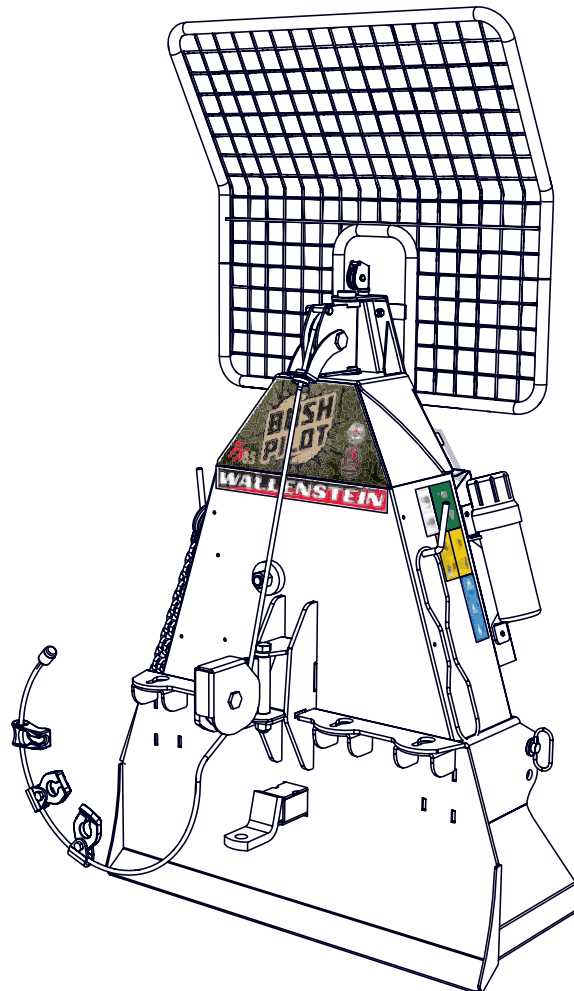




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# FX85 and FX85R Skidding Winch Parts Manual

S/N 5851 & After



Refer to the operators  
manual for safe  
operation and  
maintenance

## Foreword

EMB Mfg. has prepared this parts manual to assist customers in ordering quality OEM replacement parts.

Proper and regular service and replacing old, worn or broken parts with the correct Wallenstein parts are essential to prolonging the life of your Wallenstein product. Please refer to this manual before ordering any replacement parts.

All information contained in this parts manual is based on the latest product specification available at the time of printing this manual. If your product differs from the specifications contained within this manual contact EMB Mfg. for information.

EMB reserves the right to alter specifications on their products at any time.

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For parts and information please contact your dealer. If your dealer is no longer available please go to our website: <http://www.wallensteinequipment.com> and click on "FIND A DEALER NEAR YOU" for information on a local dealer.

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Maintenance should be performed by  
trained personnel only.



Refer to the operators  
manual for safe  
operation and  
maintenance

**Bolt Torque**

**CHECKING BOLT TORQUE**

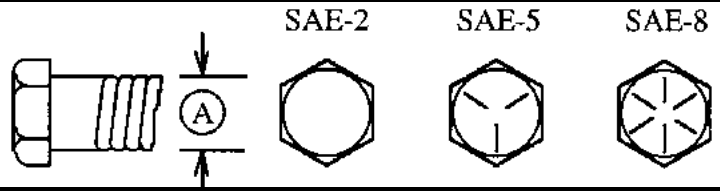
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

\* Torque value for bolts and capscrews are identified by their head markings.

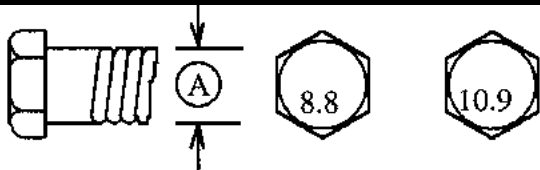
**ENGLISH TORQUE SPECIFICATIONS**

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



**METRIC TORQUE SPECIFICATIONS**

Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

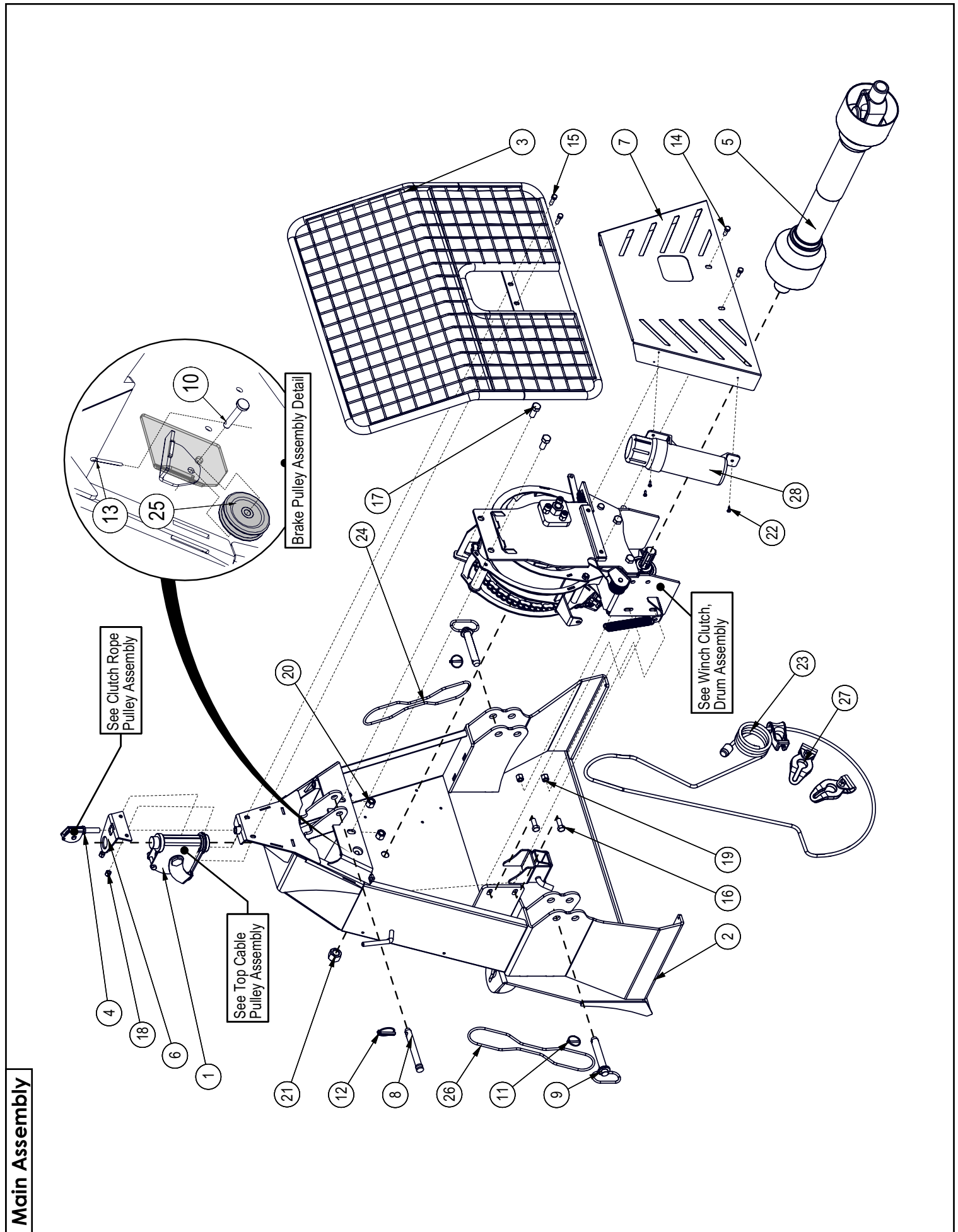


## Hydraulic Fitting Torque

### Tightening Flare Type Tube Fittings \*

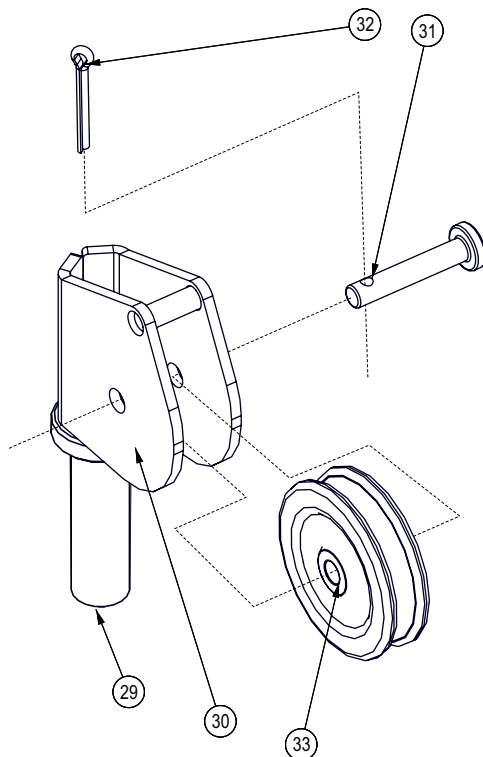
1. Check flare and flare seat for defects that might cause leakage.
  2. Align tube with fitting before tightening.
  3. Lubricate connection and hand tighten swivel nut until snug.
  4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.
- The torque values shown are based on lubricated connections as in reassembly.

