

REPLACEMENT PARTS

Depending on what replacement parts you are ordering
the following information will be needed:

CHIPPER COMPONENTS

Serial Number
Model Number of Chipper

ENGINE COMPONENTS

Brand
Engine Serial Number
Engine Spec. Number

CLUTCH COMPONENTS

Brand
Serial Number
Assembly Number of Clutch

NOTICE

When ordering any replacement parts you should have the serial number (S/N) and model of the machine to ensure that you receive the correct replacement part. See page 6 for typical serial number & work order number locations.

NOTICE

All nuts, bolts, washers, and many other components can be ordered by physical description.

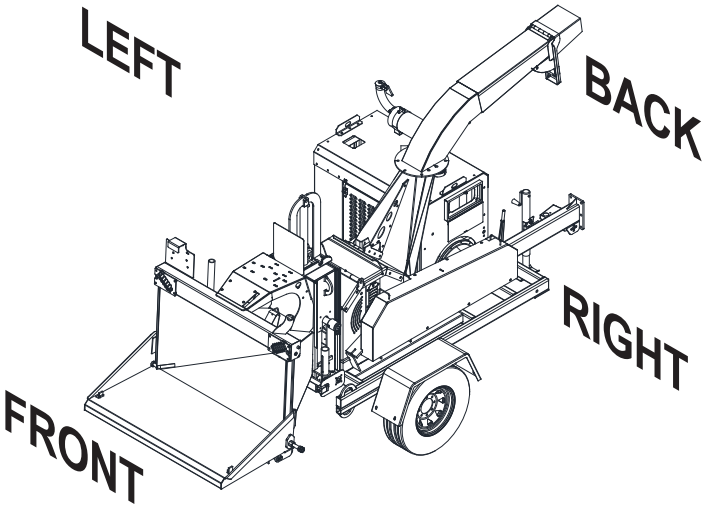
NOTICE

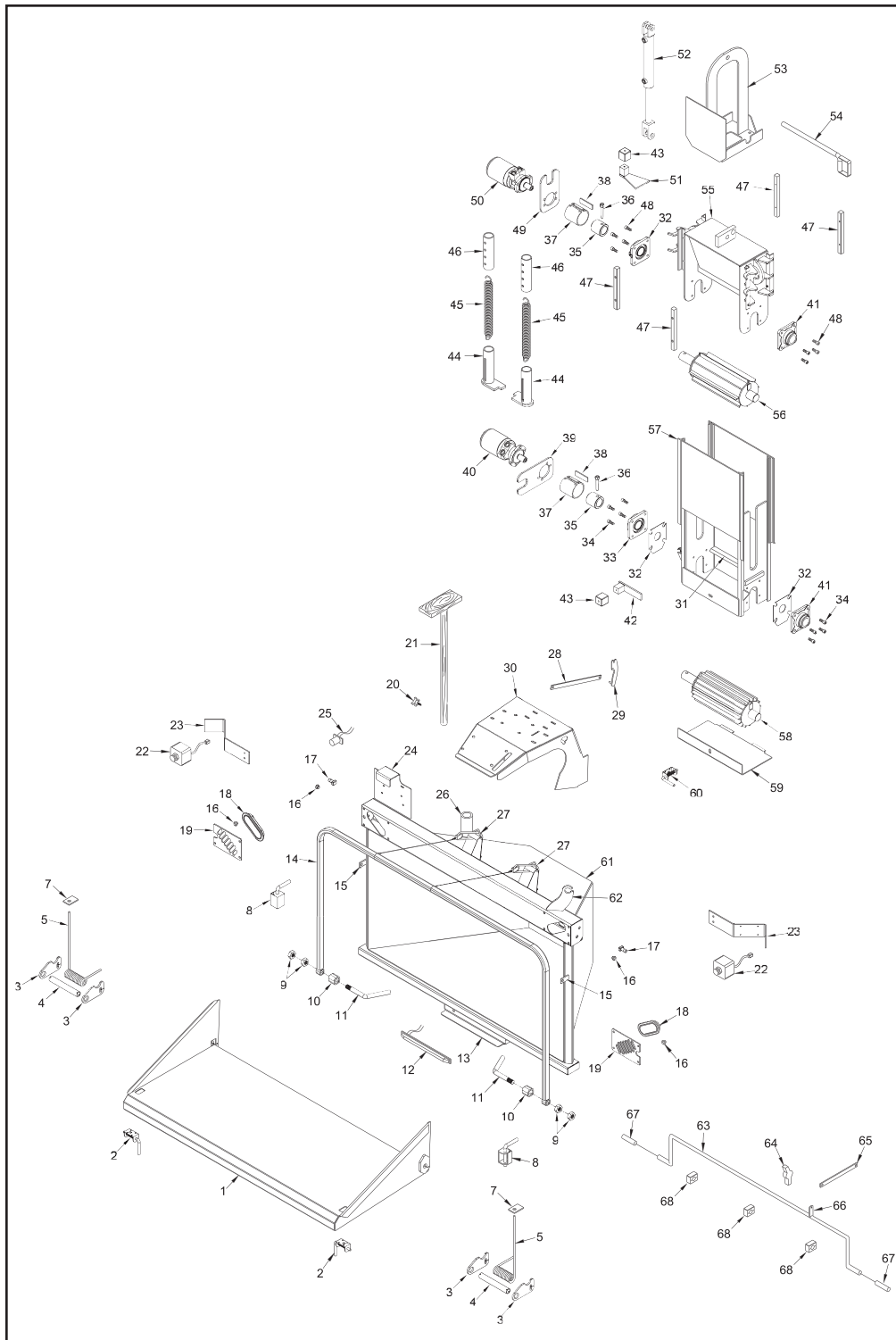
Some of the components shown in this section are for optional equipment and may not apply to every machine.

NOTICE

Bandit Industries Inc. reserves the right to make changes in models, size, design, installations and applications on any part without notification.

MACHINE ORIENTATION REFERENCE





NOTICE Parts may not be exactly as shown.

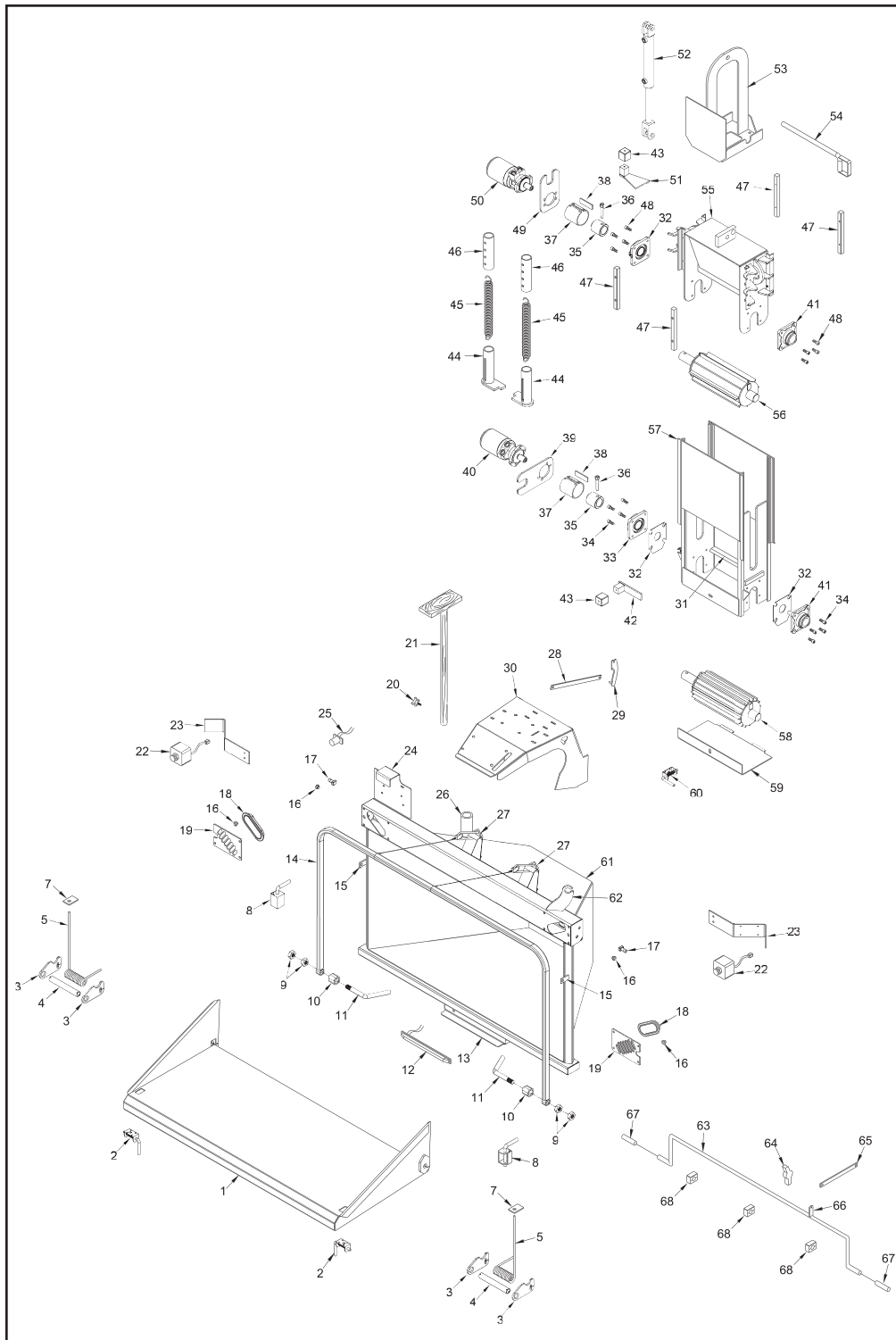
LOCATION	PART NUMBER	DESCRIPTION
1. a.	912-1001-42	Folding Pan for Infeed Hopper Assembly (Includes 2 - 10)
b.	912-200002	Folding Pan for Infeed Hopper
2. a.	900-4904-90	Folding Pan Spring Lock - 3/4" Diameter Pin
b.	900-7900-96	Rubber Cap For Spring Lock - 3/4" Diameter (Not Shown)
3.	980-300320	Spring Mount For Spring Assist - 2" x 3" Rim
4. a.	980-3011-43	Spring Tube For Spring Assist
b.	900-4905-45	Cotter Pin For Spring Tube (Not Shown)
5. a.	900-4917-77	Right Spring For Spring Assist
b.	911-100003	Spring Assist Kit - Specify Left Side or Right Side (Includes 3 - 7)
6. a.	900-4917-76	Left Spring For Spring Assist
b.	911-100003	Spring Assist Kit - Specify Left Side or Right Side (Includes 3 - 7)
7.	980-0133-34	Top Spring Block
8. a.	900-4908-27	Infeed Pan Spring Lock Only
b.	980-2003-53	Infeed Pan Slam Latch Kit
9.	900-4900-44	Pivot Pin Jam Nut
10.	980-0133-09	Pivot Tube
11.	981-300151	Pivot Pin
12.	900-2909-93	LED 3-Light Bar
13.	980-300118	Mount For LED 3-Light Bar
14.	905-2001-55	Control Handle
15.	980-300302	Folding Pan Lock Tab For 3/4" Diameter Pin
16.	900-2924-29	LED Red Marker Light - 3/4" Round
17.	905-8000-06	Fuel Saver Kit
18.	900-2905-13	LED Oval Tail Light
19.	937-3014-82	Oval Tail Light Cover
20.	900-4914-18	Plastic Knob
21.	981-1005-30	Wooden Push Paddle
22.	900-2914-65	Optional Shut Down Switch Assembly
23.	980-0136-44	Optional Shut Down Switch Mount
24. a.	980-300290	License Plate and Light Mount
b.	905-3002-28	License Plate and Light Mount - Australia
25.	900-2927-84	License Plate Light
26.	980-0122-55	Wooden Push Paddle Mount
27. a.	980-0509-25	Last Chance Cable Kit - Pulleys, Cables, Clamps
b.	900-4904-29	Last Chance Orange Cable With Clamp
c.	980-0508-64	Last Chance Cable Assembly Kit
28.	980-300156	Hydraulic Control Arm - 20 1/2"
29.	980-100141	Feedwheel Control Valve Linkage
30. a.	905-2001-45	Winch and Valve Mount
b.	905-2001-59	Winch and Valve Mount - Australia
31.	915-3000-31	Scraper Bar
32.	981-300082	Bottom Feedwheel Bearing Backer Plate
33. a.	900-1909-79	Feedwheel Bearing - Set Screw Style
b.	900-1909-80	Feedwheel Bearing - Grip-Tite Style (S/Ns 501390 & 501392 Only)
34.	900-4909-23	Bottom Feedwheel Bearing Bolt (1/2"-13NC x 1 1/4" SHCS)
35.	980-0508-57	Coupler Guard Mount
36.	900-7901-23	Rubber Coupler Guard - 17 3/4"
37.	981-1006-45	Hydraulic Motor Coupler
38.	900-4909-54	Taper Pin With Nut
39. a.	981-100050	Bottom Torque Arm With Coupler Guard Mount
b.	981-300196	Bottom Torque Arm
40. a.	900-3973-17	Bottom Feedwheel Hydraulic Motor
b.	900-3973-16	Bottom Feedwheel Hydraulic Motor (S/Ns 501390 & 501392 Only)

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

NOTICE The top feedwheel bearing bolts need to be ground off flush with inside of yoke, if replaced.

NOTICE The Model 915 hydraulic feedwheel motors may be on the left side or the right side of the machine, depending on the machine serial number.

NOTICE Grip-Tite style feedwheel bearings are on the hydraulic motor side.



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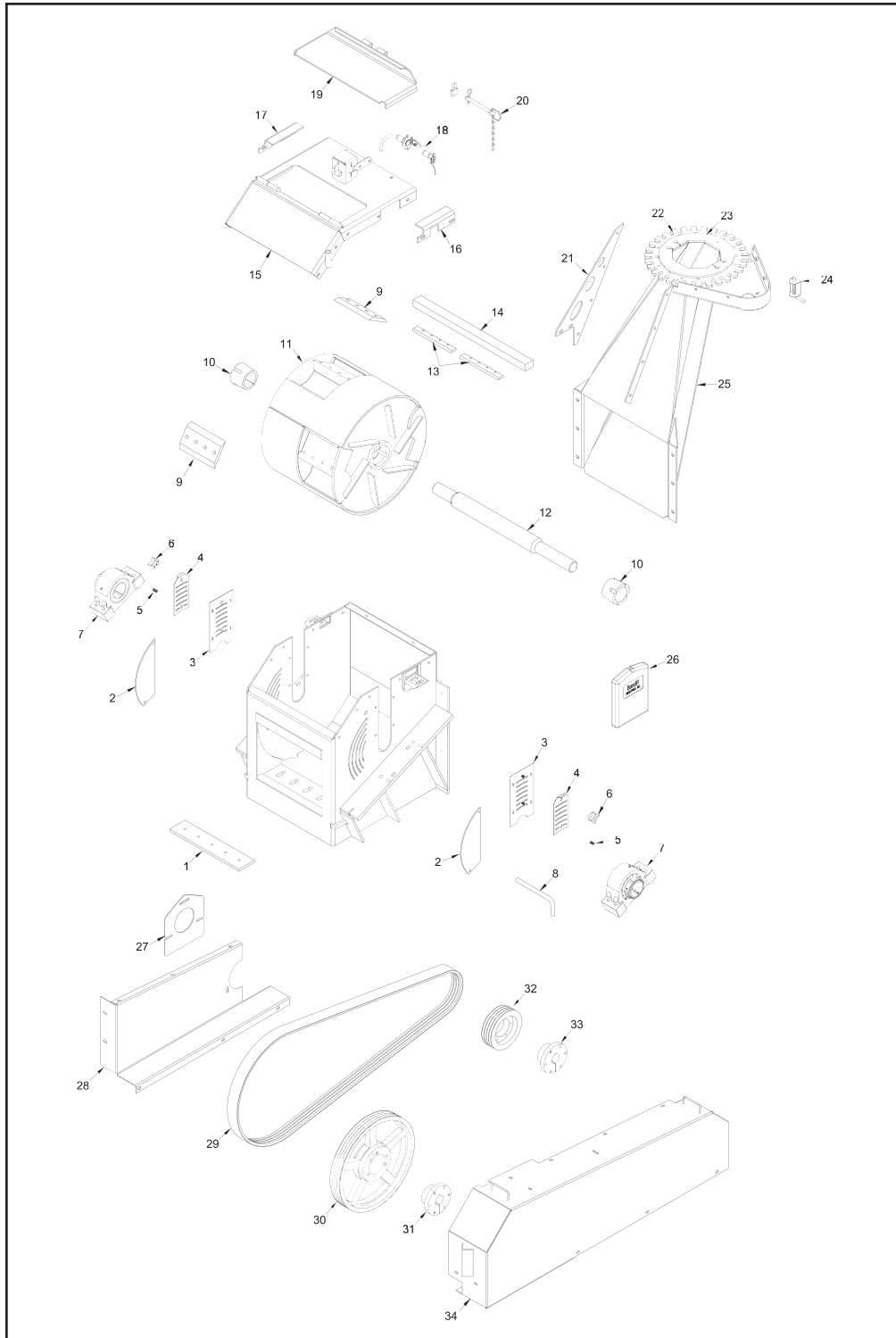
LOCATION	PART NUMBER	DESCRIPTION
41. a.	900-1909-80	Feedwheel Bearing - Grip-Tight Style
b.	900-1909-79	Feedwheel Bearing - Set Screw Style (S/Ns 501390 & 501392 Only)
42. a.	980-300514	Bottom Torque Arm Stop
b.	937-300316	Torque Arm Cushion Mount
43.	937-900009	Torque Arm Cushion
44. a.	980-2004-40	Bottom Mount for Easy Climb System - Left Side
b.	980-2003-72	Bottom Mount for Easy Climb System - Right Side
c.	900-4905-79	Clevis Pin (Not Shown)
d.	900-4905-80	Cotter Pin for Clevis Pin (Not Shown)
e.	900-4906-90	Flat Washer (Not Shown)
45.	900-4903-81	Yoke Spring
46. a.	981-300030	Top Mount for Easy Climb System
b.	900-4905-14	Clevis Pin (Not Shown)
c.	900-4905-19	Hair Pin for Clevis Pin (Not Shown)
47.	980-0138-10	Yoke Slide - 1" x 1" x 11 1/2"
48.	900-4913-62	Top Feedwheel Bearing Bolt (1/2"-13NC x 1 1/8" SHCS)
49. a.	981-100049	Top Torque Arm With Coupler Guard Mount
b.	981-300197	Top Torque Arm
50. a.	900-3973-16	Top Feedwheel Hydraulic Motor
b.	900-3973-17	Top Feedwheel Hydraulic Motor (S/Ns 501390 & 501392 Only)
51. a.	981-300199	Top Torque Arm Stop
b.	937-300316	Torque Arm Cushion Mount
52. a.	900-3928-15	Yoke Lift Cylinder-Welded
b.	904-0007-14	Pin for Welded Cylinder
c.	900-4913-23	Rubber Washer - Top Of Cylinder (Not Shown)
53. a.	911-200011	Yoke Lift Assembly
b.	911-2001-70	Top Yoke Plate Without Yoke Lift (Not Shown)
c.	980-0132-68	Decal Plate Only
54.	955-1005-91	Yoke Lock Pin
55. a.	906-1000-03	Top Yoke Assembly (Includes 33, 37, 38, 41, 43, 47, 52, 56)
b.	915-2000-02	Top Yoke Assembly
56. a.	981-200060	Top Feedwheel Assembly
b.	981-0501-32	Top Feedwheel Assembly (S/Ns 501390 & 501392 Only)
c.	981-300191	Top Feedwheel Tooth
d.	981-0501-31	Top Feedwheel Shaft & Coupler Assembly
57.	915-2000-01	Feedwheel Slide Box Assembly
58. a.	981-200061	Bottom Feedwheel Assembly
b.	981-0501-28	Bottom Feedwheel Assembly (S/Ns 501390 & 501392 Only)
c.	981-300191	Bottom Feedwheel Tooth
d.	981-0501-31	Bottom Feedwheel Shaft & Coupler Assembly
59.	900-4901-83	Trap Door Spring Lock
60. a.	911-0500-30	Trap Door Assembly
b.	981-1000-60	Hinge For Trap Door
61.	915-1000-37	Infeed Hopper Assembly
62.	955-3010-97	Winch Line Hook Mount
63. a.	904-0006-91	Dual Yoke Lift Control Bar Kit
b.	917-2000-27	Dual Yoke Lift Control Bar
64.	900-3930-96	Short Valve Handle - Lift Cylinder Control Linkage
65.	626-100061	Control Arm - Dual Yoke Lift - 11 1/2"
66.	980-100157	Dual Yoke Lift Control Bar Tab
67.	900-7900-96	Rubber Cap - Dual Yoke Lift Control Bar
68.	900-3914-02	Clamp - Lift Control Bar

