4	100	R400087	2-12	G	R400130	2-15	8	R525293	2-5	17
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R400041	4-6	100	R400087	2-14	I	R400130	2-19	18	R525293	2-7	17
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R400082	4-5	66	R400087	2-9	H	R400130	2-33	4	WR7-106J	7-8	
R400082	4-6	66	R400087	3-2		R400130	2-4	8	WR7-160J	6-2	
R400082	4-7	66	R400100	3-15	8	R400130	2-5	8	WR7-160J	7-8	
R400083	2-2	C	R400100	3-16	8	R400130	2-6	8	WR8-60J	6-2	
R400083	2-21	B	R400101	4-27	1	R400130	2-7	8	WR8-60J	7-8	
R400083	2-22	B	R400102	4-7	47	R400130	2-9	8	WR8-92J	6-2	
R400083	2-23	B	R400103	4-5	55	R4064001	4-2	56	WR8-92J	7-8	
R400083	2-24	B	R400103	4-6	55	R4064001	4-3	56	Y09C-M1225	2-33	15
R400083	2-3	C	R400103	4-7	55	R4064001	4-4	56	Y17C-1032	2-33	10
R400083	2-4	C	R400107	2-30	B	R4064001	4-5	56			



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