HYDRAULIC FITTING TORQUE					
Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(N.m)	(lb-ft)	(Flats)	(Turn)
(in.)	(in.)				
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8



**Main Assembly**

**Clutch Pulley**

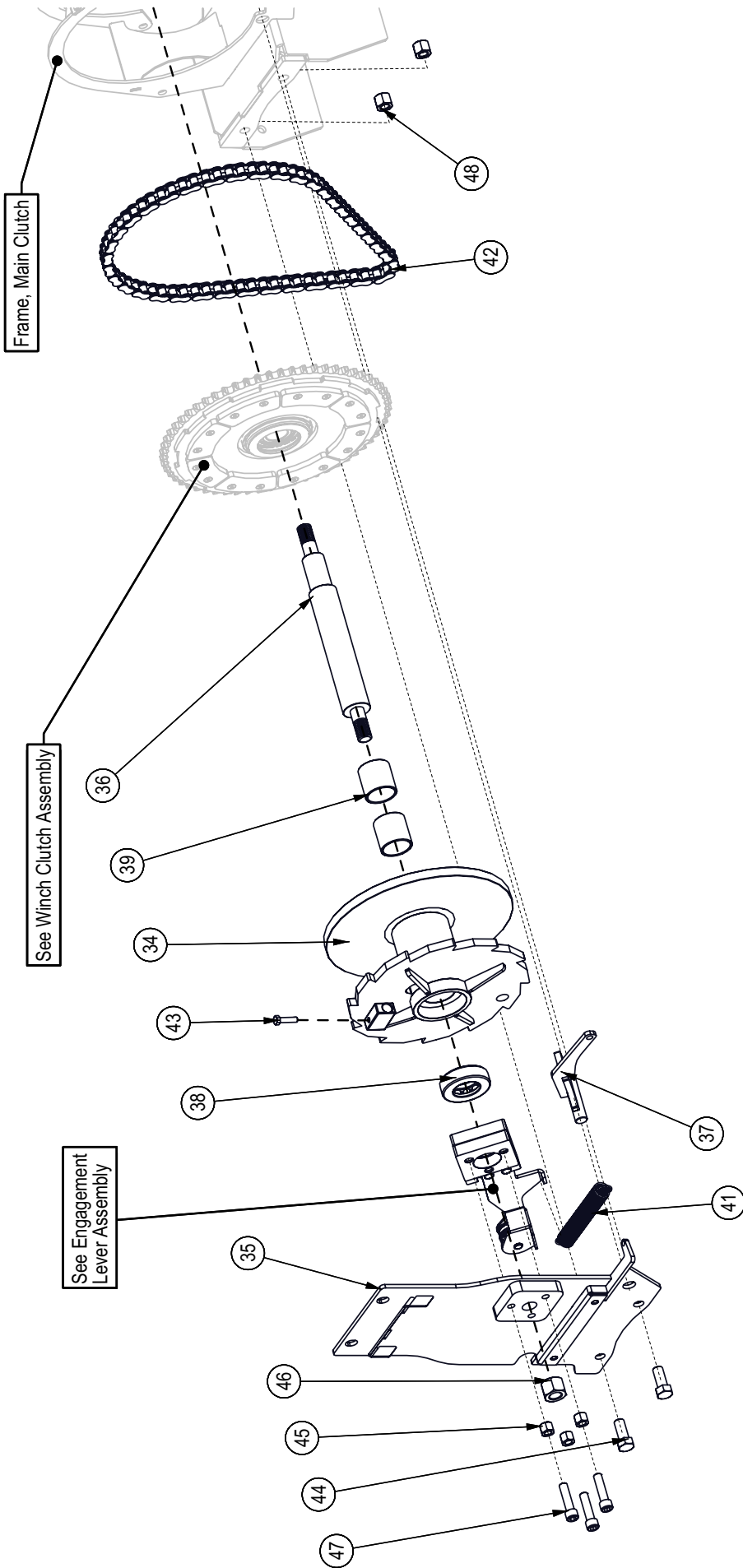


BOM ID	Description	Description	Qty
29	5012A207	Clutch Rope Pulley	1
30	5012W215	Clutch Rope Pulley Housing	1
31	Z11311	Clevis Pin, 1/4" x 1-1/8"	1
32	Z12311	Cotter Pin, 1/8" x 1"	1
33	Z92203	1/4 Groove Pulley 2 Diam.	1

**Main Assembly - Parts List.**

BOM ID	Part No.	Description	Qty
1	5011A514	Top Cable Pulley	1
2	5011W020	Main Frame	1
3	5011W022	Safety Screen	1
4	5012W215	Clutch Rope Pulley Housing	1
5	Z44402	#4 Global PTO Shaft M8 Shear	1
6	5011L636	Bracket, Top Pulley Capture	1
7	5011L686	Lower Protective Shield	1
8	Z11123	Toplink Pin, 3/4" x 4-3/4"	1
9	Z11251	Hitch Pin, 7/8" x 4-1/4"	2
10	Z11311	Clevis Pin, 1/4" x 1-1/8"	2
11	Z12110	Lynch Pin, 3/16"	2
12	Z12140	Lynch Pin, 7/16"	1
13	Z12311	Cotter Pin, 1/8" x 1"	2
14	Z76133	Flange Bolt, 3/8NC x 3/4"	2
15	Z76137	Flange Bolt, 3/8NC x 1-1/4"	2
16	Z76156	Flange Bolt, 1/2NC x 1-1/2"	2
17	Z76161	Flange Bolt, 5/8NC x 1-1/2"	2
18	Z72231	Hex Lock Nut, 3/8NC	2
19	Z72251	Hex Lock Nut, 1/2NC	2
20	Z72261	Hex Lock Nut, 5/8NC	2
21	Z72281	Hex Lock Nut, 7/8NC	1
22	Z76721	Self-tapping Screw, 1/4 x 3/4"	3
23	Z92119	Winch Cable, 3/8" x 165ft, Forged End	1
24	Z92201	Clutch Control Rope	1
25	Z92203	1/4 Groove Pulley 2 Diam.	2
26	Z92205	Drum Brake Rope 18'	1
27	Z92301	Keyhole Slider	2
28	Z96503	Manual Tube 3-1/2 Short	1

**Cable Drum Assembly**

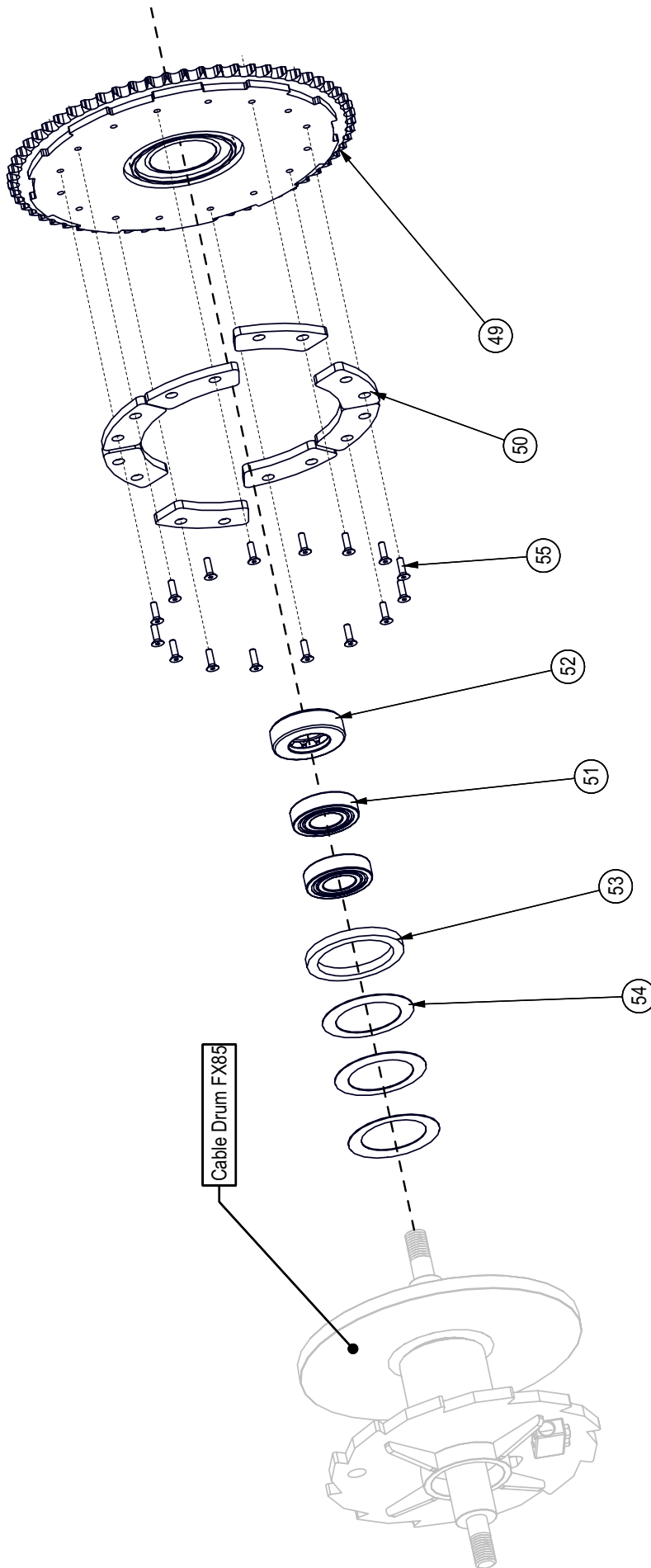


BOM ID	Part No.	Description	Qty
34	5011W006	FX65 Cable Drum	1
35	5011W016	Clutch Back Plate	1
36	5012M214	Main Drum Shaft	1
37	5012W206	Lock Dog	1
38	Z22101	1-3/4 Bore Shielded Thrust Bearing	1
39	Z27101	Fiberglide Bearing 1-3/4" ID x 2" long x 1/8" wall	2
41	Z31405	Ext Spring, 7/8" OD x 7" x 0.125"	1