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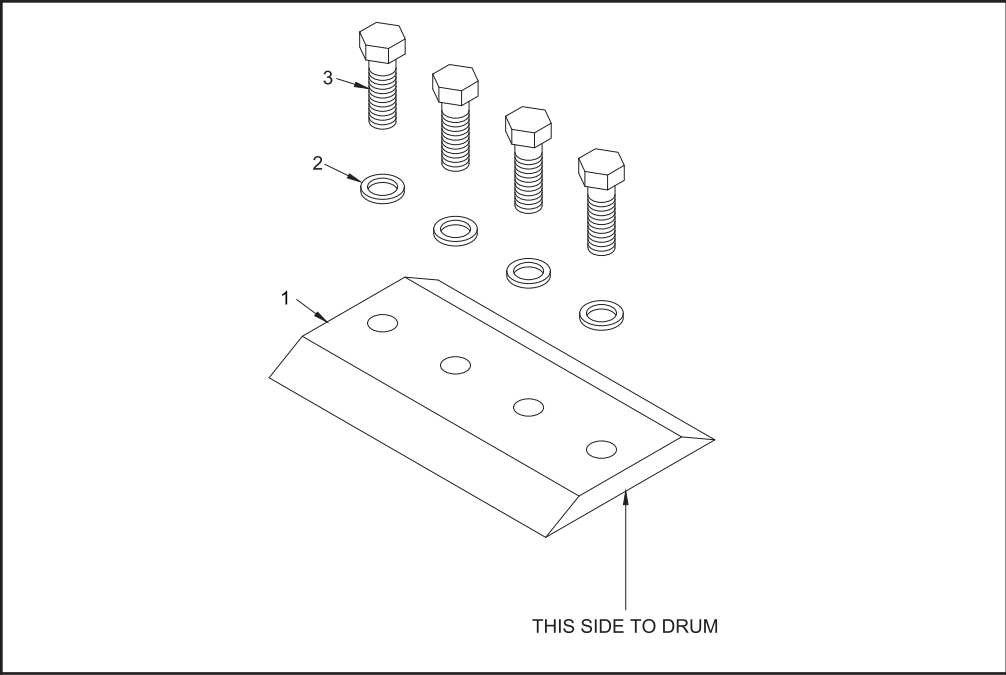


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LOCATION	PART NUMBER	DESCRIPTION
1.	See Page 99	Anvil
2.	911-1001-88	Vent cover
3.	905-3000-29	Base Slot Cover
4. a.	905-3000-30	Air Vent Cover - Steel
b.	905-1000-00	Air Vent Cover Kit - Steel (Includes Two Pieces Of 4a, 5, & 6)
5.	900-4908-33	Spring For Vent Cover
6.	900-4908-29	Plastic Knob For Vent Cover
7.	900-1914-80	Chipper Drum Bearing
8. a.	955-300086	Drum Lock Pin
b.	900-7900-96	Rubber Cap (Not Shown)
9.	See Page 98	Chipper Knife & Hardware
10.	900-1912-30	Drum Head Bushing
11.	906-2000-01	Chipper Drum Head Assembly (Includes 8, 9, & 11)
12.	905-3002-31	Drum Head Shaft
13. a.	937-3009-23	Shear Counter Knife
b.	900-4909-86	Counter Knife Bolts (1/4"-20NC x 5/8" SHCS - 8 per)
14. a.	905-3001-76	Shear Bolt Plate
b.	905-1000-24	Shear Assembly (Includes 13)
15. a.	905-2001-04	Base Top With Door Assembly
b.	900-4916-71	Hinge for Hood Door
16.	905-3003-60	Shear Slot Cover - Right Side
17.	905-3003-61	Shear Slot Cover - Left Side
18. a.	909-1000-01	Engine Disable Plug Kit (Includes Plug, Wiring, & Mounts)
b.	900-2904-13	6-Prong Female Plug Only
c.	980-100083	6-Prong Male Plug With Wire Loop & Crimp Sleeves
19.	905-3000-48	Hood Door Only
20. a.	911-100000	Hood Pin With Attaching Chain
b.	900-4902-20	Padlock For Hood Pin (Not Shown)
c.	900-4917-21	Key For Padlock (Not Shown)
21.	905-3001-84	Transition Support
22.	980-3013-58	Bottom Swivel Ring For Swivel Discharge
23.	980-3014-56	Transition Flange
24. a.	900-4908-27	Discharge Spring Lock
b.	900-7900-96	Rubber Cap (Not Shown)
25. a.	905-2000-09	Transition Assembly
b.	905-2000-60	Transition Assembly With Clean-Out Door
26.	900-9910-28	Manual Holder
27. a.	980-300413	Adjustable Beltshield Cover - Auto Clutch
b.	980-300295	Adjustable Beltshield Cover - Twin Disc Clutch SP211 / NACD Clutch
28. a.	905-3002-35	Beltshield Back
b.	905-3000-36	Beltshield Back - Short Frame Option
29.	**	Chipper Belts
30.	**	Chipper Sheave
31.	**	Chipper Sheave Bushing
32.	**	Engine Sheave
33.	**	Engine Sheave Bushing
34. a.	906-1000-01	Beltshield Assembly (Includes 26)
b.	905-1001-13	Beltshield Assembly - Short Frame Option (Includes 26)

** Components vary with engine options order by physical description or machine S/N.

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.



NOTICE KNIFE BOLTS MUST BE INSTALLED THROUGH KNIFE AS SHOWN

Part Numbers For Knives & Hardware

LOCATION	PART NUMBER	DESCRIPTION
1.	912-3001-47	5/8" x 5 1/2" x 9" Chipper Knife
2.	900-4901-32	5/8" Mill Carb Washer
3.	900-4900-20	5/8"-11NC x 2" Knife Bolt

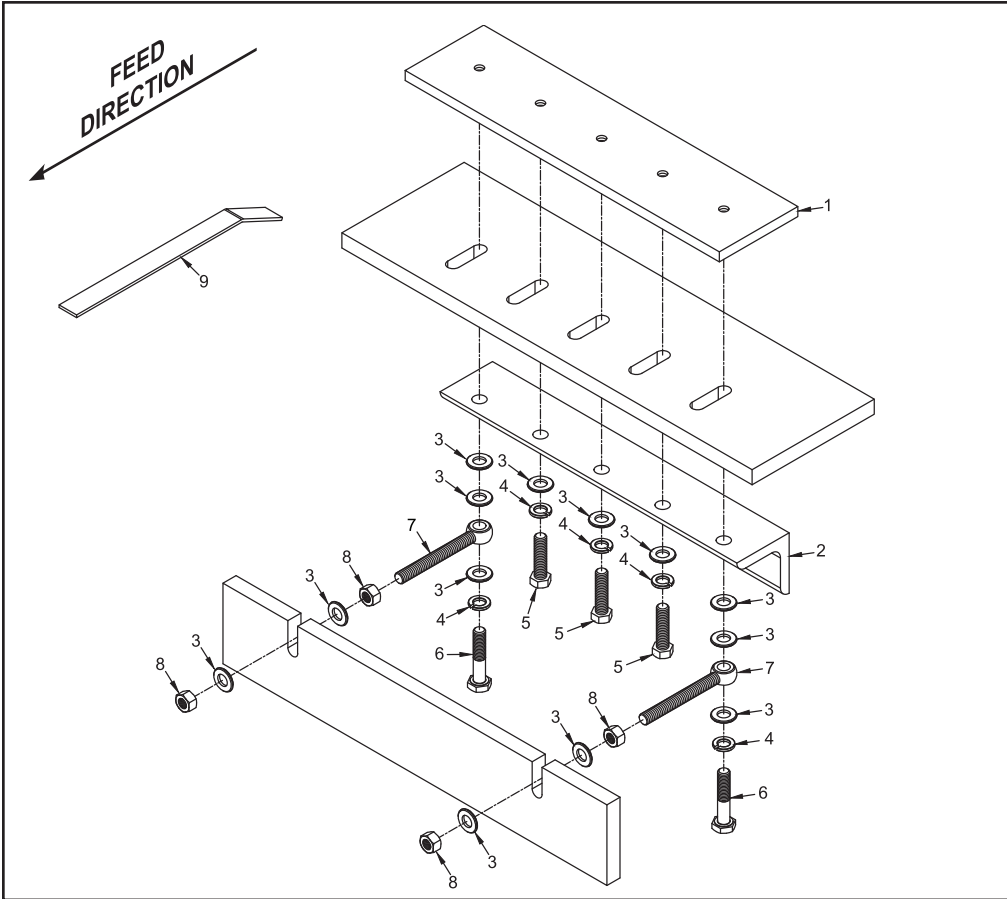
Knife Bolt Torque: 180 ft.-lbs. (245 Nm)

KNIFE SAVER KIT



LOCATION	PART NUMBER	DESCRIPTION
1.	900-9901-68	Knife Saver Kit
2.	900-9901-65	File For Knife Saver Kit Only
3.	900-9901-63	Replacement Blades For Knife Saver
4.	900-9901-66	Knife Changing Gloves

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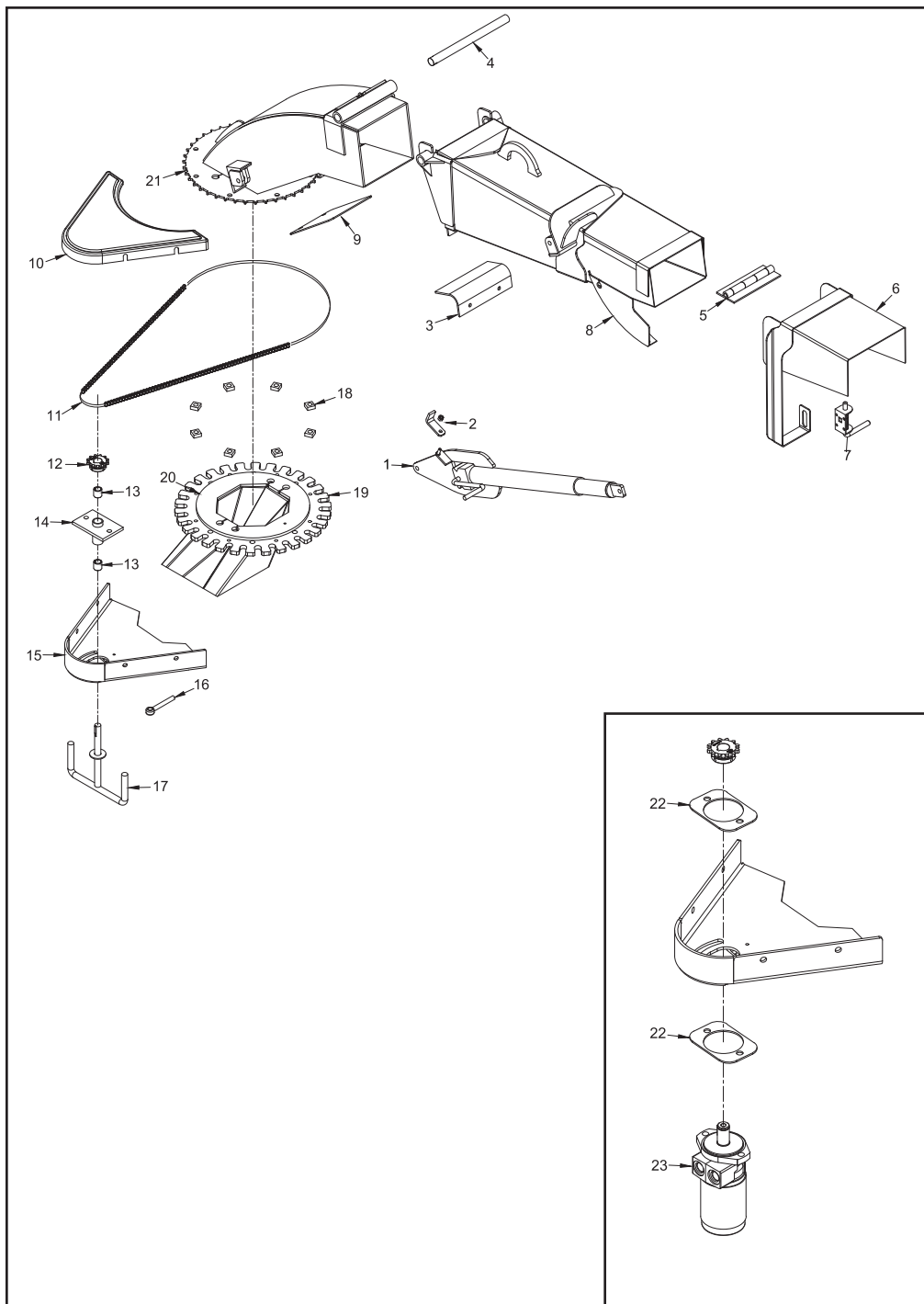


LOCATION	PART NUMBER	DESCRIPTION
1.	905-3000-43	Anvil Only
2.	905-3000-67	Anvil Clamp Plate
3.	900-4909-18	1/2" Mill Carb Washer
4.	900-4906-86	1/2" Lock Washer
5.	900-4900-74	1/2"-13NC x 2" Hex Head Bolt
6.	900-4909-28	1/2"-13NC x 2 3/4" Hex Head Bolt
7.	900-4907-91	Anvil Eye Bolt - 1/2"-13NC x 4 1/2"
8.	900-4900-45	1/2"-13NC Hex Nut
9.	955-300193	Anvil Gauge
10.	904-0003-90	Anvil Hardware Kit Only (Includes 3 - 8)
11.	905-1000-03	Anvil & Hardware Kit (Includes 1 & 3 - 8)

Anvil Bolt Torque: 75 ft.-lbs. (102 Nm)

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HEIGHT ADJUSTABLE HAND CRANK & HYDRAULIC SWIVEL DISCHARGE



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HEIGHT ADJUSTABLE HAND CRANK & HYDRAULIC SWIVEL DISCHARGE

LOCATION	PART NUMBER	DESCRIPTION
1. a.	980-0510-86	Hand Crank For Adj. Height Discharge - Mounted On The Side
b.	912-200035	Hand Crank For Adj. Height Discharge - Mounted On The Road Side
c.	980-0508-51	Hand Crank For Adj. Height Discharge - Mounted Underneath
2. a.	955-300434	Handle Lock
b.	900-4906-60	Discharge Transport Nut - 3/8"-16NC
3.	980-0126-12	Rubber Discharge Guard
4.	980-300209	Hand Crank Adjustable Height Hinge Pin
5.	980-0101-59	Discharge Flipper Hinge
6. a.	980-0509-26	12" Discharge Flipper Assembly (Includes 5 & 7)
b.	980-0510-25	12" Enclosed Discharge Flipper Assembly (Includes 5 & 7)
7. a.	900-4901-83	Discharge Flipper Adjusting Spring
b.	900-7900-93	Black Rubber Cap (Not Shown)
8. a.	980-0510-23	Adjusting Spring Lock Plate Assembly for Standard Flipper
b.	980-0510-24	Adjusting Spring Lock Plate Assembly for Enclosed Flipper
9.	911-300129	Clean-Out Door
10.	900-9904-64	Chain Guard
11. a.	900-1901-20	#50 Roller Chain
b.	900-1901-18	Half Link - Chain (Not Shown)
c.	900-1901-19	Master Link - Chain (Not Shown)
12.	900-1915-71	Sprocket for Swivel Discharge
13.	900-1909-36	Bushing Only
14.	980-200006	Chain Adjuster Assembly
15.	937-200018	Discharge Swivel Mount
16.	900-4905-43	Eye Bolt Adjuster
17. a.	937-200064	T-Handle Assembly
b.	900-7900-96	Rubber Cap
18.	980-0137-35	Spacer Block
19.	980-3013-58	Bottom Swivel Ring
20.	937-1005-63	Transition Flange
21.	980-3014-56	Discharge Bottom Swivel Ring
22.	905-3003-65	Hydraulic Motor Mount Plate - Bolt On
23.	900-3977-10	Hydraulic Motor for Swivel Discharge