BOM ID	Part No.	Description	Qty
42	Z42152	Roller Chain, #60x74 links	1
43	Z71212	Hex Bolt, 5/16NC x 1-1/4"	1
44	Z76161	Flange Bolt, 5/8NC x 1-1/2"	2
45	Z72352	Jam Nut, 1/2NF	3
46	Z72281	Hex Lock Nut, 7/8NC	1
47	Z75151	SHCS, 1/2NF x 2"	3
48	Z72261	Hex Lock Nut, 5/8NC	2



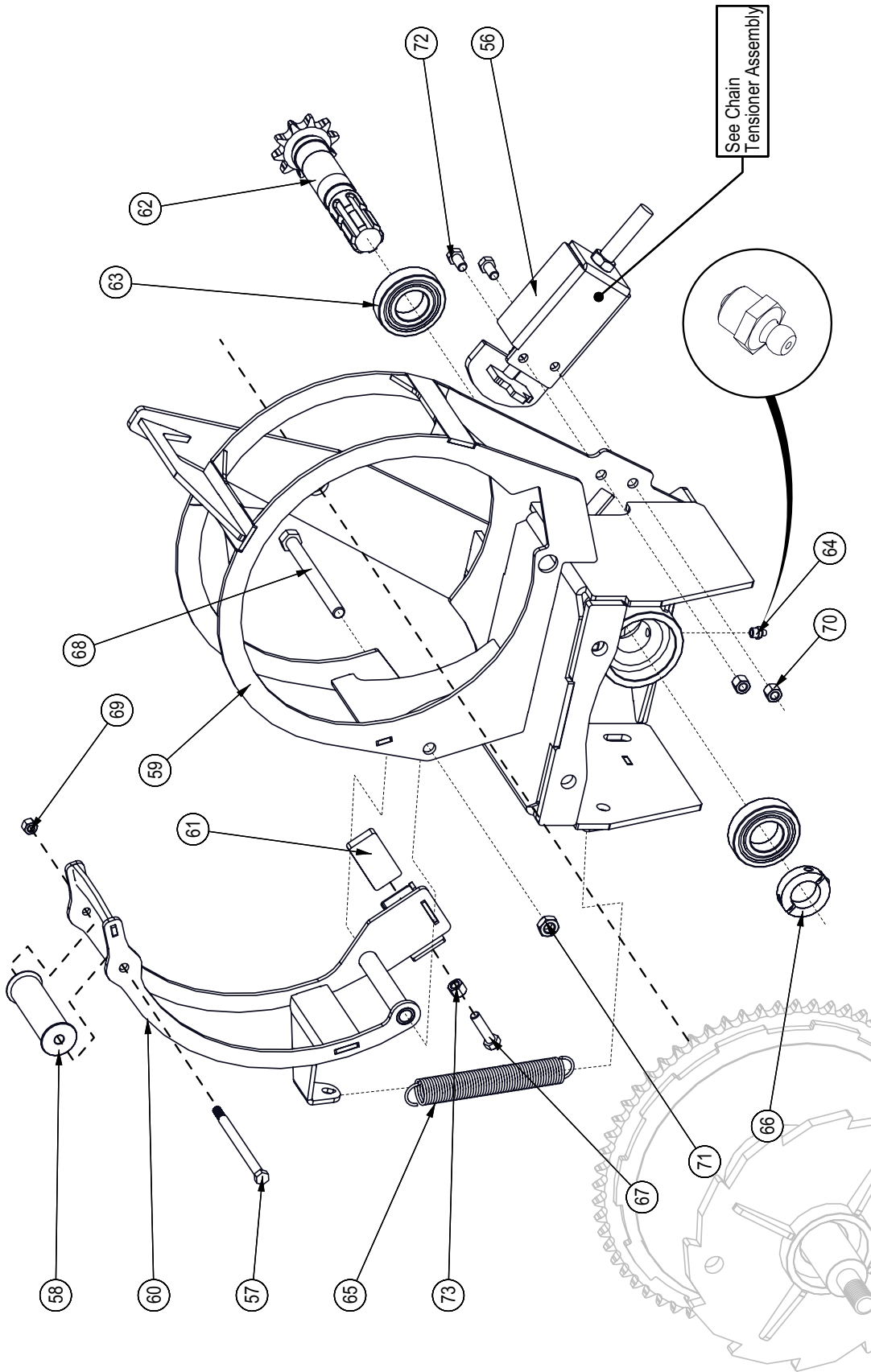
**Clutch Assembly**



BOM ID	Part No.	Description	Qty
49	5012W209	60 Tooth Sprocket	1
50	5011S152	Pad, Sprocket	8
51	Z21202	Ball Bearing 6207-2RS	2
52	Z22101	1-3/4 Bore Shielded Thrust Bearing	1

BOM ID	Part No.	Description	Qty
53	5012M228	Nylon Bearing Washer	1
54	Z34101	Cup Spring, 2-3/4" ID x 4" OD x 1mm	3
55	Z75211	FHCS, 1/4NC x 7/8"	16

**Cable Frame Assembly**

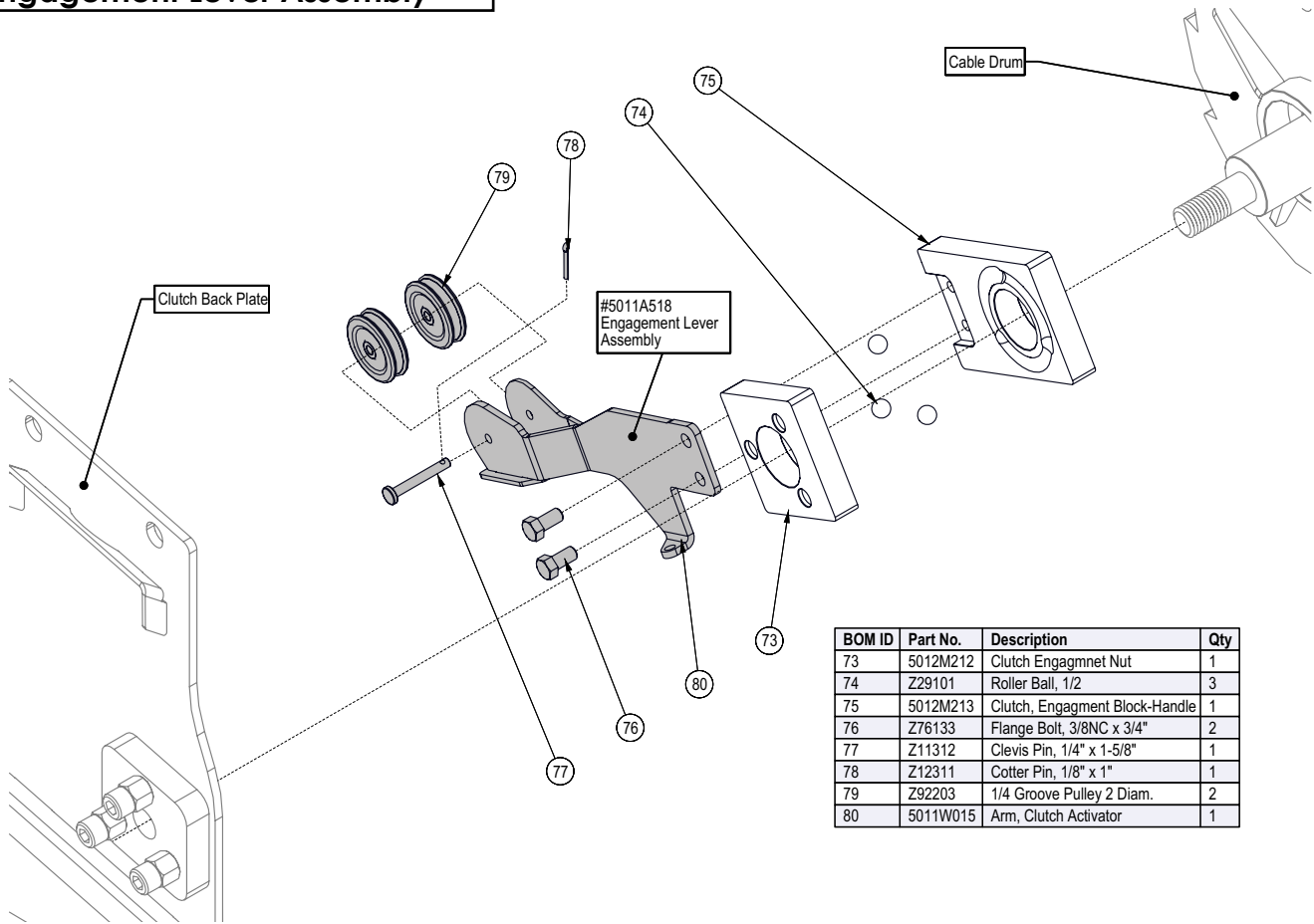


BOM ID	Part No.	Description	Qty
56	5011A520	Assembly, Chain Tightener	1
57	5011M824	Pin, Cable Roller	1
58	5011S155	Roller, Brake Arm	1
59	5011W002	Frame, Main Clutch	1
60	5011W007	Arm Frame, Anti-Tangle	1
61	5012M204	Block, Drum Brake	1

BOM ID	Part No.	Description	Qty
62	5012W208	PTO Spine Shaft w/ Sprocket	1
63	Z21202	Ball Bearing 6207-2RS	2
64	Z29201	Grease Fitting, 1/8NPT	1
65	Z31403	Ext Spring, 27mm OD x 178mm x 0.105"	1
66	Z46311	Clamp-on Shaft Collar	1
67	Z71320	Hex Bolt, 3/8NC x 2"	1