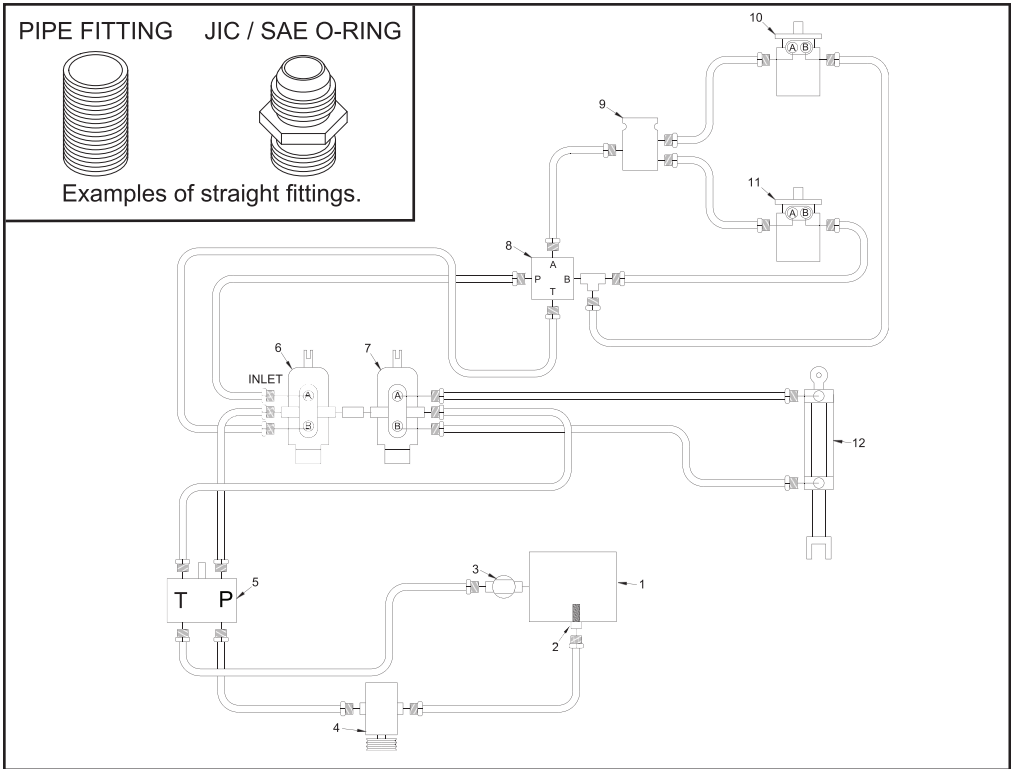
NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

IN-LINE HYDRAULIC PRESSURE CHECK KIT



LOCATION	PART NUMBER	DESCRIPTION
1.	900-3920-73	5000 PSI Gauge
2.	900-3902-24	Quick Coupler
3.	900-3902-23	Test Nipple
4.	900-3911-47	Rubber Cap For Test Nipple
5.	900-3924-86	Fitting
6.	900-3926-11	Ball Valve
7.	900-3922-14	Fitting
8.	980-100121	In-Line Pressure Check Kit - With Autofeed (Includes 1-7)

HYDRAULIC SCHEMATIC
(WITH NO OPTIONS)



LOCATION	PART NUMBER	DESCRIPTION
1.	See Pages 116 - 117	Hydraulic Tank
2.	900-3901-41	Hydraulic Tank Strainer
3. a.	900-3900-09	Filter Head
b.	900-3900-10	Filter
4.	**	Hydraulic Pump
5.	See Page 106	Relief Block
6.	900-3920-05A	Feedwheel Control Valve Without Relief - SAE O-ring
7.	900-3927-73	Yoke Lift Control Valve For Dual Control Yoke Lift
8.	See Page 107	Reversing "Autofeed Plus"
9.	See Pages 108 - 109	Flow Divider
10. a.	900-3973-16	Top Feedwheel Hydraulic Motor
b.	900-3973-17	Top Feedwheel Hydraulic Motor (S/Ns 501390, 501392 Only)
11. a.	900-3973-17	Bottom Feedwheel Hydraulic Motor
b.	900-3973-16	Bottom Feedwheel Hydraulic Motor (S/Ns 501390, 501392 Only)
12. a.	900-3925-04	Yoke Lift Cylinder - Welded
b.	904-0007-14	Pin For Welded Cylinder (Not Shown)
c.	904-0006-90	Seal Kit - Welded Lift Cylinder (Not Shown)
13. a.	980-100121	In-Line Pressure Check Kit - With Autofeed (Not Shown)
b.	980-100122	In-Line Pressure Check Kit - Without Autofeed (Not Shown)

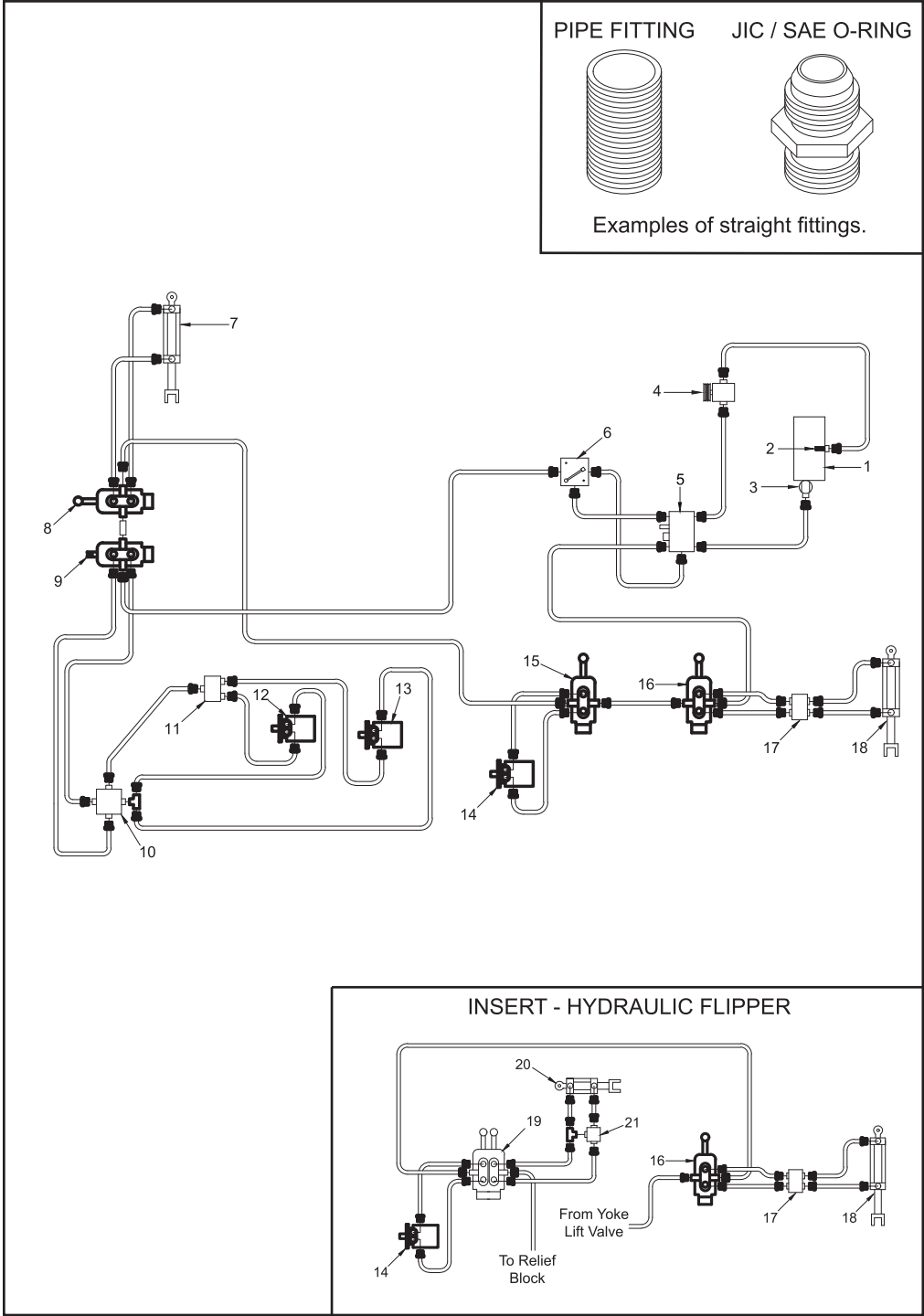
** Hydraulic components, fittings, hoses will vary depending on optional equipment. Order by physical description.

** Hydraulic pumps need to be ordered by physical description and serial number of machine.

NOTICE Make sure to order components according to fitting type, fittings may vary on all components.

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HYDRAULIC SCHEMATIC
(WITH OPTIONS)



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HYDRAULIC SCHEMATIC (WITH OPTIONS)

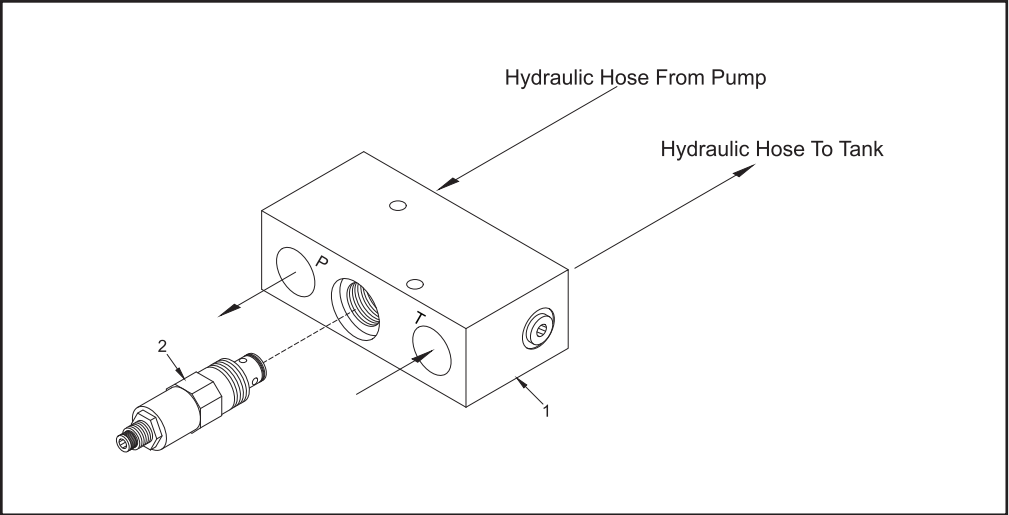
LOCATION	PART NUMBER	DESCRIPTION
1.	See Pages 116 - 117	Hydraulic Tank
2.	900-3901-41	Hydraulic Tank Strainer
3. a.	900-3900-09	Filter Head
b.	900-3900-10	Filter
4.	**	Hydraulic Pump
5.	See Page 106	Relief Block
6.	900-3924-55	Variable Speed Flow Control Valve - SAE O-ring
7. a.	900-3925-04	Yoke Lift Cylinder - Welded
b.	904-0007-14	Pin For Welded Cylinder (Not Shown)
c.	904-0006-90	Seal Kit - Welded Lift Cylinder (Not Shown)
8.	900-3927-73	Yoke Lift Control Valve For Dual Control Yoke Lift
9.	900-3920-05A	Feedwheel Control Valve Without Relief - SAE O-ring
10.	See Page 107	Reversing "Autofeed Plus"
11.	See Pages 108 - 109	Flow Divider
12. a.	900-3973-16	Top Feedwheel Hydraulic Motor
b.	900-3973-17	Top Feedwheel Hydraulic Motor (S/Ns 501390, 501392 Only)
13. a.	900-3973-17	Bottom Feedwheel Hydraulic Motor
b.	900-3973-16	Bottom Feedwheel Hydraulic Motor (S/Ns 501390, 501392 Only)
14.	900-3921-57	Swivel Discharge Hydraulic Motor
15.	900-3920-01	Swivel Discharge Control Valve Only
16.	900-3920-01	Tongue Jack Control Valve
17.	900-3949-09	Tongue Jack Check Valve
18.	900-3934-24	Tongue Jack Cylinder - Welded
19.	900-3916-62	Swivel Discharge & Discharge Flipper Control Valve
20.	900-3928-16	Discharge Flipper Cylinder
21.	900-3925-18	Flipper Check Valve
22. a.	980-100121	In-Line Pressure Check Kit - With Autofeed (Not Shown)
b.	980-100122	In-Line Pressure Check Kit - Without Autofeed (Not Shown)

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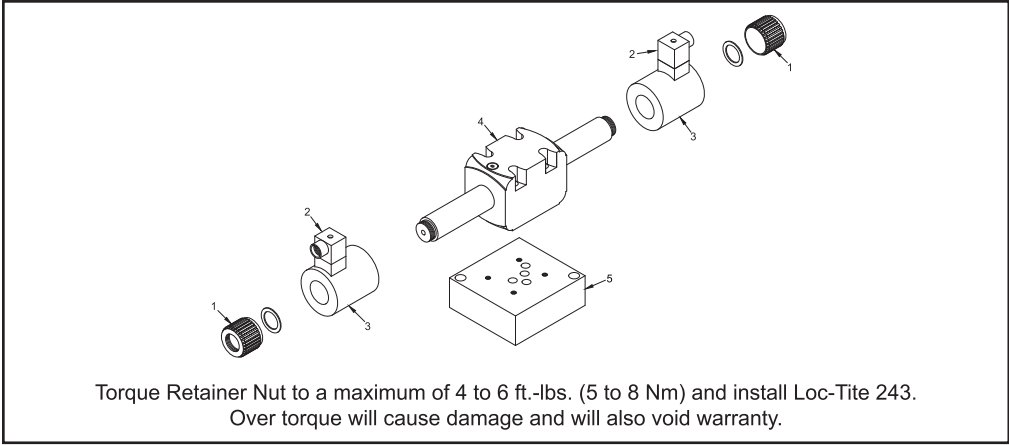
MAIN RELIEF BLOCK



LOCATION	PART NUMBER	DESCRIPTION
1.	N/A	Main Relief Block Only
2.	N/A	Main Relief Only
3.	900-3923-46	Main Relief Block Assembly (Includes #'s 1 & 2)

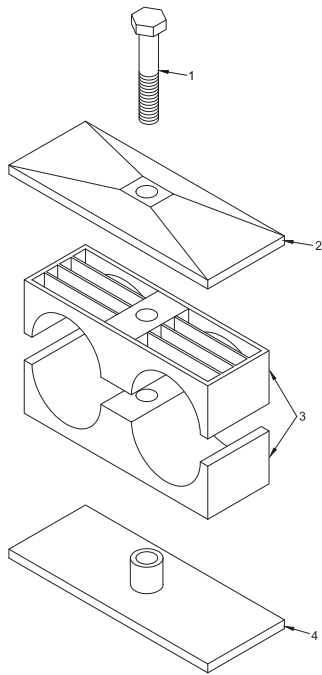
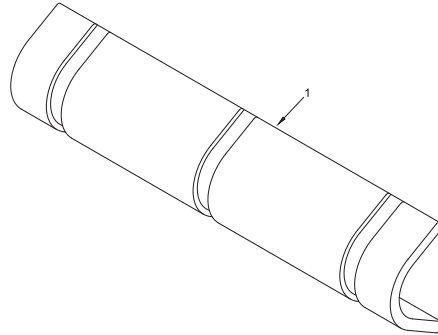
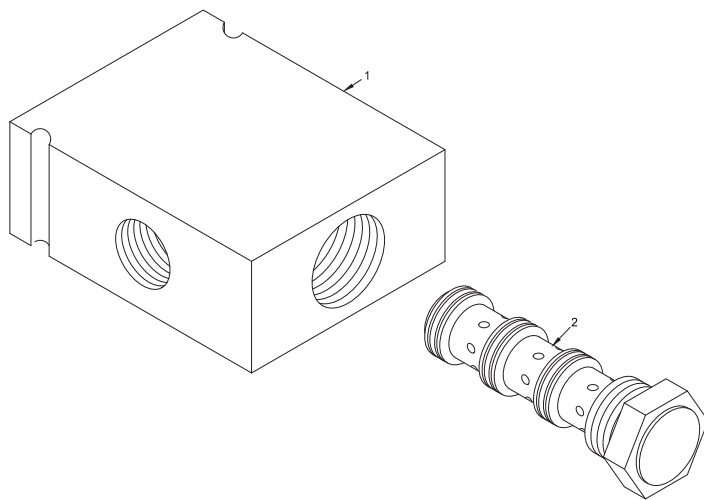
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“AUTOFEED PLUS” VALVE (DUAL SOLENOID)



LOCATION	PART NUMBER	DESCRIPTION
1.	900-3920-20	Retainer Nut and Sealing Ring (Danfoss)
2.	900-2909-55	Herschman Connector Only
3.	900-3920-19	Solenoid Only (Danfoss)
4.	900-3919-47	Dual Solenoid Assembly (Includes #'s 1,3,4, & 6)
5.	900-3931-30	Autofeed Plus Subplate
6.	900-3915-44	Seal Kit For Danfoss Valve (Not Shown)
7. a.	900-3925-89	10' Cord and Molded Herschman Connector (Not Shown)
b.	900-3920-71	16' Cord and Molded Herschman Connector (Not Shown)
c.	900-3918-63	25' Cord and Molded Herschman Connector (Not Shown)

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HOSE CLAMP**HOSE GUARD****FLOW DIVIDER**

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HOSE CLAMP

LOCATION	PART NUMBER	DESCRIPTION
1.	900-3914-10	Bolt for 1/2" Clamp
2.	900-3914-11	Locking Plate for 1/2" Double Clamp
3.	900-3926-46	Plastic Clamp for 1/2" Double Clamp
4. a.	900-3914-09	Weld Plate for 1/4" Double Clamp
b.	900-3914-08	Weld Plate for 1/2" Double Clamp
c.	900-3926-47	Weld Plate for 3/4" Double Clamp
5. a.	900-3917-25	1/4" Double Clamp Assembly (Includes #'s 1-4)
b.	900-3926-44	3/8" Double Clamp Assembly (Includes #'s 1-4)
c.	900-3928-19	1/2" Single Clamp Assembly (Includes #'s 1-4)
d.	900-3914-02	1/2" Single Clamp Assembly For Steel Lines (Includes #'s 1-4)
e.	900-3915-61	1/2" Double Clamp Assembly (Includes #'s 1-4)
f.	900-3913-32	1/2" Double Clamp Assembly For Steel Lines (Includes #'s 1-4)
g.	900-3914-03	3/4" Single Clamp Assembly (Includes #'s 1-4)
h.	900-3914-07	3/4" Double Clamp Assembly (Includes #'s 1-4)
i.	900-3914-04	1" Single Clamp Assembly (Includes #'s 1-4)
j.	900-3914-05	1 1/4" Single Clamp Assembly (Includes #'s 1-4)
k.	900-3914-06	1 1/2" Single Clamp Assembly (Includes #'s 1-4)
6. a.	900-3914-10	Stacking Bolt for 1/2" Double Clamp (Not Shown)
b.	900-3920-11	Stacking Bolt for 3/4" Double Clamp (Not Shown)

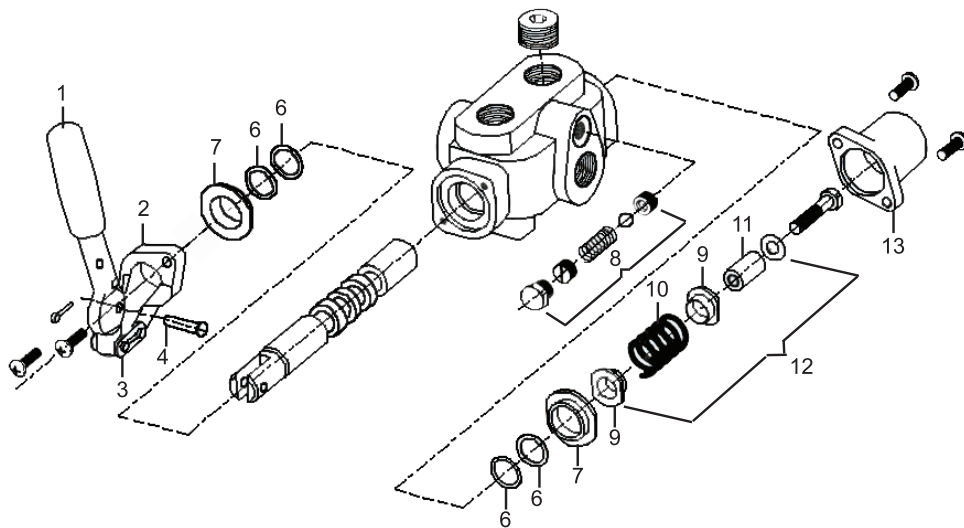
HOSE GUARD

LOCATION	PART NUMBER	DESCRIPTION
1. a.	900-3934-76	Hose Guard - 4" Long
b.	900-3934-77	Hose Guard - 6" Long
c.	900-3934-78	Hose Guard - 8" Long

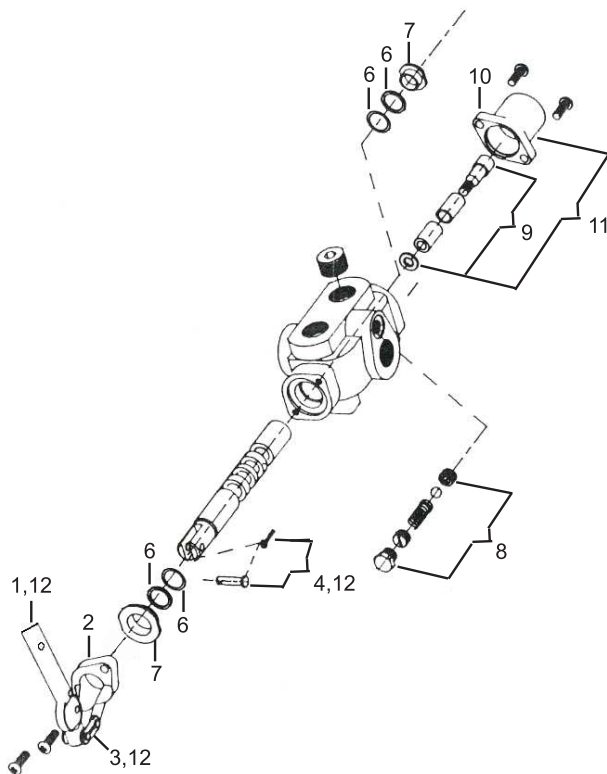
FLOW DIVIDER

LOCATION	PART NUMBER	DESCRIPTION
1.	900-3923-35	Flow Divider Body Only
2.	900-3946-88	Flow Divider Cartridge Only

TYPICAL SPRING LOADED CONTROL VALVE



TYPICAL FEEDWHEEL CONTROL VALVES



NOTICE Parts may not be exactly as shown.

TYPICAL SPRING LOADED CONTROL VALVE COMPONENTS

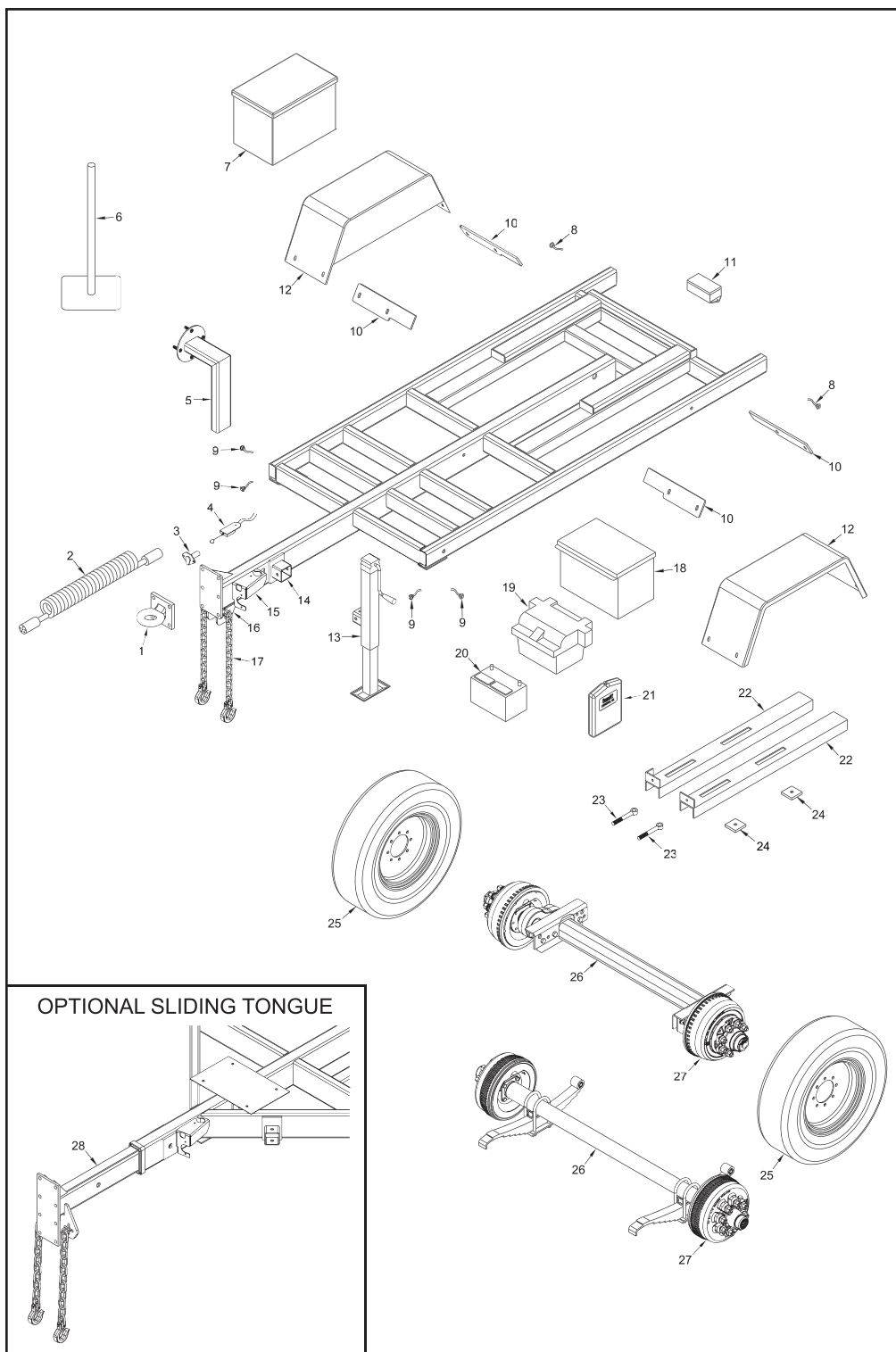
LOCATION	PART NUMBER	DESCRIPTION
1.	904-0003-29	Handle Only (Long)
2.	900-3905-95	Valve Bracket Only With Screws
3.	904-0003-30	Master Link Only Control Valve
4.	904-0003-31	Pin And Cotter Key For Control Valve
5.	904-0003-32	Bracket, Handle And Chain Link NOTE: INCLUDES #'s 1, 2, 3, 4
6.	900-3937-34	Seal Kit For Control Valve
7.	904-0003-33	Seal Retainer For Control Valve NOTE: NOT INCLUDED IN SEAL KIT
8.	900-3901-12	Relief Valve Kit - Spring, Ball, Screw NOTE: SOLD ONLY AS A KIT
9.	904-0003-34	Valve Spool Stop For Spring Loaded Valve
10.	904-0003-35	Valve Spool Spring
11.	904-0003-36	Valve Spacer For Yoke Lift Valve
12.	900-A-2941	Spring Center Kit For Spring Loaded Valve
13.	904-0003-37	Detent Cap Only For Spring Loaded Valve (Short)

TYPICAL FEEDWHEEL CONTROL VALVE COMPONENTS

LOCATION	PART NUMBER	DESCRIPTION
1.	900-3905-95H	Handle Only (Short)
2.	900-3905-95	Valve Bracket Only With Screws
3.	904-0003-30	Master Link Only Control Valve
4.	904-0003-31	Pin And Cotter Key For Control Valve
5.	904-0003-32	Bracket, Handle And Chain Link NOTE: INCLUDES #'s 1, 2, 3, 4
6.	900-3937-34	Seal Kit For Control Valve
7.	904-0003-33	Seal Retainer For Control Valve NOTE: NOT INCLUDED IN SEAL KIT
8.	900-3901-12	Relief Valve Kit - Spring, Ball, Screw NOTE: SOLD ONLY AS A KIT
9.	900-3900-71	Detent Kit For Feedwheel Control Valve NOTE: SOLD ONLY AS A KIT
10.	900-390071C	Detent Cap Only With Screws (Long)
11.	900-3900-71E	Detent Kit With Cap And Screws NOTE: INCLUDES #'s 9 & 10
12.	900-3905-59	Handle, Pin, and Link NOTE: INCLUDES #'s 1, 3, & 4

CONTROL VALVES

LOCATION	PART NUMBER	DESCRIPTION
1.	900-3927-73	Yoke Lift Control Valve for Dual Control Yoke Lift
2.	900-3920-01	Winch, Hyd. Swivel Discharge, and Tongue Jack
3.	900-3920-05A	Feedwheel Control Valve With Out Relief



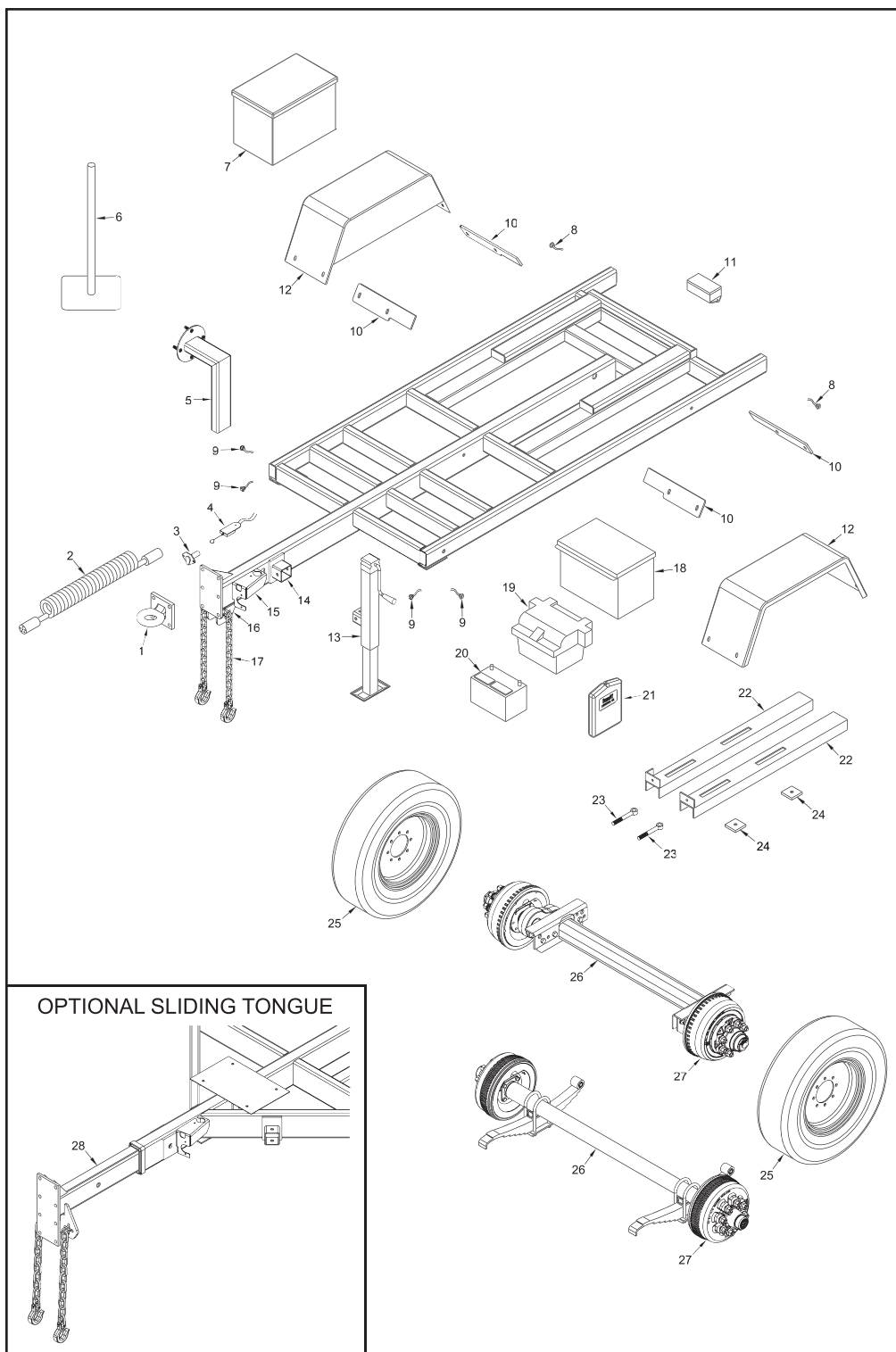
NOTICE Parts may not be exactly as shown.

LOCATION	PART NUMBER	DESCRIPTION
1. a.	900-5900-13	2 1/2" Heavy Duty Pintle Ring Hitch
b.	900-5905-73	3" Heavy Duty Pintle Ring Hitch
c.	980-0505-33	2 5/16" Ball Coupler Assembly
d.	980-0501-47	2" Ball Coupler Assembly
e.	*--*	Other Hitch Options Available
2. a.	900-2916-63	Coil Cable Assembly With 6 Prong Plugs - 15'
b.	900-2904-12	6-Prong Trailer Plug Male Plug Only
3.	900-2904-13	6-Prong Trailer Plug Female Plug Only
4.	900-5900-09	Electrical Breakaway Switch
5.	915-2000-29	Optional Spare Tire Mount
6. a.	980-200202	Optional Weld-On Cone Holder
b.	980-200215	Optional Bolt-On Cone Holder (Not Shown)
c.	905-2001-03	Optional Hoop Style Weld-On Cone Holder (Not Shown)
d.	911-2001-42	Optional Hoop Style Bolt-On Cone Holder (Not Shown)
e.	900-7900-86	Cap For Cone Holder (Not Shown)
7. a.	900-7901-63	Aluminum Tool Box - 19" Wide
b.	900-7900-78	Aluminum Tool Box - 18" Wide
c.	980-0508-37	Steel Tool Box
8.	900-2924-49	LED Red Marker Light - 3/4" Round
9.	900-2924-50	LED Amber Marker Light - 3/4" Round
10.	980-0128-14	Aluminum Fender Mount - 8000 lb Axle
11.	900-2902-41	Junction Box for Wiring
12.	900-5904-43	Aluminum Fender
13. a.	900-5908-17	8,000 Lbs. Drop Leg Jack - Zinc
b.	980-1002-12	8,000 Lbs. Jack With HD Castor Wheel - Zinc
c.	900-5908-44	5,000 Lbs. Side Crank Jack - Zinc - Square Mount
14. a.	900-5905-71	Mount For 8,000 Lbs. Drop Leg Jack
b.	980-0127-44	Pin For 8,000 Lbs. Drop Leg Jack (Not Shown)
c.	900-5905-71	Pivot Mount For 5,000 Lbs. Jack - Square Mount
15.	980-300106	Trailer Plug Receptacle Mount
16.	980-0121-31	Safety Chain Holder
17. a.	900-4912-70	Safety Chain With Hooks and Spring Latches for Standard Tongue
b.	900-4908-01	Safety Chain With Hooks and Spring Latches for Telescopic Tongue
c.	900-4905-77	Hook For Safety Chain
18. a.	900-7900-78B	Optional Aluminum Battery Box - 18" Wide
b.	900-7901-63B	Optional Aluminum Battery Box - 19" Wide
c.	914-0501-46	Steel Battery Box for 1400 CCA Battery
19.	900-7900-08	Plastic Battery Liner Box for 1000 CCA Battery
20. a.	900-6915-42	1000 CCA Battery
b.	900-6907-88	1400 CCA Battery
21.	900-9910-28	Manual Holder - 8" x 11" x 2"
22.	*--*	Engine Rails
23. a.	900-4905-11	Engine Adjuster Rod End - 5/8"-11NC x 6"
b.	900-4902-29	Engine Adjuster Rod End - 1/2"-13NC x 6"
c.	900-4902-28	Engine Adjuster Rod End - 1/2"-13NC x 8 1/2"
24. a.	922-0003-38	Engine Mount Pad For 1/2" Engine Hold Down
b.	980-0101-33	Engine Mount Pad For 5/8" Engine Hold Down

** Order Brake Hub And Drum Assembly According To Axle Type.
(Grease Type, Oil Type, Never Lube Type).

- Engine Rails And Adjusters Will Vary Depending On Engine And Component Options.
Order By Serial Number Of Chipper Or Physical Description.

NOTICE Other fenders and fender stone shields are optional.