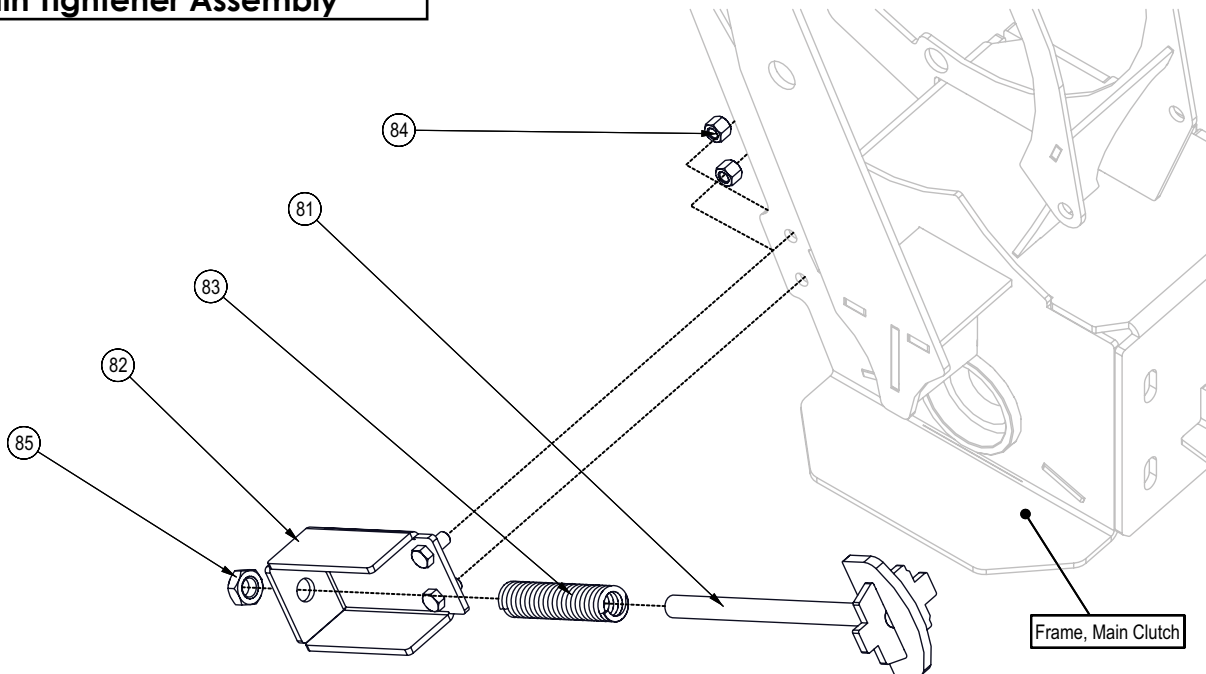
BOM ID	Part No.	Description	Qty
68	Z71555	Hex Bolt, 1/2NC x 5-1/2"	1
69	Z72221	Hex Lock Nut, 5/16NC	1
70	Z72231	Hex Lock Nut, 3/8NC	2
71	Z72351	Jam Nut, 1/2NC	1
72	Z71307	Hex Bolt, 3/8NC x 3/4"	2
73	Z72531	Serrated Flange Locknut, 3/8NC	1

**Engagement Lever Assembly**



BOM ID	Part No.	Description	Qty
73	5012M212	Clutch Engagment Nut	1
74	Z29101	Roller Ball, 1/2	3
75	5012M213	Clutch, Engagment Block-Handle	1
76	Z76133	Flange Bolt, 3/8NC x 3/4"	2
77	Z11312	Clevis Pin, 1/4" x 1-5/8"	1
78	Z12311	Cotter Pin, 1/8" x 1"	1
79	Z92203	1/4 Groove Pulley 2 Diam.	2
80	5011W015	Arm, Clutch Activator	1

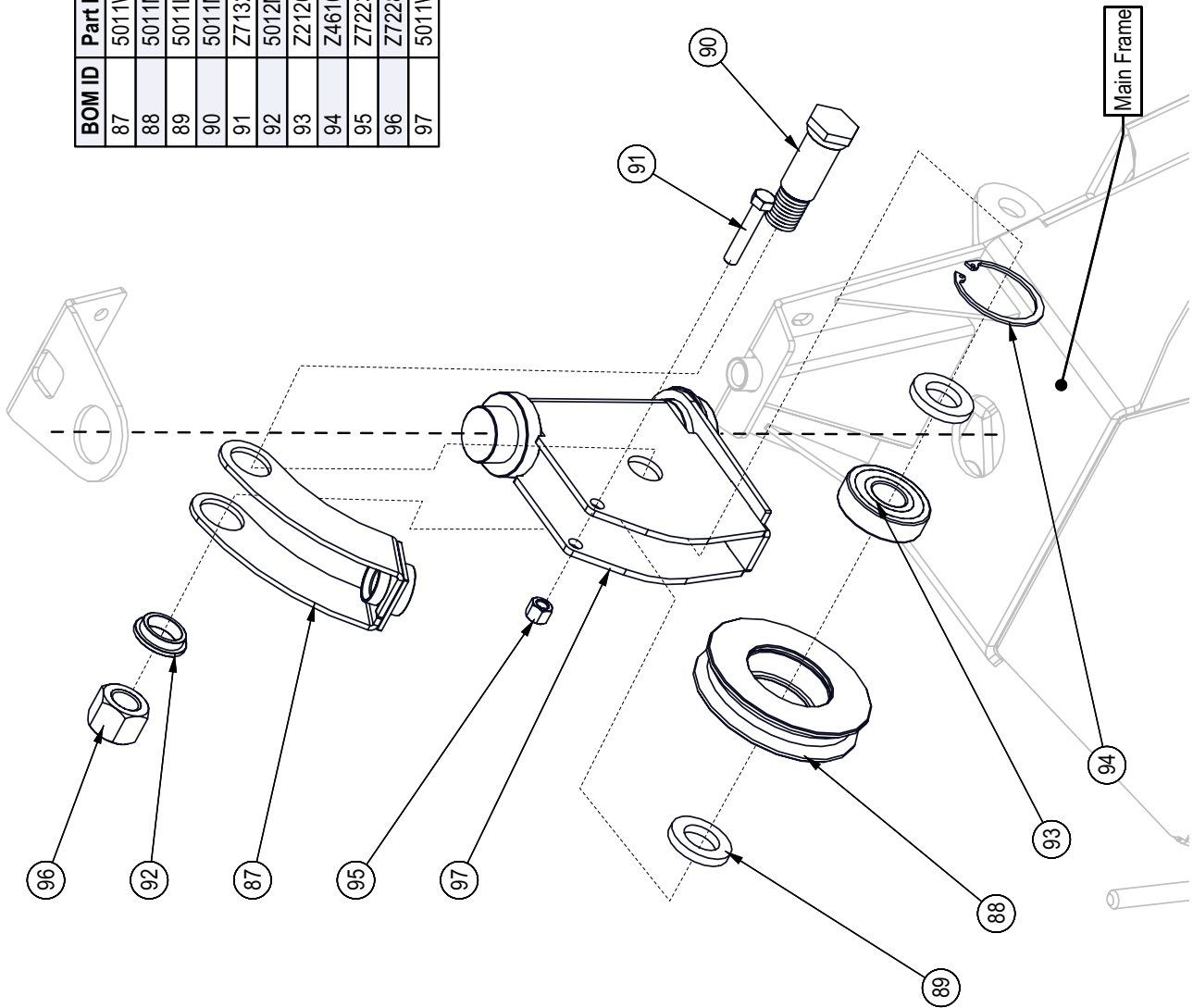
**Chain Tightener Assembly**



BOM ID	Description	Description	Qty
81	5012W205	Chain Tightener Plunger	1
82	5011L631	Base, Auto Chain Tightener	1
83	Z32401	Comp Spring, 1" OD x 7" x 0.162"	1
84	Z72531	Serrated Flange Locknut, 3/8NC	2
85	Z72261	Hex Lock Nut, 5/8NC	1