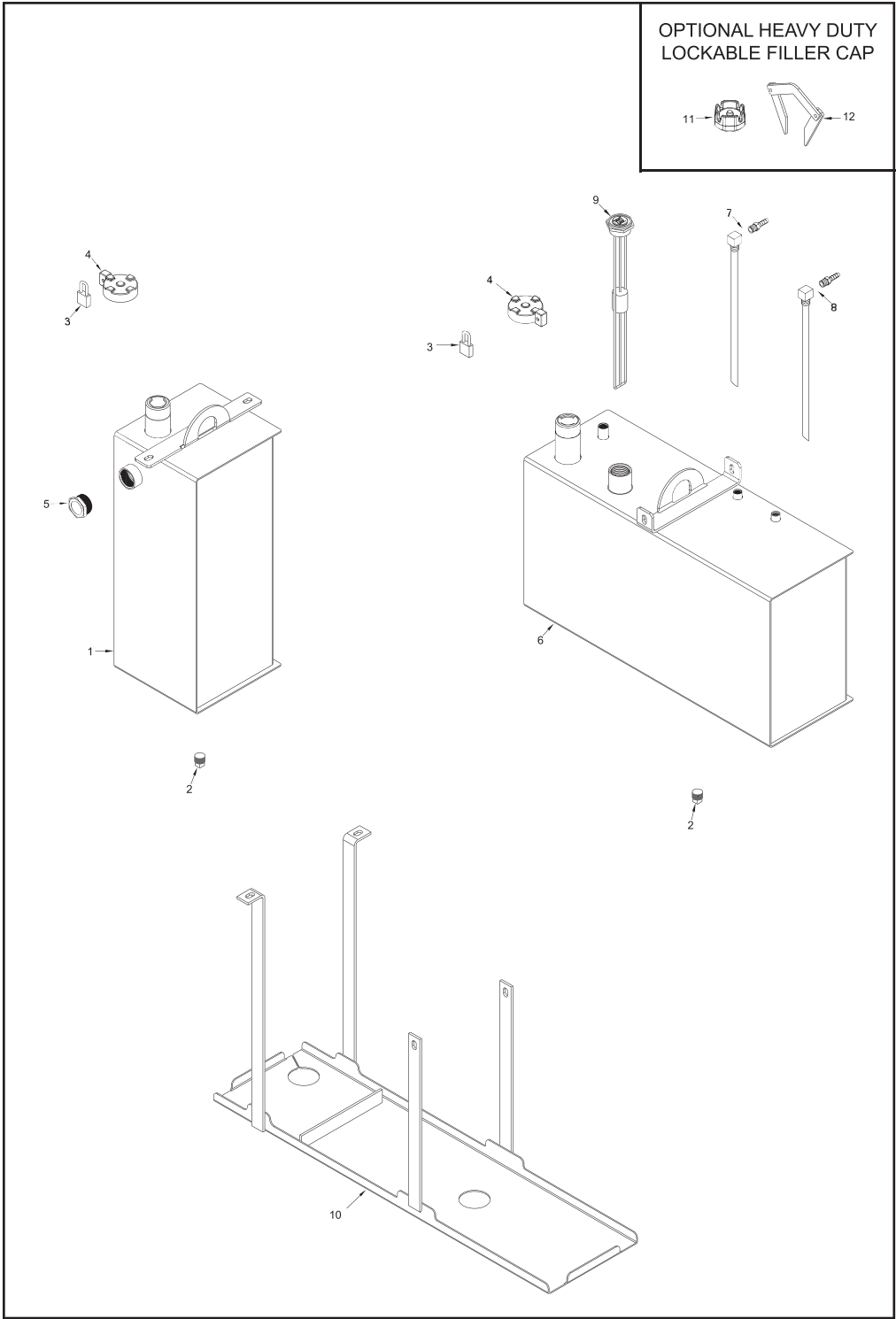
NOTICE Parts may not be exactly as shown.

LOCATION	PART NUMBER	DESCRIPTION
25. a.	900-5908-39	215/75R-17.5" Tire and Solid Gray, 8-Bolt Rim
b.	900-5908-80	215/75R-17.5" Tire and Aluminum, 8-Bolt Rim
c.	900-5903-54	215/75R-17.5" Tire Only
d.	900-5904-49	17" x 6.75" Solid Gray, 8-Bolt Rim Only
e.	900-5908-78	17" x 6.75" Aluminum, 8-Bolt Rim Only
26. a.	900-5915-48	8,000 Lb. Torflex Axle Assembly - Electric Brake
b.	900-5909-46	8,000 Lb. Leaf Spring Axle Assembly - Electric Brake
27.	**	Brake Hub and Drum Assembly
28.	981-0501-18	Telescopic Tongue Assembly - 20" Adjustment
29. a.	980-0508-25	Optional Wheel Chock Holders Aluminum Bolt-On (Not Shown)
b.	980-0508-26	Optional Wheel Chock Holders Metal Weld-On (Not Shown)
30.	900-5902-32	Optional Rubber Wheel Chock (Not Shown)
31.	900-5904-52	Optional Safety Marker For Fenders (Not Shown)
32.	900-7900-48	Optional Mud Flap (Not Shown)
33. a.	900-9904-94	Optional Vice (Not Shown)
b.	980-300113	Optional Weld-On Vice Mount (Not Shown)

** Order Brake Hub And Drum Assembly According To Axle Type.
(Grease Type, Oil Type, Never Lube Type).

- Engine Rails And Adjusters Will Vary Depending On Engine And Component Options.
Order By Serial Number Of Chipper Or Physical Description.

NOTICE Other fenders and fender stone shields are optional.



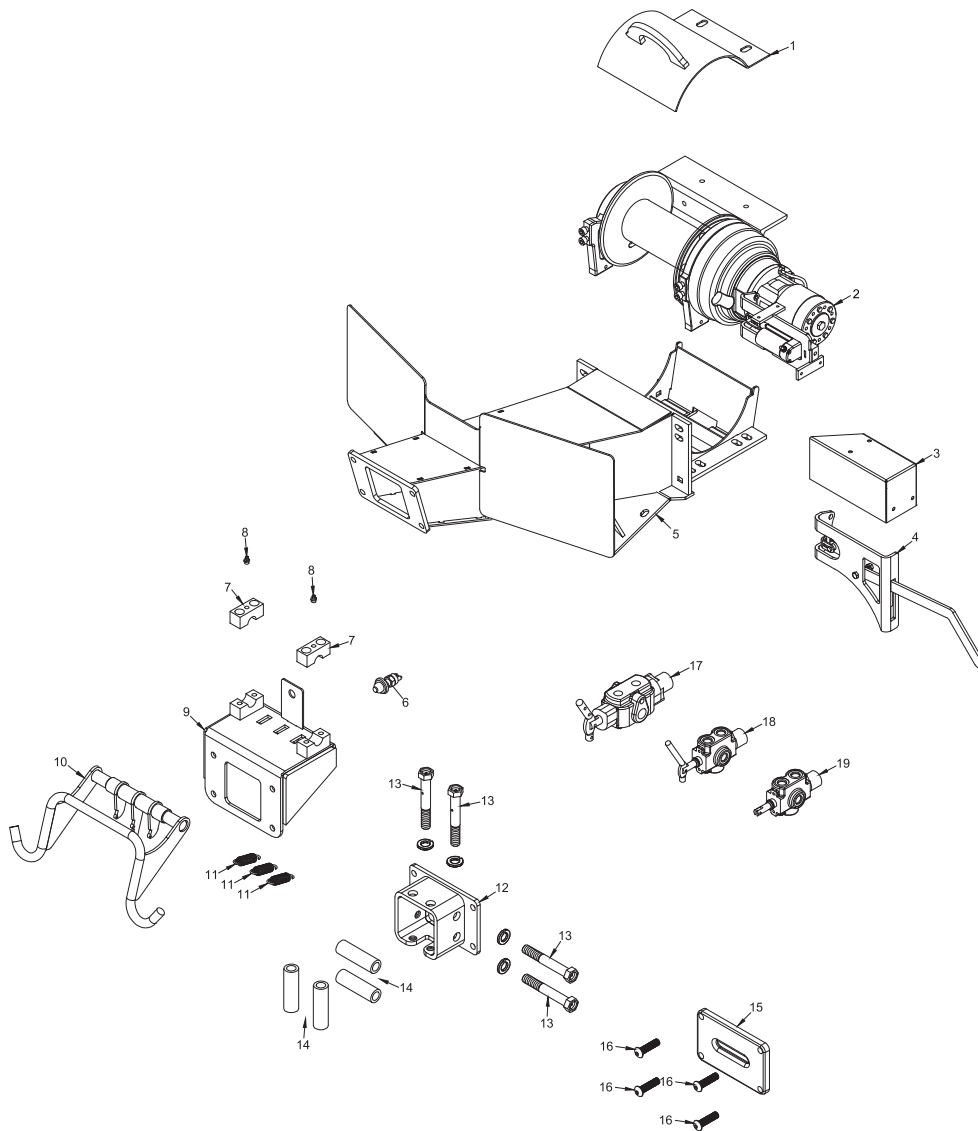
NOTICE Parts may not be exactly as shown.

LOCATION	PART NUMBER	DESCRIPTION
1. a.	909-1000-25	12 Gallon Rectangle Hydraulic Tank Assembly (Includes 1b - 5)
b.	909-2000-08	12 Gallon Rectangle Hydraulic Tank Assembly
2.	900-3922-60	Magnetic Drain Plug
3. a.	900-4912-40	Padlock With Short Shackle for Tank With Locking Cap
b.	900-4917-21	Key for Padlock (Not Shown)
4. a.	900-3941-31	Fuel (Diesel) Locking Fill Cap - Green
b.	900-3967-02	Fuel (Gasoline) Locking Fill Cap - Red
c.	900-3941-30	Hydraulic Locking Fill Cap - Black
d.	900-3935-06	Keeper for Fuel & Hydraulic Locking Fill Cap (Not Shown)
5.	900-3975-03	Sight Gauge
6. a.	980-1003-13	24 1/2 Gallon Fuel Tank (Includes 2 - 4, 7 - 9)
b.	980-0509-58	24 1/2 Gallon Fuel Tank
7. a.	900-3926-84	Suction Drop Pipe Ass'y Without Hose Barb (1/2" NPTF Male x 3/8" NPTF Female)
b.	900-3926-83	3/8" NPTF To 1/2" Hose Barb
c.	900-3926-82	3/8" NPTF To 3/8" Hose Barb
d.	900-3931-53	3/8" NPTF To 5/16" Hose Barb
8. a.	900-3909-00	Return Drop Pipe Ass'y Without Hose Barb (3/8" NPTF Male x 1/4" NPTF Female)
b.	900-3925-48	1/4" NPTF To 3/8" Hose Barb
c.	900-3909-01	1/4" NPTF To 5/16" Hose Barb
d.	900-3909-02	1/4" NPTF To 1/4" Hose Barb
e.	900-3943-22	3/16" NPTF To 3/16" Hose Barb
f.	900-3943-21	1/4" NPTF To 3/16" NPTF Bushing
9.	900-2903-95	Rochester Sight Gauge for 24 1/2 Gallon Rectangle Fuel Tank
10. a.	909-2000-23	Tank Tray Assembly
b.	900-0104-95	Rubber Tank Pad (Not Shown)
c.	900-7900-35	Tank Cushion Material (Not Shown)
11.	900-3917-71	Optional Fill Cap Only No Dipstick (Steel Tank)
12.	980-0506-85	Optional Fill Cap Lock Assembly for Steel Tank With 900-3917-71 Fill Cap

NOTICE Components vary with fuel type. Specify gas or diesel when ordering fuel tank components.

NOTICE Tank assemblies vary with options. Specify all options when ordering.

DINAMIC WINCH



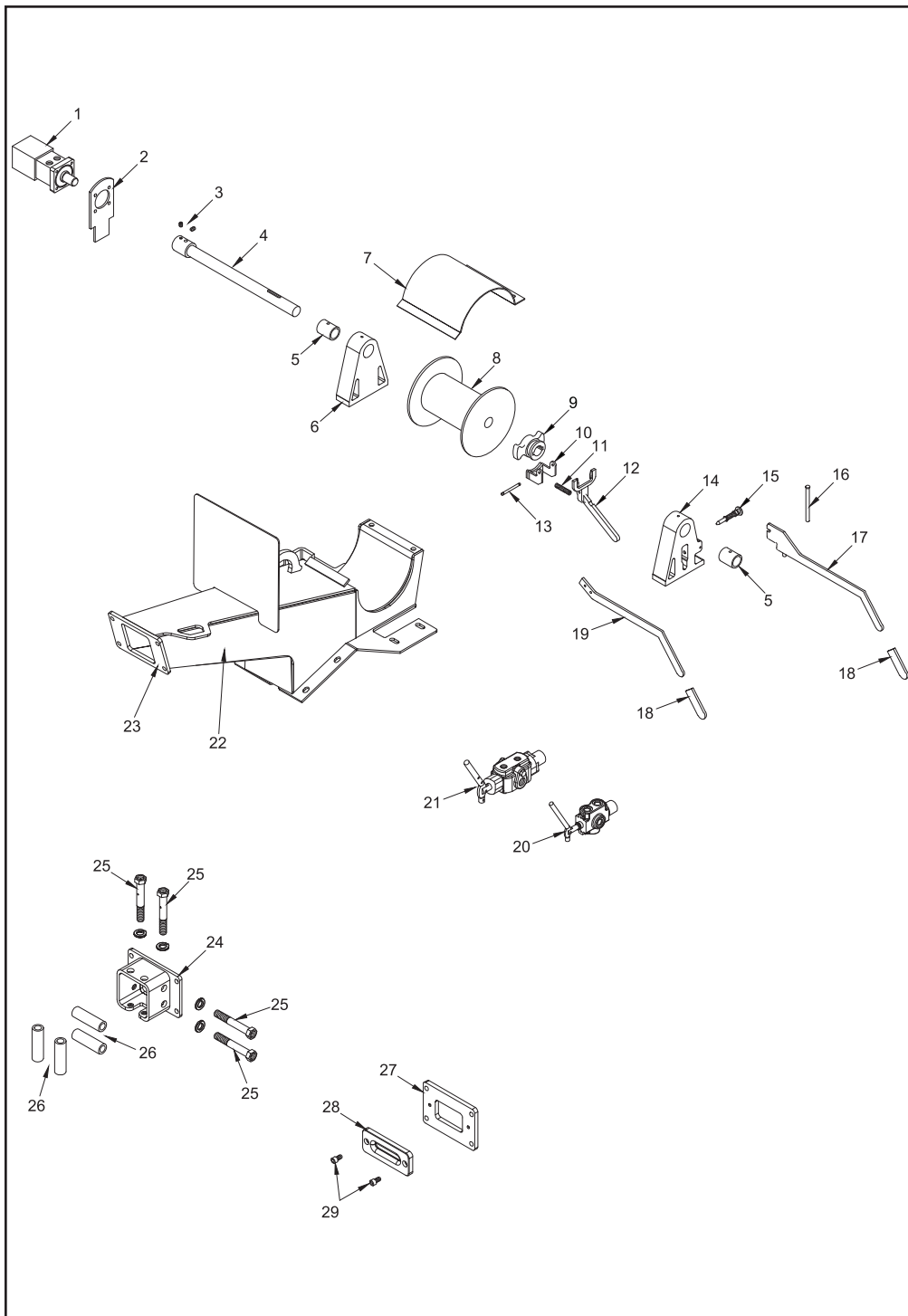
NOTICE Parts may not be exactly as shown.

DINAMIC WINCH

LOCATION	PART NUMBER	DESCRIPTION
1.	980-3012-41	Winch Spool Cover
2.	900-3974-40	Winch
3.	980-3012-51	Winch Handle Cover
4.	980-2004-90	Lock Disengagement Handle Assembly
5. a.	980-2004-14	Winch Tunnel
b.	911-3005-87	Decal Plate
6.	900-2903-07	Limit Switch
7.	980-2004-51	Bearing Block
8.	900-4900-06	Grease Zerk
9.	980-2004-47	Winch Switch Frame
10.	980-2004-48	Rope Docking Bar
11.	900-4919-82	Spring
12.	980-0505-82	Winch Roller Assembly (Includes #'s 13 - 14)
13. a.	900-4902-27	Winch Roller Bolt
b.	900-4907-17	3/4" Lock Washer
14.	914-1004-18	Winch Roller
15.	980-3011-25	Fairlead
16.	900-4923-41	1/2"-13NC x 2" Plated Button Head Cap Screw
17.	900-3920-01	Winch Valve
18. a.	900-3936-39	Winch Selector Control Valve
b.	900-3936-40	5/16" Replacement Stud For Selector Valve
19. a.	900-3956-26	Momentary Feed Valve
b.	905-3002-14	Push Plate for Momentary Feed Switch (Not Shown)
c.	900-2903-07	Momentary Feed Push Button Switch (Not Shown)
d.	999-8003-91	Momentary Feed Timer (Not Shown)

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

RKI WINCH



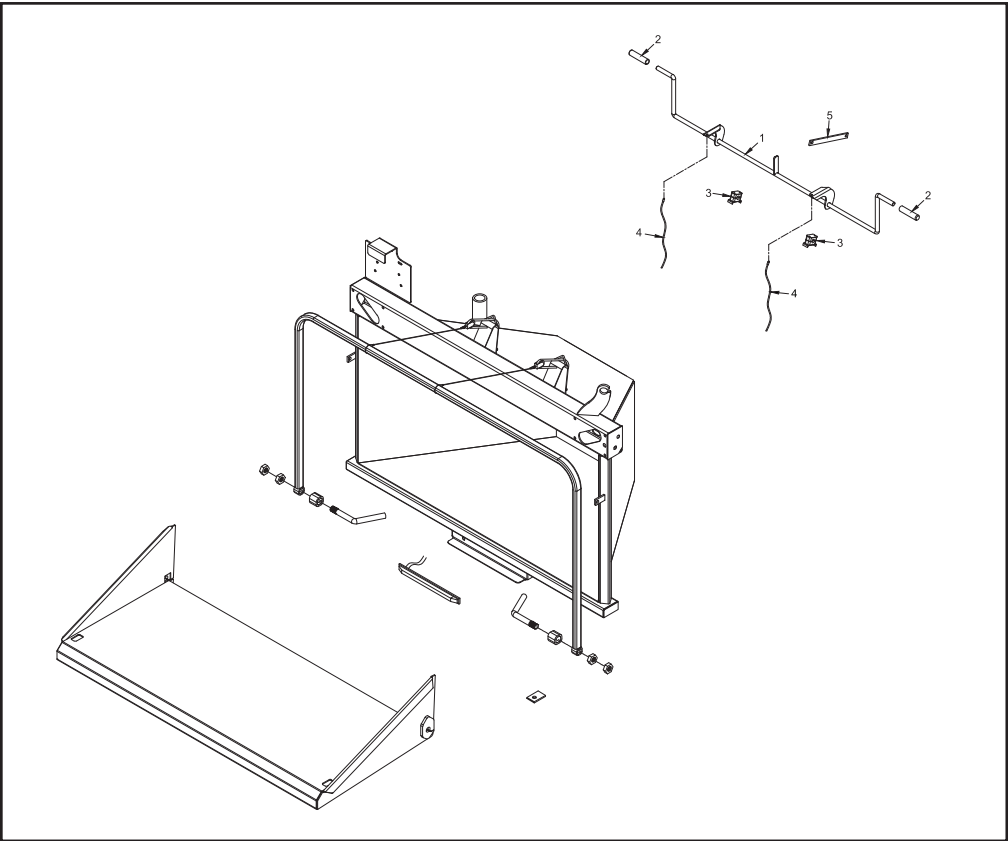
NOTICE Parts may not be exactly as shown.

RKI WINCH

LOCATION	PART NUMBER	DESCRIPTION
1 a.	900-3972-06	Winch Hydraulic Motor (SAE O-ring) "RS" - Square
b.	900-3973-28	Winch Hydraulic Motor (Pipe Fitting) "RS" - Square
c.	900-3973-39	Winch Hydraulic Motor (SAE O-ring) "RE" - Round
2 a.	981-1001-01	Winch Motor Torque Arm For "RS" Motor
b.	955-1011-71	Winch Motor Torque Arm For "RE" Motor
3.	900-4910-65	3/8"-16NC x 3/8" Cup Point Socket Set Screw
4 a.	980-900002	Winch Shaft Only
b.	900-3905-22	Winch Shaft With Keys
5.	900-1915-24	Bronze Bushing For A Frame Arm
6.	910-1000-08	Steel Winch A Frame Arm (Also Includes # 5)
7.	980-300260	Winch Drum Cover
8 a.	900-3905-19	Winch Drum (Includes Bushings)
b.	900-3963-28	Bushing Only For Winch Drum (Not Shown)
9.	900-3905-17	Winch Clutch
10.	900-3964-49	Winch Brake Shoe Only
11.	900-3958-61	Winch Spring
12 a.	900-3959-59	Winch Shift Lever Only
b.	900-3905-16	Winch Shift Lever With #'s 10 & 11
13 a.	900-3961-21	Winch Pin For Brake Assembly
b.	900-3958-59	Winch Snap Ring For Winch Pin
14.	910-1000-07	Steel Winch A Frame Arm (Includes # 5)
15.	900-3905-14	Winch Release Lever Pin Assembly
16.	900-4913-00	Pivot Pin For Winch Handle Extension (If Applicable)
17.	955-300377	Lock Pin Handle Extension (If Applicable)
18.	900-9904-59	Vinyl Cap For Handle Extension (If Applicable)
19.	955-300376	Winch Shift Lever Extension (If Applicable)
20 a.	900-3936-39	Winch Selector Control Valve (Replaces 900-3920-58) (SAE O-ring)
b.	900-3913-41	Winch Selector Control Valve (Pipe Fitting)
c.	900-3936-40	5/16" Replacement Stud For Selector Valve (900-3936-39)
d.	900-3924-48	1/4" Replacement Stud For Selector Valve (900-3920-58 & 900-3913-41)
21 a.	900-3920-01	Winch Valve (SAE O-rings)
b.	900-3901-42	Winch Valve (Pipe Fittings)
22.	980-200162	Winch Tunnel Assembly (Includes # 23)
23.	980-3009-01	Mount Plate
24.	980-0505-82	Winch Roller Assembly (Includes #'s 25 - 26)
25 a.	900-4902-27	Winch Roller Bolt
b.	900-4907-17	3/4" Lock Washer
26.	914-1004-18	Winch Roller
27 a.	980-3009-31	Adapter Plate For Fairlead
b.	980-2003-10	Fairlead Kit (Includes #'s 23, 27 - 29)
28.	980-3009-03	Fairlead
29.	900-4915-96	7/16"-14NC x 3/4" Socket Head Cap Screw
30.	904-0002-60	Winch Kit (Includes #'s 1 - 15, 20 - 26)

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

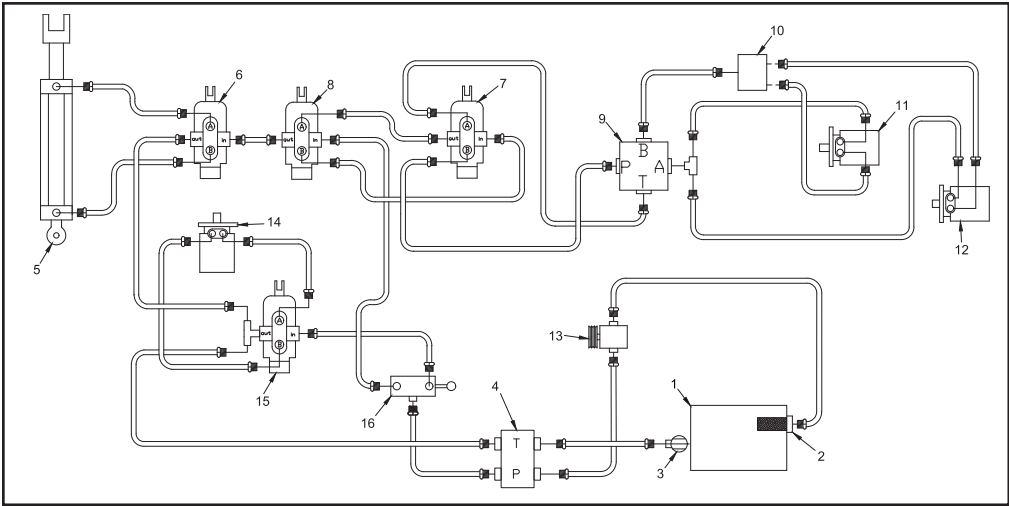
HYDRAULIC ACTIVATED LAST CHANCE



LOCATION	PART NUMBER	DESCRIPTION
1.	980-300185	Hydraulic Last Chance Control Bar
2. a.	900-7900-96	Vinyl Grip - Black
b.	900-7901-41	Vinyl Grip - Yellow
3.	900-3914-02	Control Handle Pivot Bracket
4.	900-4907-43	Cables
5.	955-300054	Linkage

- NOTICE** Nuts, bolts, washers, and all other components can be ordered by physical description.
- NOTICE** Parts may not be exactly as shown.

HYDRAULIC ACTIVATED LAST CHANCE



LOCATION	PART NUMBER	DESCRIPTION
1.	See Pages 116 - 117	Hydraulic Tank
2.	900-3901-41	Hydraulic Tank Strainer
3. a.	900-3900-09	Filter Head
b.	900-3900-10	Filter
4.	See Page 106	Relief Block
5. a.	900-3925-04	Yoke Lift Cylinder - Welded
b.	904-0007-14	Pin For Welded Cylinder (Not Shown)
c.	904-0006-90	Seal Kit - Welded Lift Cylinder (Not Shown)
6.	900-3927-73	Yoke Lift Control Valve For Dual Control Yoke Lift
7.	900-3954-43	Hydraulic Activated Last Chance Valve
8.	900-3920-05A	Feedwheel Control Valve Without Relief - SAE O-ring
9.	See Page 107	Reversing "Autofeed Plus"
10.	See Pages 108 - 109	Flow Divider
11.	900-3973-16	Top Feedwheel Hydraulic Motor
12.	900-3920-30	Bottom Feedwheel Hydraulic Motor
13.	**	Hydraulic Pump
14.	900-3921-57	Winch Motor (Optional)
15.	900-3920-01	Winch Control Valve (Optional)
16.	900-3936-39	Winch Selector Control Valve (Optional)

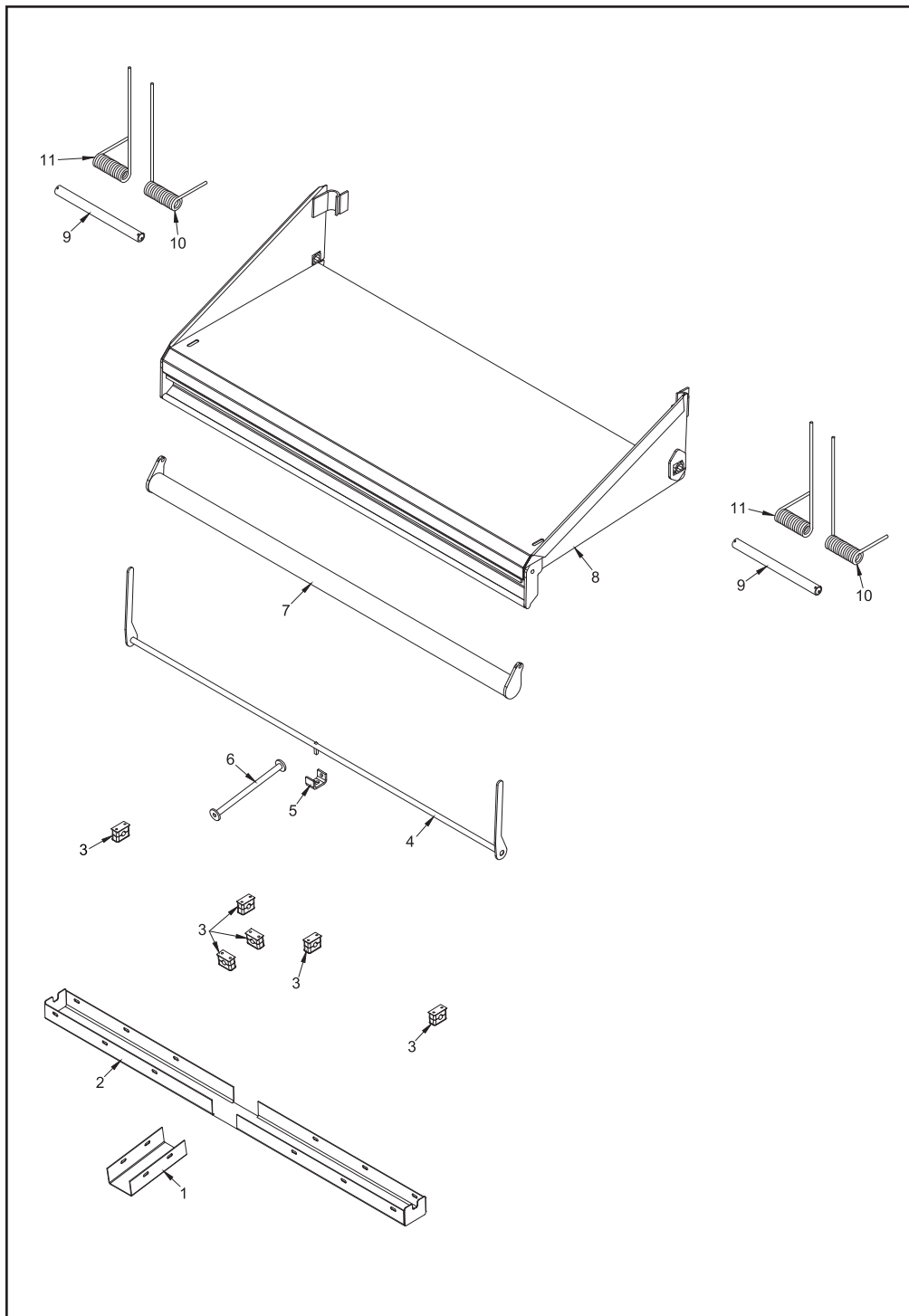
** Hydraulic components, fittings, hoses will vary depending on optional equipment. Order by physical description.

** Hydraulic pumps need to be ordered by physical description and serial number of machine.

NOTICE Make sure to order components according to fitting type, fittings may vary on all components.

NOTICE Parts may not be exactly as shown.

HYDRAULIC BUMP BAR

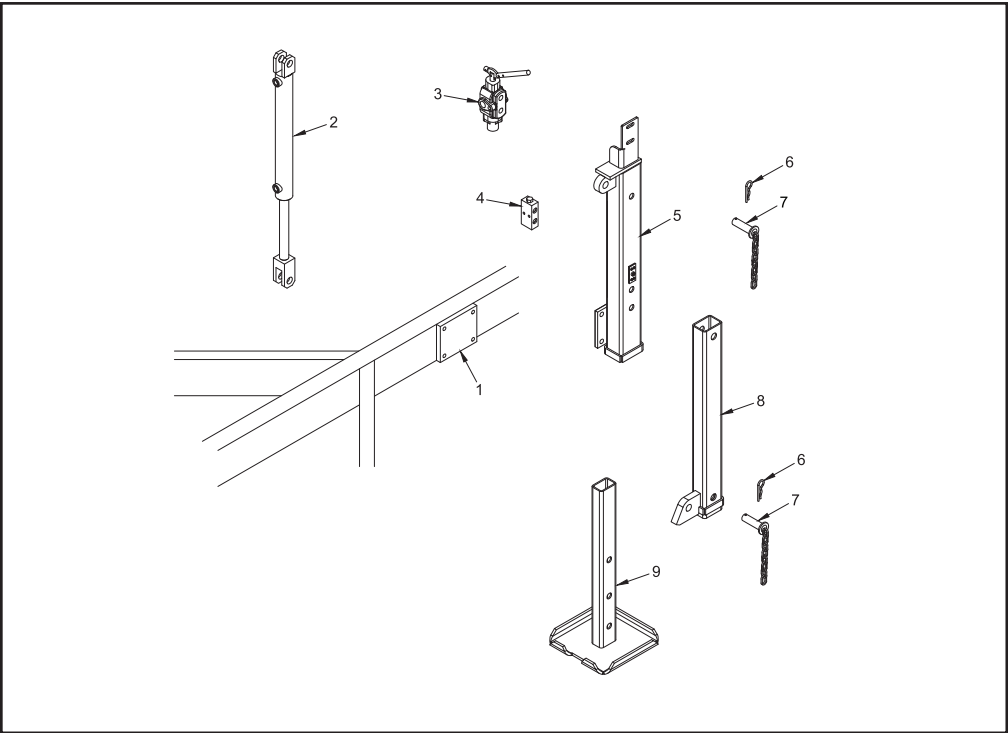


NOTICE Parts may not be exactly as shown.

HYDRAULIC BUMP BAR

LOCATION	PART NUMBER	DESCRIPTION
1.	905-3001-99	Valve Push Bar Cover
2. a.	980-2003-42	Reset Pivot Handle Cover Assembly - 35"
b.	626-2001-29	Reset Pivot Handle Cover Assembly - 42"
c.	905-2000-57	Reset Pivot Handle Cover Assembly - 45"
d.	917-2000-22	Reset Pivot Handle Cover Assembly - 54"
e.	911-2001-18	Reset Pivot Handle Cover Assembly - 64"
3.	900-3914-02	Clamp
4. a.	980-2003-41	Reset Pivot Handle Assembly - 35"
b.	626-2001-30	Reset Pivot Handle Assembly - 42"
c.	905-2000-58	Reset Pivot Handle Assembly - 45"
d.	917-2000-23	Reset Pivot Handle Assembly - 44"
e.	911-2001-17	Reset Pivot Handle Assembly - 64"
5.	905-3002-08	Bump Bar Trip Bracket
6.	905-2000-59	Valve Push Bar Assembly
7. a.	980-2003-40	Hydraulic Bump Bar Assembly - 35"
b.	626-2001-28	Hydraulic Bump Bar Assembly - 42"
c.	905-2000-50	Hydraulic Bump Bar Assembly - 45"
d.	917-2000-19	Hydraulic Bump Bar Assembly - 54"
e.	911-2000-99	Hydraulic Bump Bar Assembly - 64"
8. a.	980-2003-37	Bump Bar Infeed Tray Assembly - 35"
b.	626-2001-26	Bump Bar Infeed Tray Assembly - 42"
c.	905-2000-56	Bump Bar Infeed Tray Assembly - 45"
d.	917-2000-20	Bump Bar Infeed Tray Assembly - 54"
e.	911-2001-13	Bump Bar Infeed Tray Assembly - 64"
9. a.	980-3011-43	Spring Tube for Spring Assist - Single Spring (Start 4/14)
b.	980-0129-86	Spring Tube for Spring Assist - Single Spring (Pre 4/14)
c.	937-3009-68	Spring Tube for Spring Assist - Double Springs (Start 4/14)
d.	980-3010-34	Spring Tube for Spring Assist - Double Springs (Pre 4/14)
10. a.	900-4917-76	Left Spring for Spring Assist (Start 4/14)
b.	900-4905-39	Left Spring for Spring Assist (Pre 4/14)
c.	900-4908-70	"HD" Left Spring for Spring Assist (Pre 4/14)
11. a.	900-4917-77	Right Spring for Spring Assist (Start 4/14)
b.	900-4905-40	Right Spring for Spring Assist (Pre 4/14)
c.	900-4908-71	"HD" Right Spring for Spring Assist (Pre 4/14)
12.	900-3956-74	Bump Bar Valve (Not Shown)
13. a.	900-3956-26	Momentary Override Valve (Not Shown)
b.	905-3002-14	Push Plate for Momentary Override Switch (Not Shown)
c.	900-2903-07	Momentary Override Push Button Switch (Not Shown)
d.	999-8001-88	Momentary Override Timer (Not Shown)

HYDRAULIC TONGUE JACK



LOCATION	PART NUMBER	DESCRIPTION
1.	920-300340	Tongue Jack Mount Plate
2. a.	900-3934-24	Tongue Jack Cylinder - Welded
b.	904-0007-14	Pin For Welded Cylinder (Not Shown)
3. a.	900-3920-01	Tongue Jack Valve (SAE O-rings)
b.	900-3901-42	Tongue Jack Valve (Pipe Fittings)
4.	900-3949-09	Check Valve
5.	--	Outside Tube Assembly
6.	900-4907-60	Cotter Hair Pin
7.	914-1000-38	Lock Pin
8.	980-0131-50	Inside Tube Assembly
9.	980-0509-53	Drop Leg Foot Pad Assembly
10.	980-0509-00	Bolt-On Hydraulic Tongue Jack Kit (Includes 1 - 9)

NOTICE Parts may not be exactly as shown.

[illegible]

[illegible]

**HAND FED
BANDIT CONTROLS**

**(FUEL SAVER)
(RADIO)
(WINCH w/ FEED ASSIST)
(DUMP VALVE)
(BUMP BAR)**

Main Page



To Start, turn key to ON position. In cold weather the engine may pre heat glow plugs or heater grid and the WAIT TO START symbol will appear on the splash screen. When pre heat is complete the Display will continue to Main Page.