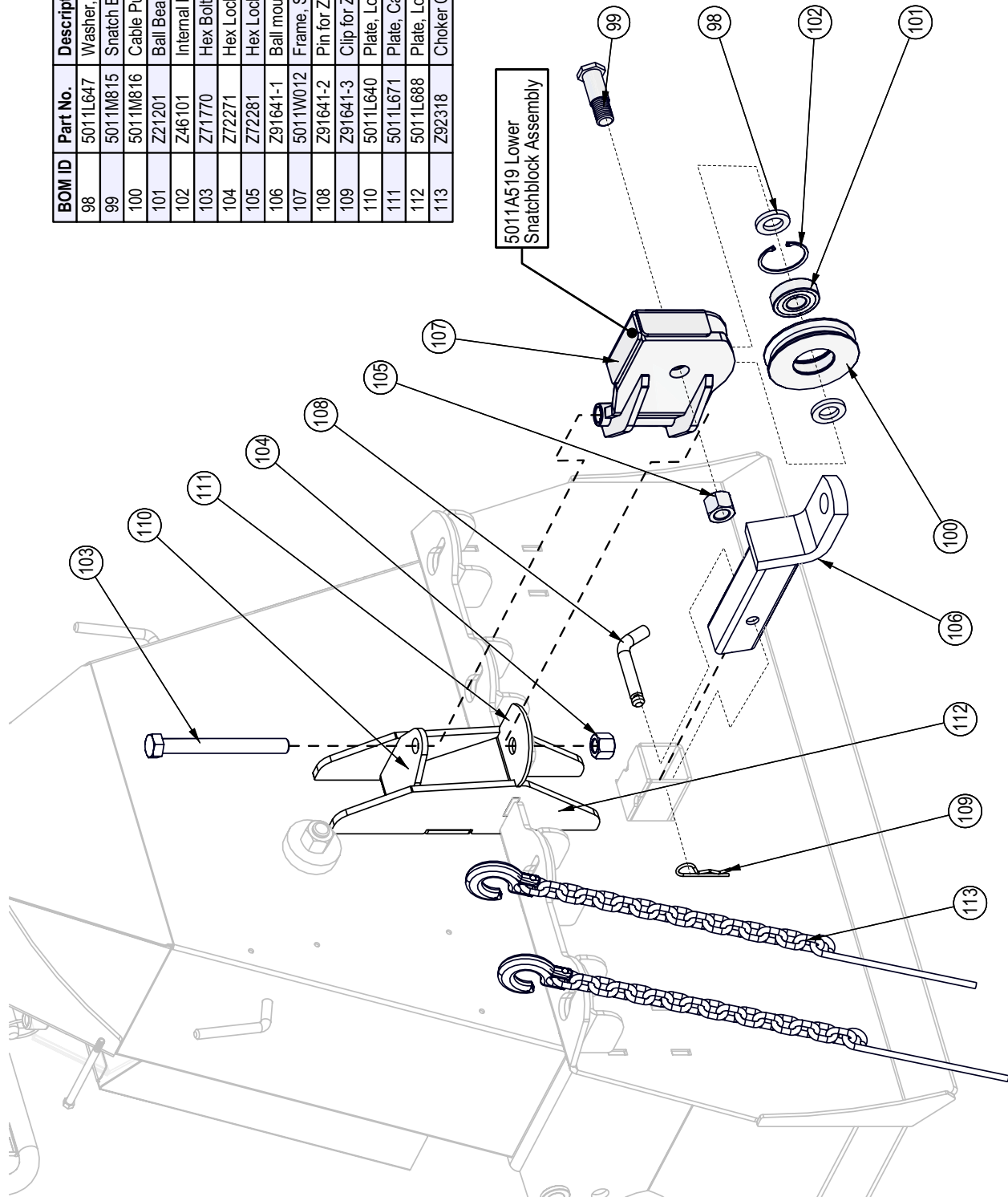
**Top Cable Pulley Assembly**

BOM ID	Part No.	Description	Qty
87	5011W008	Cable Guide	1
88	5011M816	Cable Pulley	1
89	5011L647	Washer, Pulley Spacer - Narrow	2
90	5011M814	Top Pulley Pin	1
91	Z71320	Hex Bolt, 3/8NC x 2"	1
92	5012M222	Cable Guide Swing Bushing	1
93	Z21201	Ball Bearing 6305 2RS	1
94	Z46101	Internal Retaining Ring 2-7/16	1
95	Z72231	Hex Lock Nut, 3/8NC	1
96	Z72281	Hex Lock Nut, 7/8NC	1
97	5011W011	Frame, Top Pulley	1

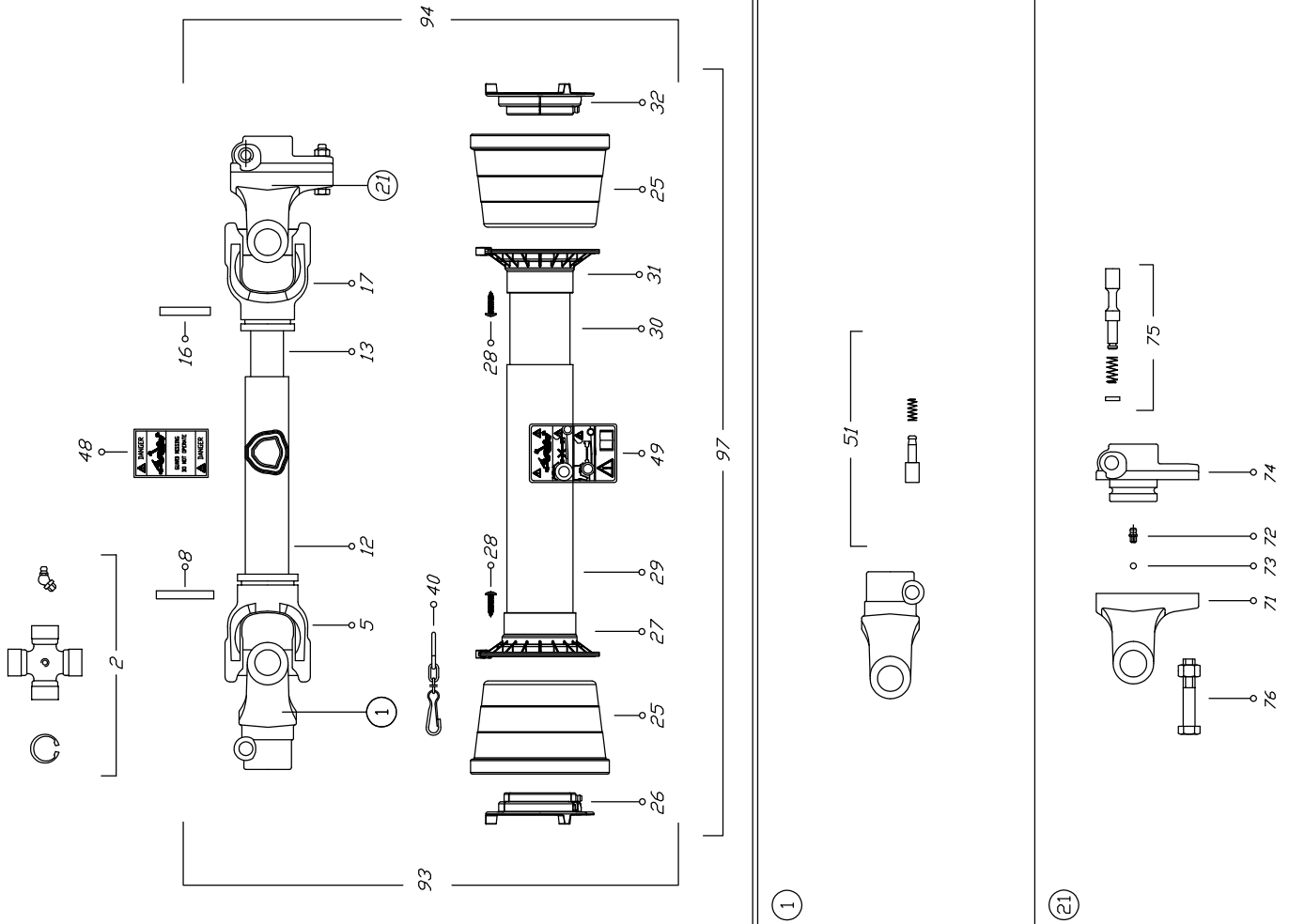


**Snatch Block Assembly**

BOM ID	Part No.	Description	Qty
98	5011L647	Washer, Pulley Spacer - Narrow	2
99	5011M815	Snatch Block, Pulley Pin	1
100	5011M816	Cable Pulley	1
101	Z21201	Ball Bearing 6305 2RS	1
102	Z46101	Internal Retaining Ring 2-7/16	1
103	Z71770	Hex Bolt, 3/4NC x 7"	1
104	Z72271	Hex Lock Nut, 3/4NC	1
105	Z72281	Hex Lock Nut, 7/8NC	1
106	Z91641-1	Ball mount for Z91641	1
107	5011W012	Frame, Snatchblock	1
108	Z91641-2	Pin for Z91641	1
109	Z91641-3	Clip for Z91641	1
110	5011L640	Plate, Lower Pulley Mount	1
111	5011L671	Plate, Cable Lock	1
112	5011L688	Plate, Lower Pulley	2
113	Z92318	Choker Chain, 5/16" x 90"	2



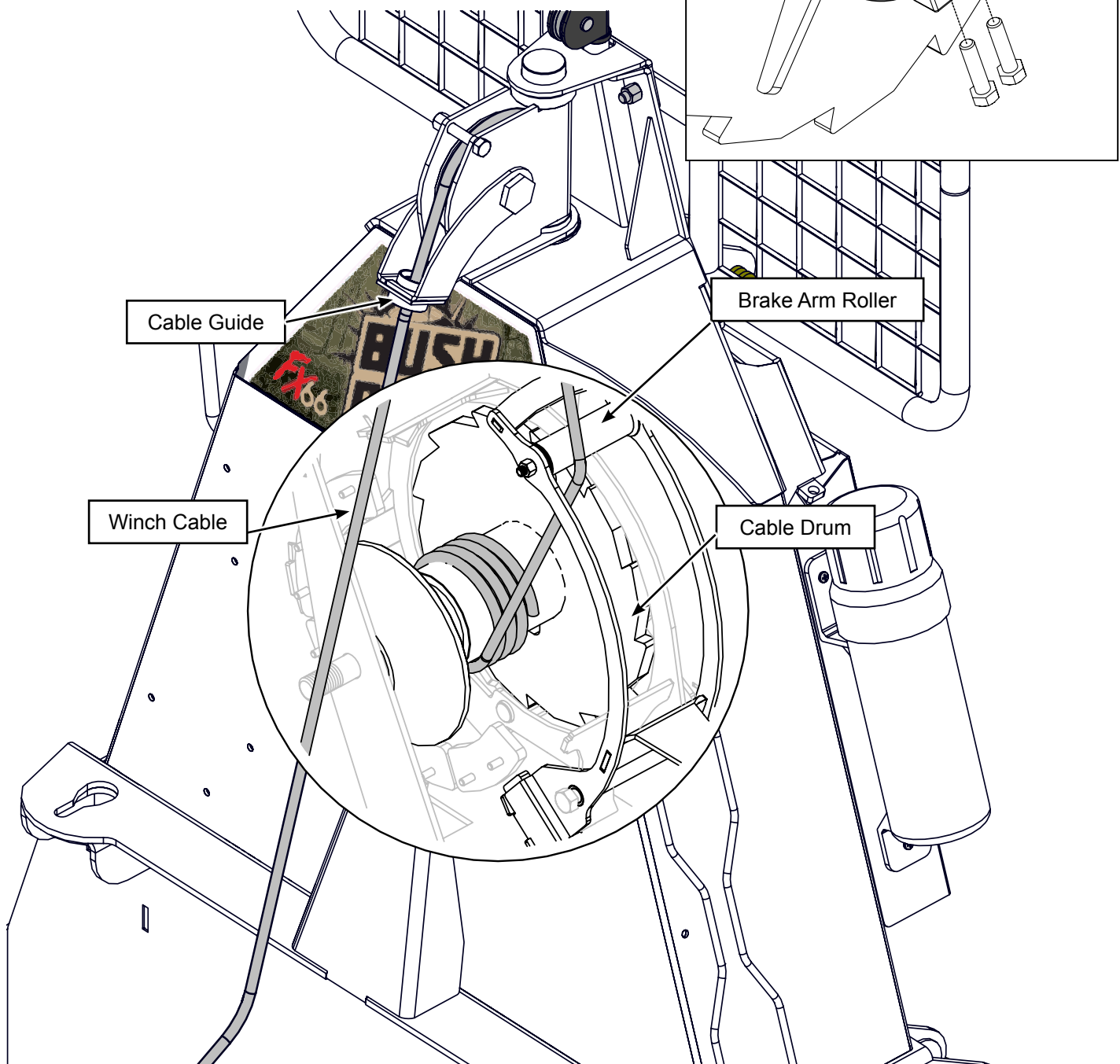
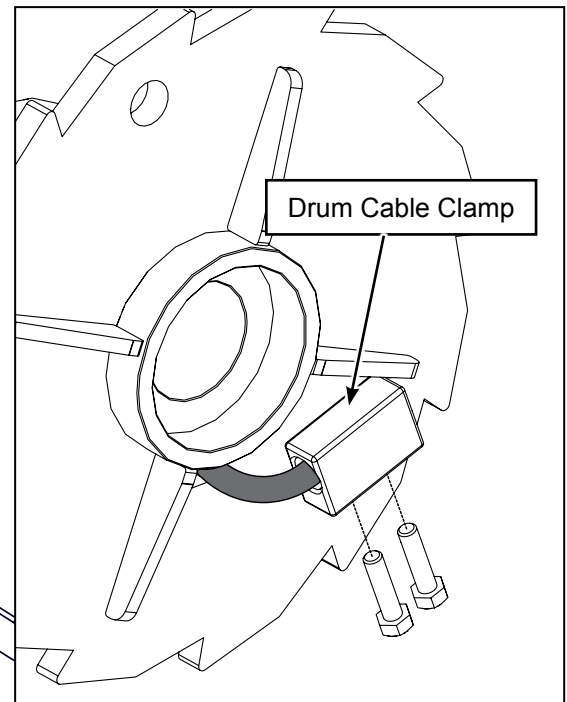
**PTO Shaft**



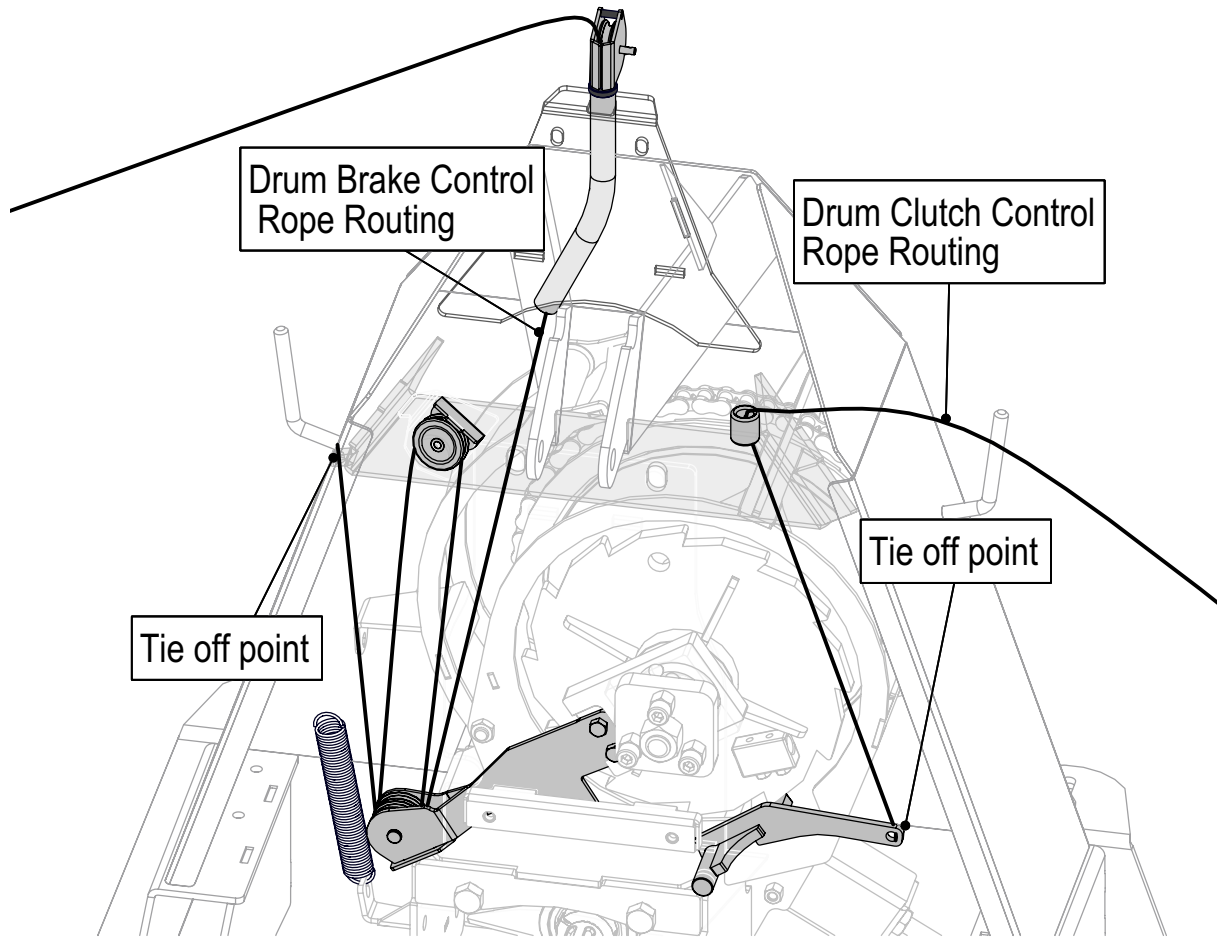
<b>Binacchi SPARE PARTS LIST : B4N061USA60098</b>			
POS.	DESCRIPTION	Q.	Part #
01	YOKE	1	0800403
02	CROSS JOURNAL ASS.	2	08204
05	OUTER TUBE YOKE	1	08004021
08	FLEXIBLE PIN	1	098700860
12	CM. 100 CARDAN TUBE(*)	1	09881433100
13	CM. 100 CARDAN TUBE(*)	1	09881364100
16	FLEXIBLE PIN	1	098700855
17	INNER TUBE YOKE	1	08004011
21	SHEAR BOLT M8X1.25X45	1	Z44902
25	CONE SHIELD BELL 03-04	2	021904C001
26	OUTER BEARING 03-04	1	025504C001
27	OUTER BASE CONE 03-04	1	025404C001
28	SCREW	6	0998052242
29	OUTER SAFETY TUBE	1	0988966NB4061
30	INNER SAFETY TUBE	1	0988961NB4061
31	INNER BASE CONE 03-04	1	025404C002
32	INNER BEARING 03-04	1	025504C002
40	CHAIN	1	0252000001
48	LABEL DANGER OUTER DRIVE TUBE	1	09872006
49	EXTERNAL SHIELD LABEL	1	09872003
51	COMPLETE PUSH BUTTTON	1	0986014047
71	YOKE FOR LB4	1	08896904
72	GREASE NIPPLE	1	0984010150
73	STEEL BALL	23	098680104
74	HUB	1	088964
75	PUSH PIN SET	1	0986014075
76	NUT AND BOLT M8 x 1.25 x 45 10.9	1	Z44902
93	OUTER HALF SHAFT	1	B4N061US2
94	INNER HALF SHAFT	1	B4N061US1098
97	SAFETY GUARD	1	083US04061

**Cable Install**

Feed cable through the eye of cable guide and over the pulley down into drum. Cable must be routed under brake roller on drum band coiler. Insert cable into hole in drum and tighten clamp.