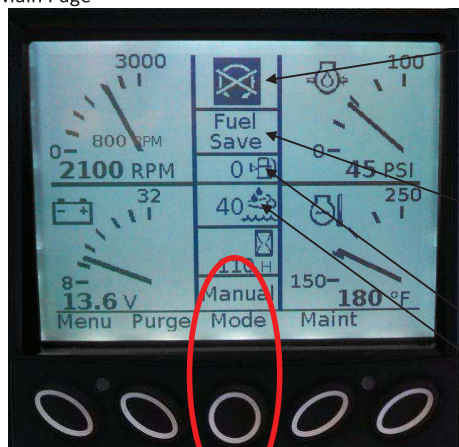
The fuse box may have a foam retainer under the cover to help hold the relays in place. The fuse decal is located under the foam.


The control panel is equipped with an Anti-Restart key switch to prevent grinding the starter while the engine is running. If the engine does not start immediately, it may be necessary to cycle the key back to the OFF position, wait 15-20sec (allow engine ECU time to shut down), and then go through the starting sequence again.

To turn off AutoFeed and run auxiliary functions at startup, navigate to the Mode page on the display and see instructions below on pages 3 and 4.



Main Page



Blinking  indicates that the system has E-Stopped the engine.
 - Hood Pin removed
 - E-Stop depressed (if equipped)

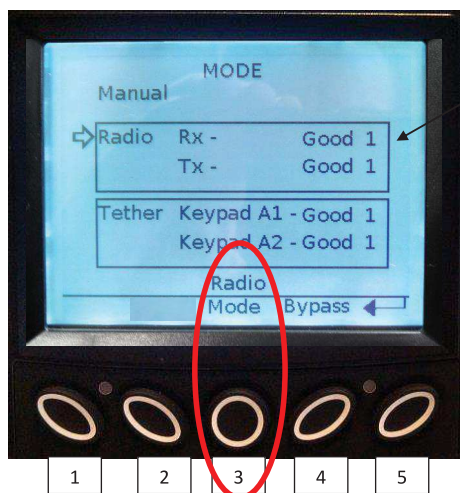
Fuel Save Status: indicates that Fuel Save mode is selected, and if "Save" is blinking the system is idled down to save fuel.

Fuel Level 0-100% (if equipped)
 DEF Level 0-100% (applicable T4 engines)

2. Press 'Purge' button to trigger a reverse cycle on the radiator fan (if equipped).

3. Press this button to Navigate to the Mode page and select Radio or Tether operating mode.

(On Displays with software version 57193_D1 (19Jun2015) and later, the Display automatically returns to this Main Engine page 60sec after last button press).



Fault Status of the Radio and Tether:
 1=Good communication
 0=Communication Fault

Press the Mode button to select between Manual, Radio, or Tether operating mode.

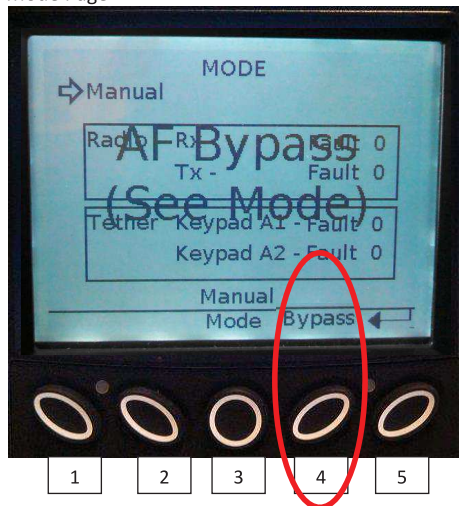
Lost Communication:

If Controller 1 (C1) loses communication with the Display, C1 will default to Radio mode.

If C1 loses comm with the Display AND the radio receiver, it will default to Tether Mode.

If C1 loses comm with display and receiver and tether, it will remain in Manual mode internally. Manual Mode still allows the operator to at least start and idle and override valves manually.

Mode Page



4. Press the “Bypass” button to manually run Feed Fwd at low Eng RPM and bypass the AutoFeed control. This will allow auxiliary functions to be operated on certain machines equipped with dump valve hydraulics. To turn AutoFeed back on, press the same “Bypass” button again. At startup, the machine always defaults to AutoFeed ON when the key is first turned on.

(A popup alert indicating the controls are in Bypass will blink on every screen because certain control features are disabled while in Bypass).

(While feeding fwd when *not* in Bypass, when you throttle down Feed Fwd will drop out and AutoRev will fire one time. However, if you are in Manual Bypass, AutoRev will momentarily fire every time the engine is throttled down past the AutoFeed Low RPM setting. This is to give the operator a chance to observe the AutoRev settings).

5. Go back.

Main Page

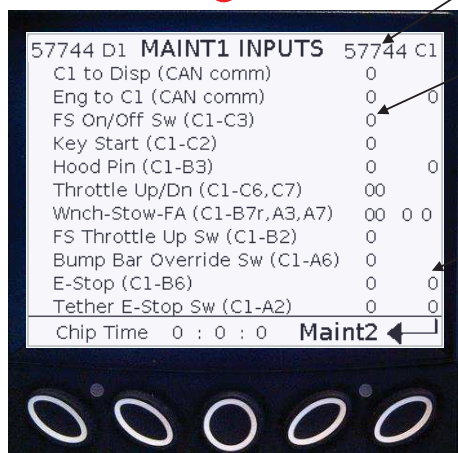


Press the Maint button to navigate to the Maintenance Pages.

(Software Serial Numbers)

Function Status

Error Counts



MAINT1 INPUTS

Shows the status of communication between devices and various inputs to Controller1 (C1).

1=Good/Active

0=Bad/Inactive

The number behind many of the device status is an error count. Each time communication is lost or the status is bad this number will count up to a maximum of 15 until keyswitch is cycled and that memory is cleared.

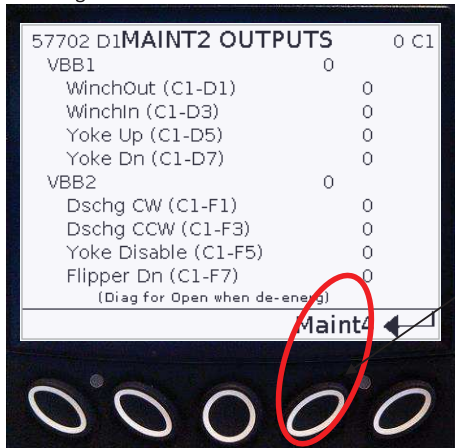
This is to provide a limited history of errors in case an operator is unable to watch this screen continuously and likely miss a status value momentarily showing 0.

(The Tether E-Stop error counter will only watch for E-Stops while in Tether Mode).

Chip Time is a measure of time accumulated when engine load is above FuelSave Load and Feeding Fwd.

57744 is 21Dec2016

Maint Pages



Press the Maint4 button to navigate to Maintenance 4.

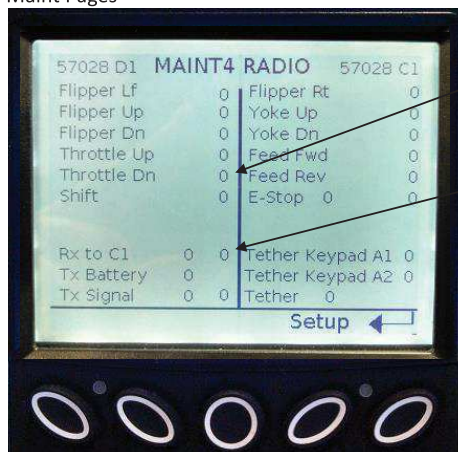
MAINT2 OUTPUTS

Shows the status of Controller1 (C1) outputs that are able to be diagnosed.

Observe the note on the screen that output wiring can only be diagnosed for open/broken connection while the output is *de-energized*.

The Outputs in Controller1 (C1) are organized into 2 groups, each group has a supply fuse. The status of each fuse is shown at the top of each group. If multiple outputs from the same group have bad (0) status, check the supply fuse for that group as well as the individual wires to each coil.

Maint Pages



Input values change from 0 to 1 when that Radio function is active.

Error counts for how many times the controller has lost comm with the receiver or transmitter.

MAINT4 RADIO

The radio and tether systems (optional on some machines) send all of their signals via CAN messages and therefore cannot be checked physically at the receivers with a voltmeter. This Maintenance screen is a tool used to function check all inputs coming from the radio and tether keypads to ensure they are working properly. With the ignition ON but ENGINE NOT RUNNING, work through each button on the radio and tether and make sure the corresponding values change. The numbers shown are raw values that the program translates into commands.

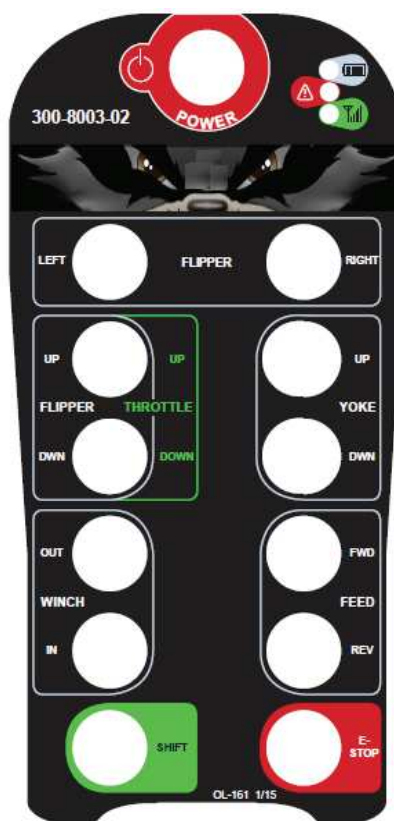
The number close behind E-Stop, Rx to C1, and Tether descriptions is an error count.

(If Fuel Saver mode is turned on and the machine idles down due to light load conditions, simply press Throttle Up and then press Feed Fwd to resume feeding).

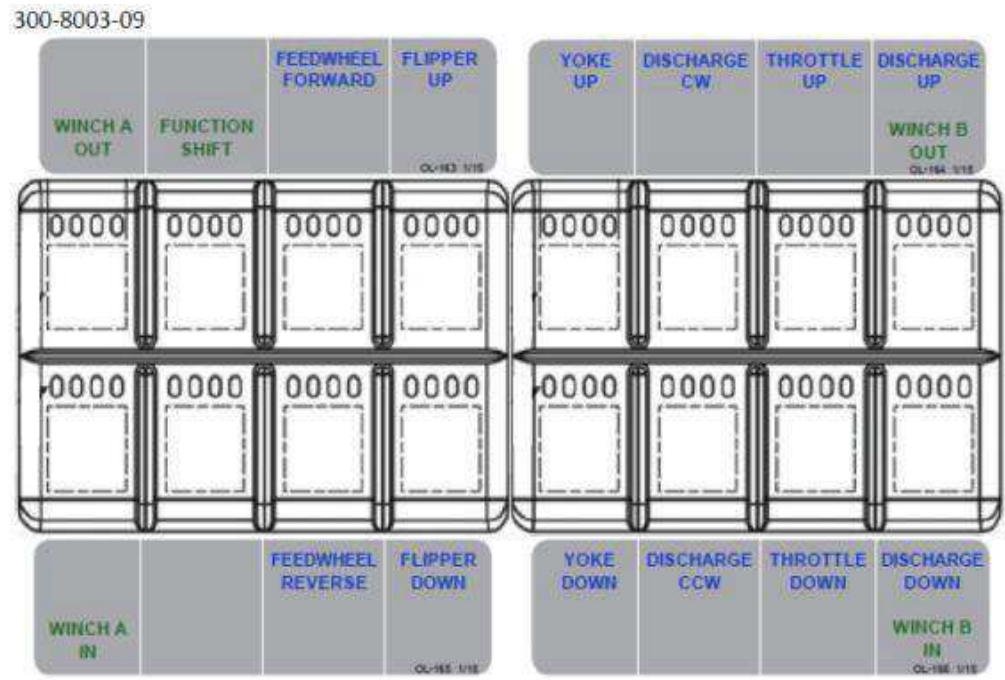
(If the Winch Stow Switch indicates that the winch is out, Feed Fwd will stop automatically and the Radio Winch functions will be enabled. The Radio Feed Fwd button then can be used to Feed Assist on Electric Feed Assist machines. Once the Winch is properly stowed, Radio winch functions will be disabled and Feed Fwd will operate as normal to resume chipping).

The Yoke/Lift is disabled while winch is deployed. Except, Yoke/Lift can momentarily operate with Feed-Assist-Fwd. Yoke/Lift is fully enabled again once the winch is properly stowed tight on the stow bar.

When the mechanical control bar is in the reverse position a switch interrupts the FeedRev coils to prevent a double reverse which would then feed forward.



Notes



The tether is a back-up tool in case the radio fails. The tether has 2 (8) button keypads that communicate with the main controller via CAN messages. The machine must be in Tether mode in order to activate the Tether. Note: If Controller 1 (C1) loses communication with both the Display and the Radio receiver, C1 will default to Tether mode internally.

There is a hardwired E-Stop switch to ground in the tether box. If the machine is in Tether mode and this switch is open (or the tether cable broken), the system will E-Stop the engine.

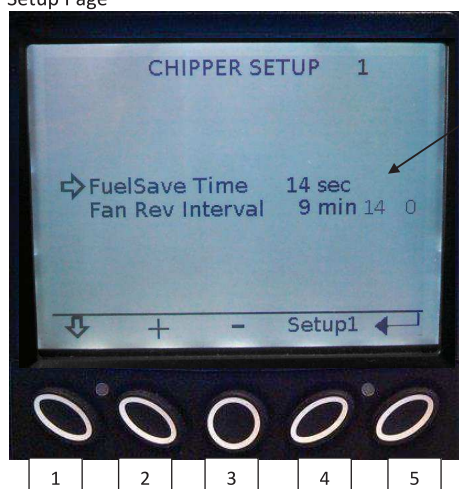
(If Fuel Saver mode is turned on and the machine idles down due to light load conditions, simply press Throttle Up and then press Feed Fwd to resume feeding).

(If the Winch Stow Switch indicates that the winch is out, Feed Fwd will stop automatically and the Tether Winch functions will be enabled. The Tether Feed Fwd button then can be used to Feed Assist on Electric Feed Assist machines. Once the Winch is properly stowed, Tether winch functions will be disabled and Feed Fwd will operate as normal to resume chipping).

The Yoke/Lift is disabled while winch is deployed. Except, Yoke/Lift can momentarily operate with Feed-Assist-Fwd. Yoke/Lift is fully enabled again once the winch is properly stowed tight on the stow bar.

When the mechanical control bar is in the reverse position a switch interrupts the FeedRev coils to prevent a double reverse which would then feed forward.

Setup Page



FuelSave Time: this is the amount of time the machine will wait at "no load" until it idles down.

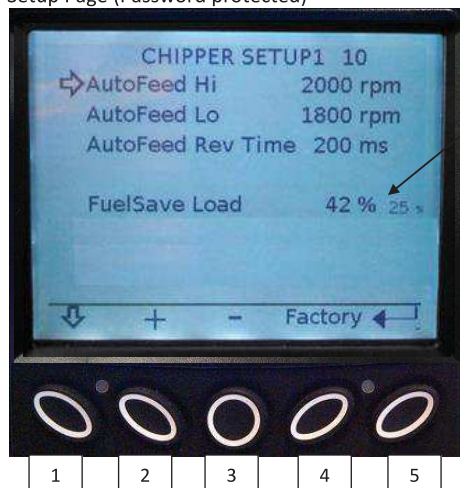
Fan Reverse Interval is optional on some machines. It is the time between fan reversing cycles to purge debris from the radiator.

The numbers behind the Fan Rev Interval is engine fan state and communication error count.

1. Select down to the parameter you wish to adjust.
2. & 3. Increase or decrease the value of the selected parameter, or select through various options.
4. Go to more Settings (password protected).
5. Go back.

Fan Reverse Interval is optional on some machines. It is the time between fan reversing cycles to purge debris from the radiator. The reverse cycle typically lasts between 20-30 seconds. The first number behind the 'Fan Rev Interval' time setting is the engine fan state (0=neutral, 1=pulling forward, 14=reversing purge). The second number behind the time setting is an error count of how many times the main controller (C1) has lost communication with the fan control module since the last key cycle.

Setup Page (Password protected)



Fuel Saver - Behind the FuelSave Load setting (42% as shown) is the actual Load on the engine (25% as shown). The setting is typically 5-10% higher than actual load at high idle with clutch engaged.

In this case we would have seen between 30-35% engine load when clutch is engaged and engine at full speed, no material being fed. And so 42% was selected as the FuelSave Load setting; this assumes that loads above 42% indicate material is being fed.

1. Select down to the parameter you wish to adjust.
2. & 3. Increase or decrease the value of the selected parameter, or select through various options.
4. Go to Factory Settings (password protected).
5. Go back.

AutoFeed

During normal operation the feed system will reverse, stop, and resume based on the AutoFeed Engine Speed settings. In the example screen shot above,

when Eng RPM falls below AutoFeed Lo 1800rpm,
the feed wheels will briefly reverse for AutoFeed Rev Time 200ms and then stop.
The system will wait for Eng RPM to recover above AutoFeed Hi 2000rpm
and then Feed Fwd will resume.

(Note: if AutoFeed Hi setting value is mistakenly set higher than the engine can run, the Feed system will not Feed Fwd because it is waiting for the engine to reach a speed it cannot attain. Correct the AutoFeed Hi setting to approx 100-200rpm lower than max engine speed).

Setup Page

**FuelSaver**

If Fuel Saver Mode is turned on, the machine will throttle down on its own to 200 RPM above low idle if it runs too long with no load. Two settings affect Fuel Saver mode.

1. **FuelSave Time**: this is the amount of time the machine will wait at "no load" until it idles down (as selected on SETUP1, see page 9).
2. **FuelSave Load**: based on engine percent torque load; anything below this setting is considered "no load".

Ex settings: 10seconds, 42% load.

During normal operation the load on the engine might range from 50-90% while chipping. When no material is being fed into the chipper it will just run at high rpm but maybe only 35% load. With actual load being lower than the 42% setting, the controller sees "no load" and after 10 seconds will idle the machine down to approximately 1,000 RPM.