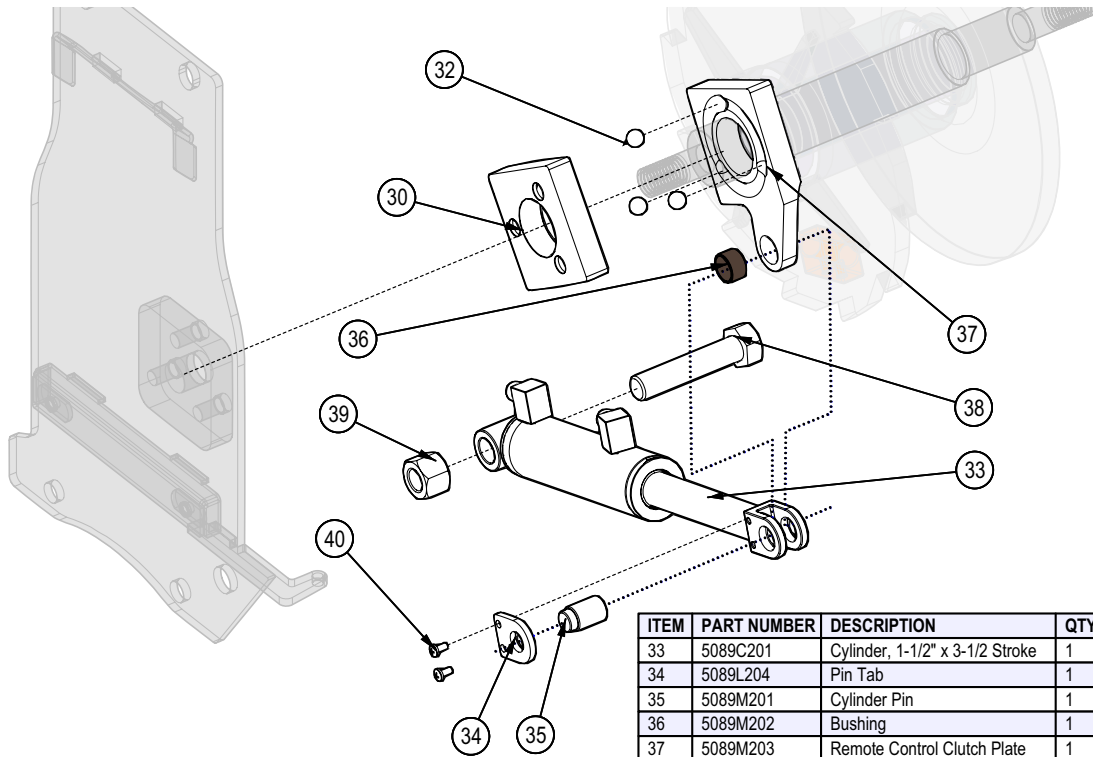


**Brake & Clutch Rope Routing**



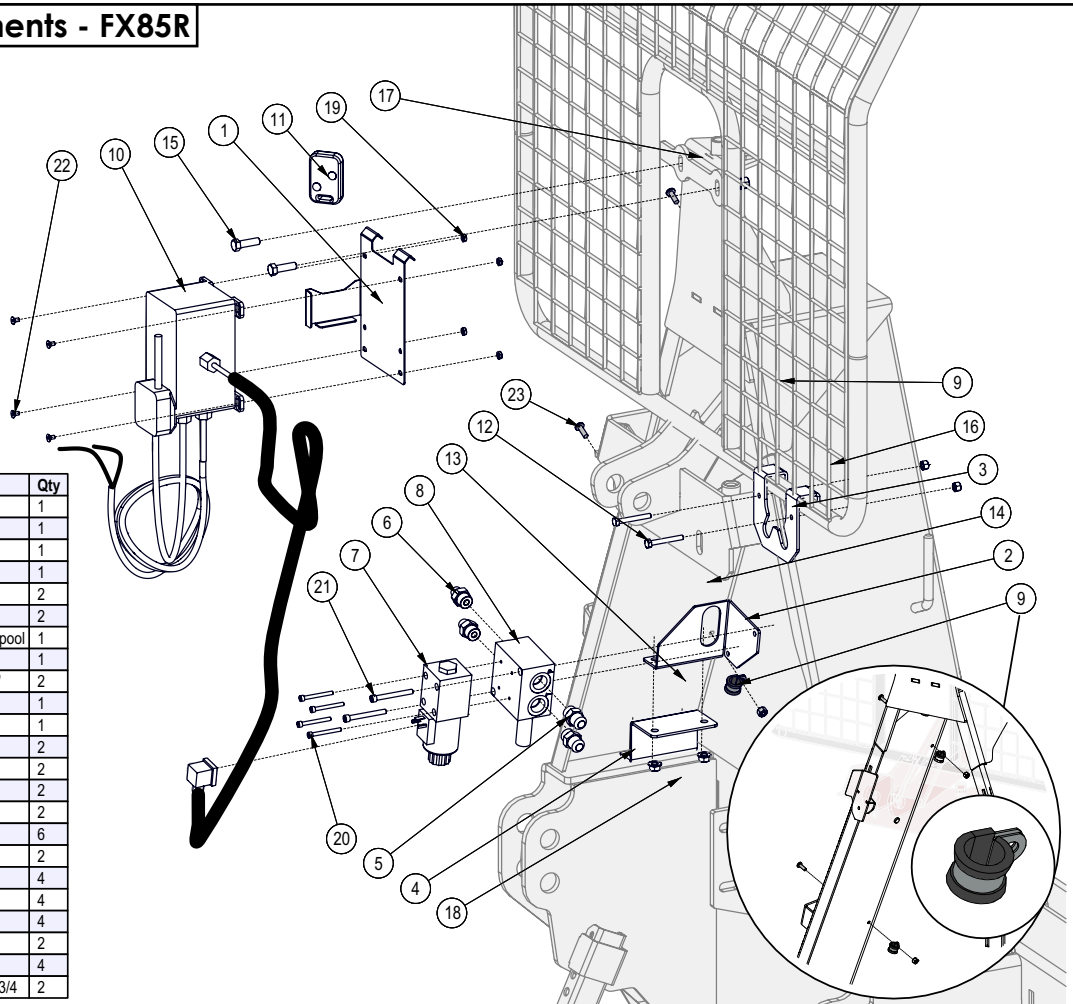


**Cylinder / Clutch Plate Assembly - FX85R**



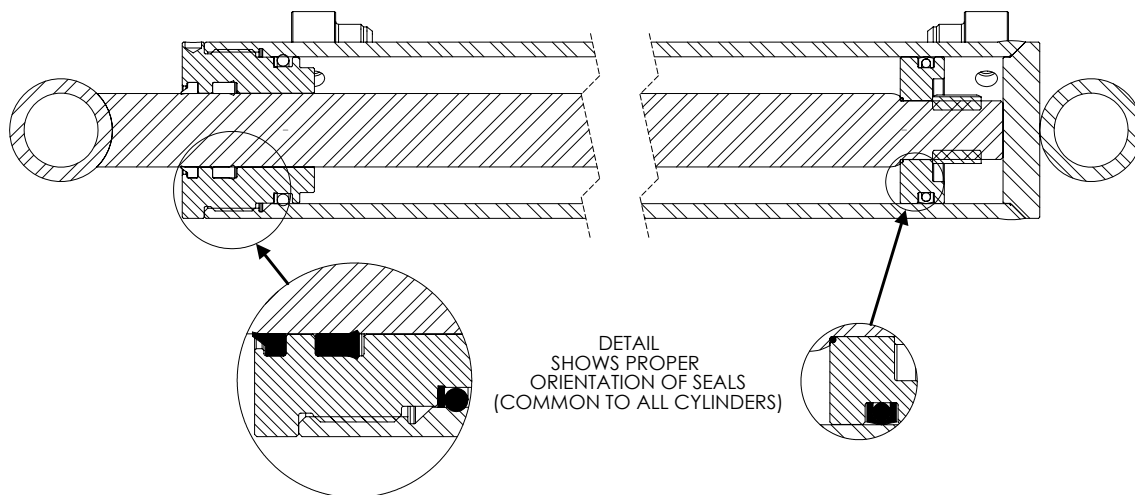
ITEM	PART NUMBER	DESCRIPTION	QTY
33	5089C201	Cylinder, 1-1/2" x 3-1/2 Stroke	1
34	5089L204	Pin Tab	1
35	5089M201	Cylinder Pin	1
36	5089M202	Bushing	1
37	5089M203	Remote Control Clutch Plate	1
38	Z71735	Hex Bolt, 3/4NC x 3-1/2	1
39	Z72271	Hex Lock Nut, 3/4NC	1
40	Z78302	Machine Screw, #10-32NF x 3/8	2

**Remote Control Components - FX85R**

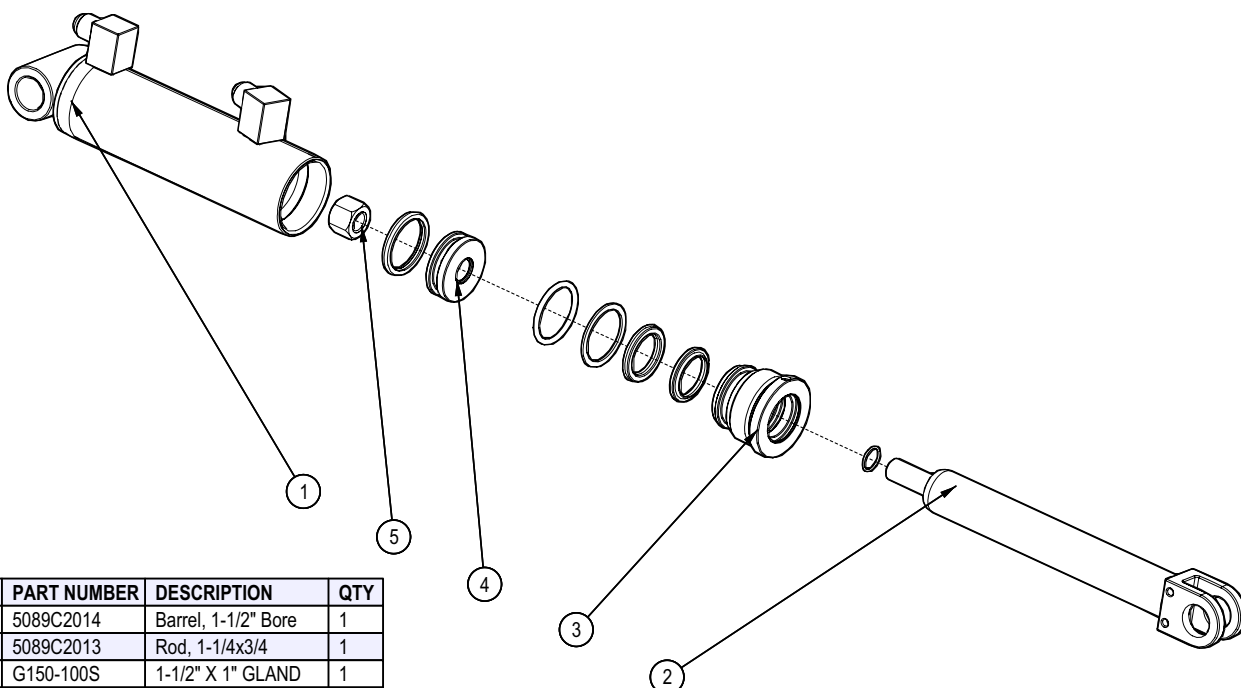


Item	Part Number	Description	Qty
1	5089L215	Remote Box Mount	1
2	5089L208	Hydraulic Mount Base	1
3	5089L209	Hose Hanger	1
4	5089L210	Valve Mount Extension	1
5	Z51643	#8ORB x #8JIC	2
6	Z51644	#8ORB x #6JIC	2
7	Z56509	Solenoid 4-2 Valve - Motor Spool	1
8	Z56510	SubPlate with Relief	1
9	Z62819	Rubberized Wire Clamp, 1/2"	2
10	Z66208	Dual State Remote Receiver	1
11	Z66209	Remote Handset for Z66208	1
12	Z71120	Hex Bolt, 1/4NC x 2	2
13	Z71307	Hex Bolt, 3/8NC x 3/4	2
14	Z71310	Hex Bolt, 3/8NC x 1	2
15	Z71312	Hex Bolt, 3/8NC x 1-1/4	2
16	Z72211	Hex Lock Nut, 1/4NC	6
17	Z72231	Hex Lock Nut, 3/8NC	2
18	Z72531	Flange Nut 3/8NC	4
19	Z72752	Machine Nut, #10-32NF	4
20	Z75102	SHCS, #10-24NC x 1-3/4	4
21	Z75117	SHCS, 1/4NC x 2-1/4	2
22	Z75202	FHCS, #10-32NF x 3/8	4
23	Z78301	Machine Screw, 1/4-20NC x 3/4	2

**Cylinder Seal Installation - FX85R**



**Hydraulic Cylinder Detail - FX85R**

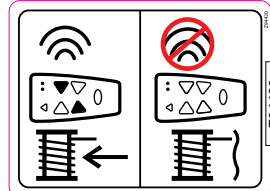
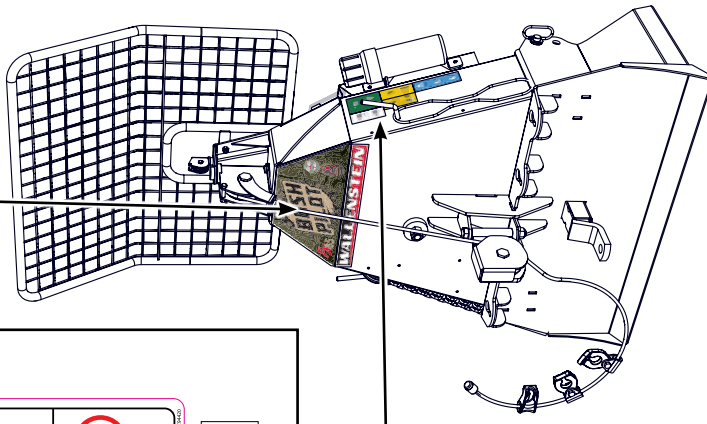


ITEM	PART NUMBER	DESCRIPTION	QTY
1	5089C2014	Barrel, 1-1/2" Bore	1
2	5089C2013	Rod, 1-1/4x3/4	1
3	G150-100S	1-1/2" X 1" GLAND	1
4	P500-150SP	1-1/2" BORE PISTON	1
5	Z72251	Hex Lock Nut, 1/2NC	1

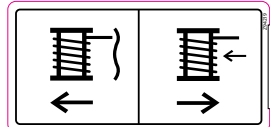
Label Layout



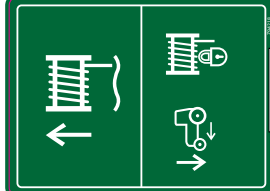
Z946190 - FX85  
Z946191 - FX85R



Z94420  
Remote Label  
Replaces Z94219  
FX85R



Z94219



Z94218



Z94220



Z94114



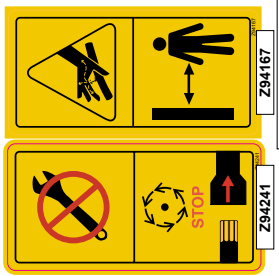
Z94239



Serial Plate



Z94119



Z94167

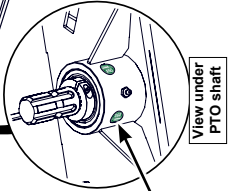
Hydraulic Label  
FX85R



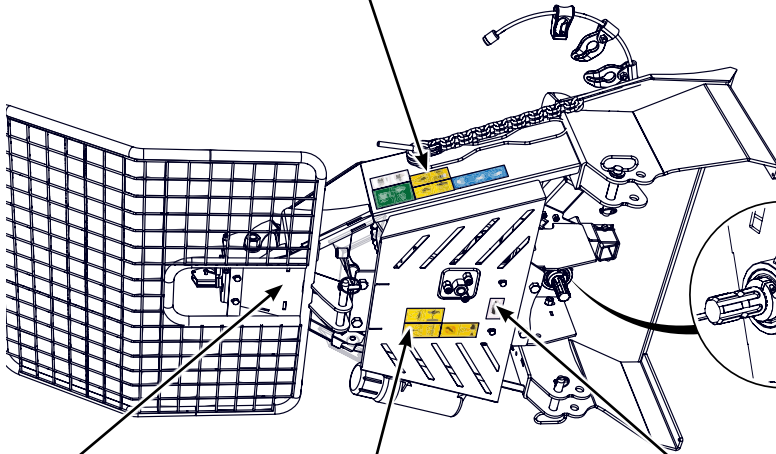
Z94161



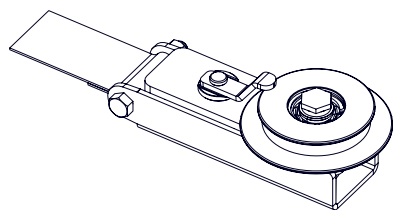
Z94426



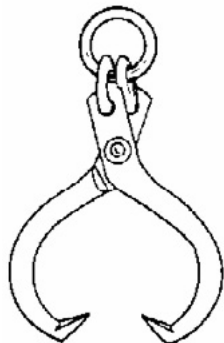
View under  
PTO shaft



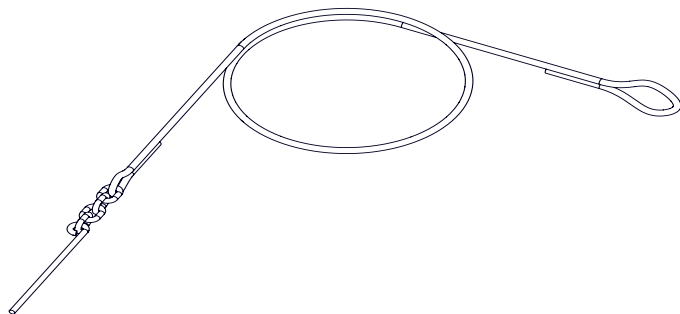
**Accessories**



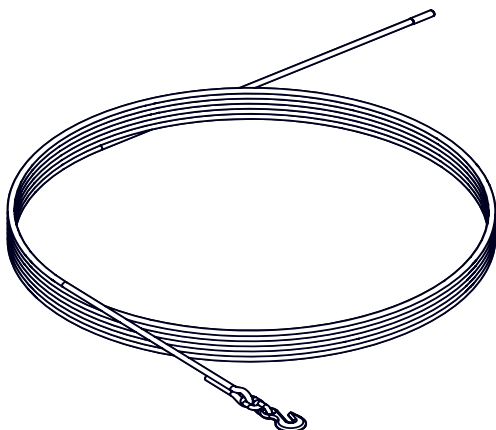
#5089A100 SELF RELEASING SNATCH BLOCK



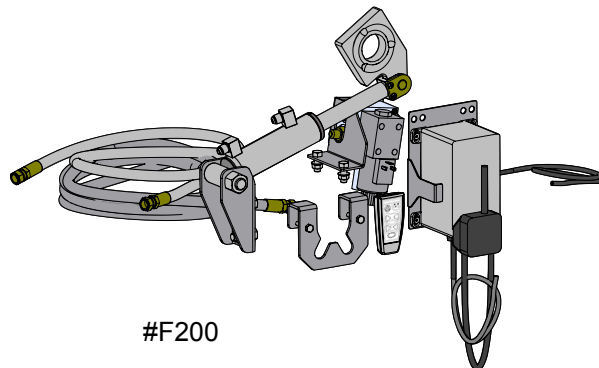
#Z99003 LOGGING TONGS



#Z92125 5 FT SYNTHETIC CHOKER WITH ROD CHAIN END  
#Z92126 7 FT SYNTHETIC CHOKER WITH ROD CHAIN END



#Z92123 200 FT 7/16" SYNTHETIC MAINLINE WITH HOOK



#F200

**#F200 REMOTE CONTROL WINCH KIT**

For **FX85, FX90, FX110 Skidding Winches**

Dealer installed accessory.  
F200 Remote Control retrofit kit for existing FX Skidding Winches.  
Convenient and easy to use, eliminates the need to make your way back to the FX winch to engage the clutch.



#Z97090 OPERATORS MANUAL  
Available as a download at  
[www.wallensteinequipment.com](http://www.wallensteinequipment.com)