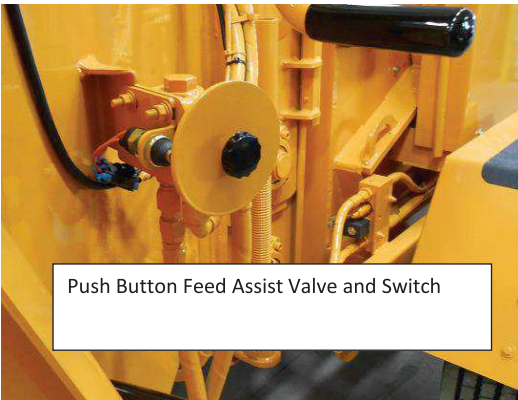
Tap Throttle Up to bring the RPM back to full speed.

The buttons on the inf feed are tied into Throttle Up when FuelSave is turned on.



When you turn Fuel Saver OFF, the machine will throttle down to idle (approx 800rpm), EXCEPT if engine RPM is above AutoFeed Hi setting. In this case, the controller assumes the operator is at full engine speed and wants to keep working.

Push Button Feed Assist



Stow Switch,
Feed Assist Switch

57702 D1 MAINT1 INPUTS		0 C1
C1 to Disp (CAN comm)	0	
Eng to C1 (CAN comm)	0	0
FS On/Off Sw (C1-C3)	0	
Key Start (C1-C2)	0	
Hood Pin (C1-B3)	0	0
Throttle Up/Dn (C1-C6,C7)	00	
Winch-Stow-FA (C1-B7r,A3,A7)	00	0 0
FS Throttle Up Sw (C1-B2)	0	
Bump Bar Override Sw (C1-A6)	0	
E-Stop (C1-B6)	0	0
Tether E-Stop Sw (C1-A2)	0	0
Chip Time	0 : 0 : 0	Maint2

Manual Winch with Push Button Feed Assist

There is a switch on the winch that sends a 12V signal to enable the winch valve. The winch stow switch indicates to the control system whether the winch is stowed or deployed. The status of this switch is displayed on Maint1 as shown above right.

When the Winch is deployed away from its stow point the Stow Switch energizes the winch selector valve and now the winch can be operated using the manual winch control valve. While the winch is still out, the Feed Assist Push Button can be used to enable Feed Fwd for approx 1/2 sec, then it will timeout and stop; this can be repeated.

In order for the Feed Assist timer to work and allow oil during Feed Assist, the controller must see :

- a 12V signal from the Winch Stow Switch
- a 0V signal from Feed Assist Push Button Switch

When the operator is finished with winch operations, the winch rope must be stowed properly to tighten down on the Stow Bar. The Stow Switch will now indicate that the winch is no longer deployed and normal chipper functions can resume feed fwd, etc.

The Yoke/Lift is disabled while winch is deployed. Except, Yoke/Lift can momentarily operate with Feed-Assist-Fwd. Yoke/Lift is fully enabled again once the winch is properly stowed tight on the stow bar.

If the Push Button Switch is disconnected a 0V signal will be sent to the control system. The Feed Assist will then time out and prevent Feeding until the switch is reconnected to a 12V signal.

(If a Radio is added to the control system of a machine with Push Button Feed Assist, the Feed Assist will only work when the Push Button valve and button are pressed).

Electric Feed Assist



Winch In-Out Switches,
Stow Switch,
Feed Assist Switch

57702 D1 MAINT1 INPUTS			0 C1
C1 to Disp (CAN comm)	0		
Eng to C1 (CAN comm)	0		0
FS On/Off Sw (C1-C3)	0		
Key Start (C1-C2)	0		
Hood Pin (C1-B3)	0		0
Throttle Up/Dn (C1-C6,C7)	00		
Winch-Stow-FA (C1-B7r,A3,A7)	00	0	0
FS Throttle Up Sw (C1-B2)	0		
Bump Bar Override Sw (C1-A6)	0		
E-Stop (C1-B6)	0		0
Tether E-Stop Sw (C1-A2)	0		0
Chip Time 0 : 0 : 0			Maint2

Electric Winch with Feed Assist

There is a switch on the winch that sends a 12V signal to enable the winch valve. The winch switch indicates to the control system whether the winch is stowed or deployed. The status of this switch is displayed on Maint1 as shown above right.

Electric Feed Assist is designed to operate both Feed and Winch functions at the same time but only for short durations. When the Winch is deployed away from its stow point and the Winch valve is enabled, moving the Feed Assist joystick to the right will also enable Feed Fwd for approx 1/2 sec, then it will timeout and stop; this can be repeated.

In order for the Feed Assist timer to work and allow oil during Feed Assist, the controller must see :

- a 12V signal from the Winch Stow Switch
- a 0V signal from Feed Assist Joystick Feed Fwd

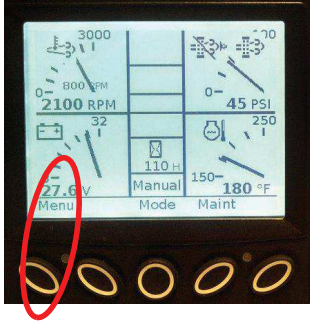
When the operator is finished with winch operations, the winch rope must be stowed properly to tighten down on the Stow Bar. The Stow Switch will now indicate that the winch is no longer deployed, winch functions will be disabled, and normal chipper functions can resume feed fwd, etc.

The Yoke/Lift is disabled while winch is deployed. Except, Yoke/Lift can momentarily operate with Feed-Assist-Fwd. Yoke/Lift is fully enabled again once the winch is properly stowed tight on the stow bar.

If the Feed Assist Joystick is disconnected a 0V signal will be sent to the control system. The Feed Assist will then time out and prevent Feeding until the switch is reconnected to a 12V signal.

(If a Radio is added to the control system of a machine with an Electric Winch Feed Assist, the Feed Assist will also work when the Radio/Tether Feed Fwd button is pressed. This will provide the same 1/2 sec pulse forward as the Joystick/Button feed assist).

Main Page



Press this button for the popup menu (Popup menu disappears after 5sec).



Popup Menu Options:

1. Press this button for Display Menu.
2. Press for DPF Options (If equipped with relevant T4 engine).
3. Press to view System Faults.
4. Press to change Service Reminder options.
5. Press to display other engine parameters.

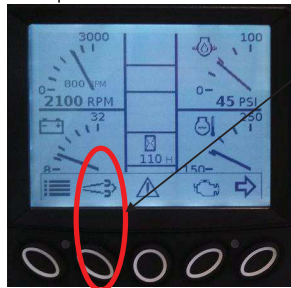
Display Menu



1. Select down to the parameter you wish to adjust.
3. & 4. Increase or decrease the value of the selected parameter, or select through various options.
5. Go back.

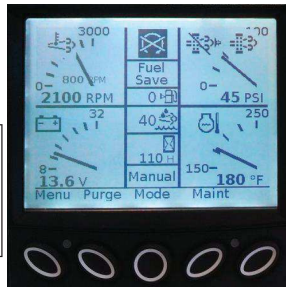
(Engine ECU address is default 0).

DPF Options



Press to display REGEN options

"N/A" will appear if the engine does not have these T4 features.



(Main Page will show DPF icons as well)



(DPF options are only applicable on T4 engine).



1 2 3 4 5

1. & 2. Select the parameter you wish to adjust.

3. Select the DPF Regen Mode (Auto or Inhibit) or Request/Force a Regen.

(In general, always leave the DPF system in Auto. The only time you may want to inhibit regen burn cycles is in the rare case where higher exhaust temperatures may elevate the risk of fire in the surrounding environment).



Exhaust gas temperature is high. Auto Regen is in process of burning out accumulated soot.



Soot level in the DPF indicates need for Regen (if in Auto, the engine typically conducts the regen on its own and the exhaust gas temperature indicator will come on to show it is in process). If the symbol has a crossout through it, Auto Regen cycles are Inhibited (disabled) by the operator.



Diesel Exhaust Fluid (DEF) tank level. Indicator will blink at low level, for ex: less than 12%

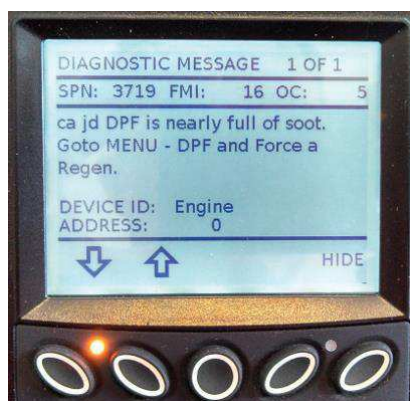


On some engines this icon is used to indicate a malfunction with the emission system.

Faults and Diagnostic Messages



Press to display
Faults and error
messages.



1. & 2. Select the parameter you wish to select.

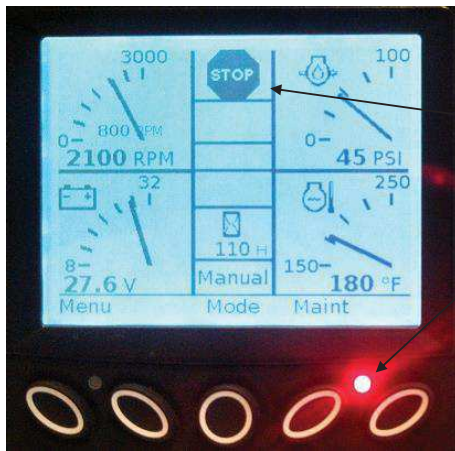
3. Enter OK to view those faults. If there are no active or stored faults, none will be available to scroll through.

5. Go back.

If the engine or other system controller sends a diagnostic message (as shown at right), it will appear as a popup error with applicable details. The popup message can be hidden (press button 5) while still being active. The LED's on the face of the display will remain lit indicating an error is still active.

- Yellow LED is a WARNING level error.
- Red LED is a STOP level error.

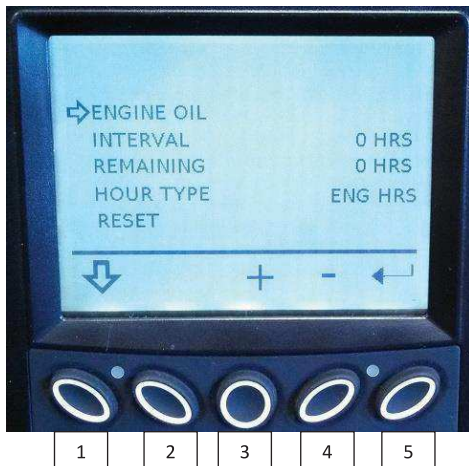
Faults and Diagnostic Messages



Service Reminders



Press to display
Engine Service
page.

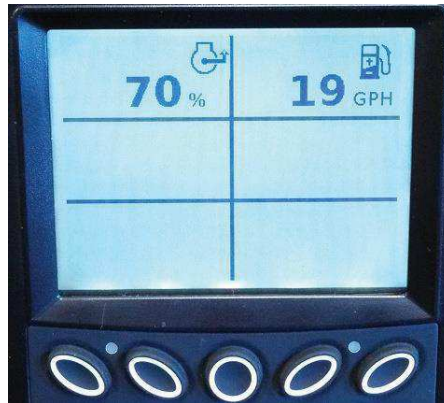


1. Select down to the parameter you wish to adjust.
3. & 4. Increase or decrease the value of the selected parameter, or select through various options.
5. Go back.

Other Engine Parameters

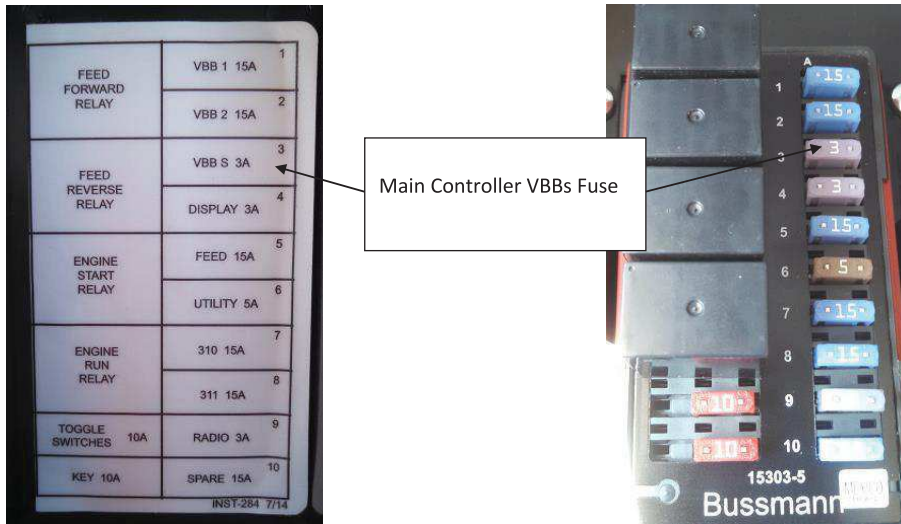


Press to display
other engine
parameters.



The engine may send information on other parameters it is monitoring. These can be read on 1 of 4 engine pages. Cycle through the engine pages to return to the Main Page.

Engine Service Tools



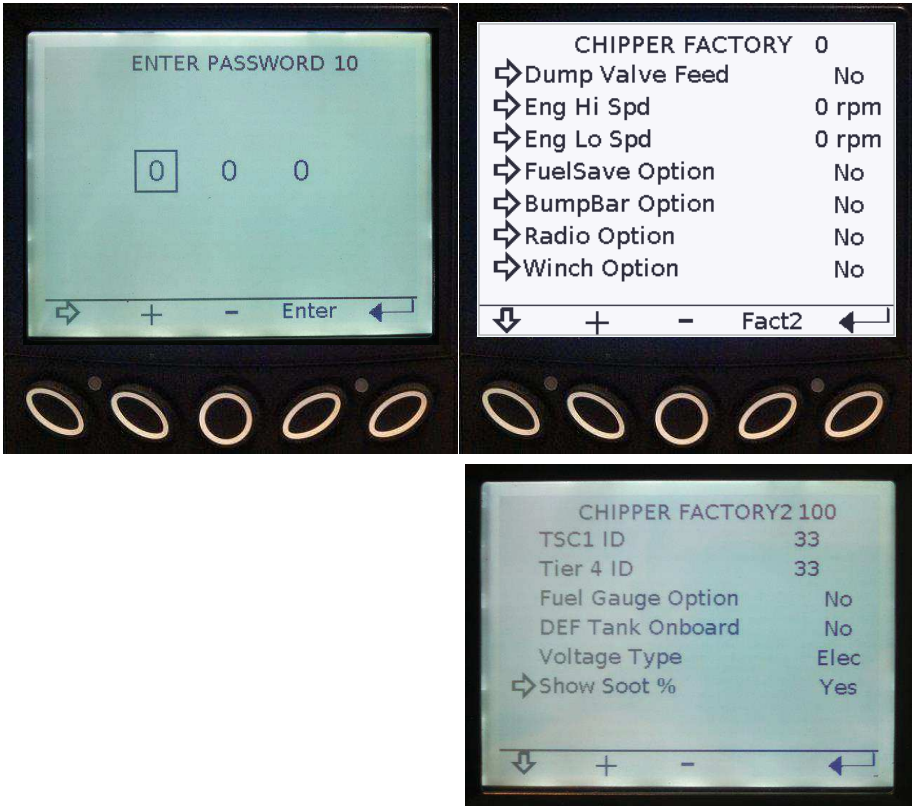
When connecting a laptop to the engine with certain engine service tools (ex CAT-ET, etc) it may be necessary to disconnect the main Controller by unplugging the 3amp VBBs fuse in station 3. The engine can still Key ON, start, and idle with the main Controller OFF.

Bump Bar Option



If the Chipper is equipped with a Bump Bar and Bump Bar Bypass valve, a Bypass Button is connected to the valve which together allow Feed Fwd for 5 seconds even if the Bump Bar has disabled the feed system.

FACTORY SETTINGS



Program Notes

Display

- If Controller 1 (C1) loses communication with the Display, C1 will default to Radio mode.
- If C1 loses comm with the Display AND the radio receiver, it will default to Tether Mode.
- If C1 loses comm with display and receiver and tether, it will remain in Manual mode internally.

Radio (Rx=receiver; Tx=Transmitter)

- If C1 loses comm with receiver, all messages zeroed/centered
- BadCount03: RadioEStop (counts only while in Radio Mode)

Tether

- In order to Feed Fwd must have RPM above AutoFeed Hi or be in AutoFeed Bypass
- Things that will automatically disengage Feed Fwd:
 - Change the machine mode away from Tether to Radio or Manual
 - Lose comm with either Tether keypad while in tether mode
 - RPM command goes below AutoFeed Lo setting (make sure AutoFeed Hi is not set higher than Engine Hi Speed).
 - Winch un-stowed will stop Feed Fwd and make it Feed Assist

Engine

- Critical engine faults related to Tier4 DPF soot levels:
 - these faults will trigger the engine to idle down and request action from the operator
 - engine may also derate or shutdown in severe cases

SPN FMI

3251	0	cu DPF is full of soot. Contact engine service center.
3251	16	cu DPF is nearly full of soot. Goto MENU - DPF and Force a Regen.
3703	31	ca DPF is nearly full of soot. Goto MENU - DPF and Force a Regen.
3714	31	ca DPF is nearly full of soot. Goto MENU - DPF and Force a Regen.
3715	31	ca DPF is full of soot. Contact engine service center.
3719	0	ca jd DPF is full of soot. Goto MENU - DPF and Force a Regen. Contact service center.
3719	15	jd DPF is nearly full of soot. Goto MENU - DPF and Force a Regen.
3719	16	ca jd DPF is nearly full of soot. Goto MENU - DPF and Force a Regen.

- C1 will idle Eng down for
 - Key to start position
 - C1 loses comm with Eng
 - RadioMode and RxComm Good and TxComm Bad (Tx out of range, Tx OFF, Tx batteries low)
 - RadioMode and RxComm Bad
 - TetherMode and Tether Comm bad
 - DPF DTC's
 - Push 'Force' in Maint2-DPF
 - Manual Mode and Lost Display
 - FuelSaver is shut off when Eng RPM is below AF Hi setting

Feed

- When you throttle down while feeding fwd, Feed Fwd will drop out and AutoRev will fire one time (within 6sec).

BANDIT CONTROLS

Inputs

- BadCount01: Hood Pin
- BadCount02: EStop
- BadCount04: TetherEStop (counts only while in TetherMode)
- The buttons on the infeed are tied into Throttle Up when FuelSave is turned on.
- Winch In-Out Sw R to Gnd; Open=60,000; In 0Ω=0; Out 1000Ω=AtoD=12,300; compare LT 20,000

FuelSaver

- FuelSave Time has a range of 10-255sec.

Document notes

21Dec2016 – First Draft