VE414MC Roll Grooving Tool

OGS
AGS™
EndSeal™

PARTS ORDERING INFORMATION

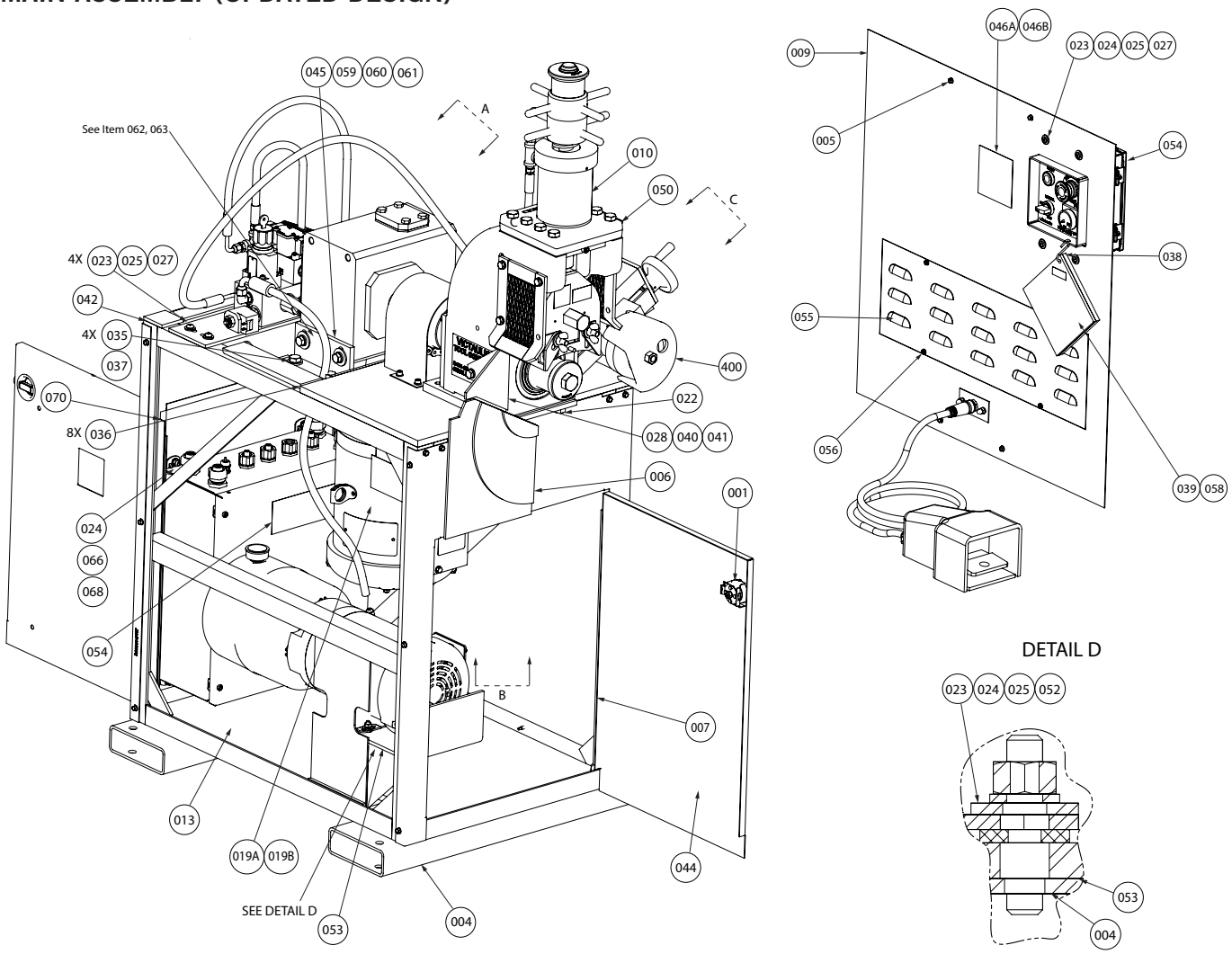
When ordering parts, the following information is necessary for Victaulic to process the order promptly:

1. Tool Model Number – VE414MC
2. Tool Serial Number – The Serial Number can be found on the side of the tool.
3. Quantity*, Item Number, Part Number, Description
4. Where to send the part(s) – Company Name and Address
5. To whose attention to send the part(s)
6. Purchase Order Number

Parts may be ordered from your nearest Victaulic Sales Office.

* Quantity given in **Qty.** column indicates total number of pieces required per tool. Value of "A/R" indicates "As Required" which may differ based on usage and environment.

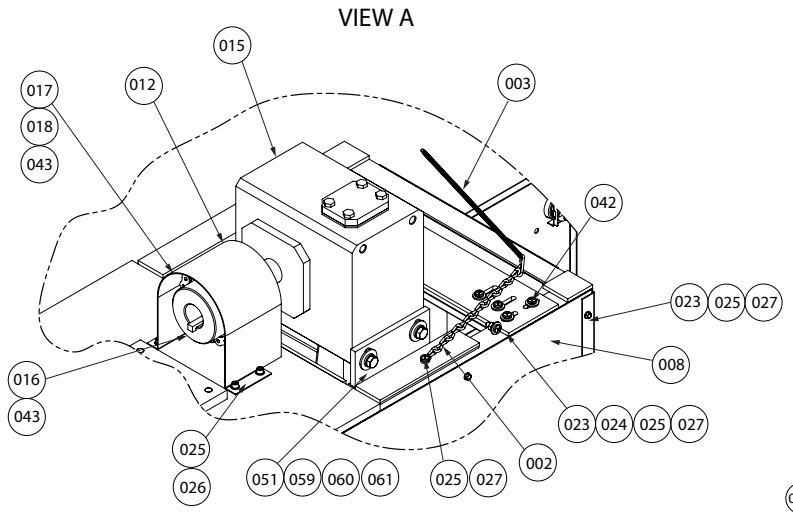
MAIN ASSEMBLY (UPDATED DESIGN)

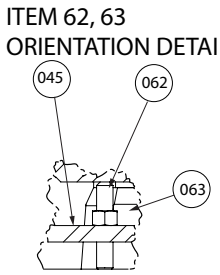


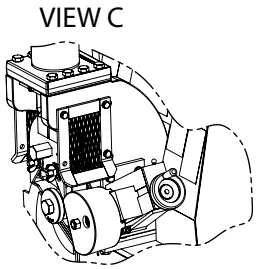
Item #	Part #	Qty.	Description
001	NM07000004	2	Latch, Door, Flush Mount, Counterclockwise to Latch/ Lock, Steel, Zinc Plated
002	NM09000002	1	16" Chain, Welded, .13 Thk. Wire, .80 x .40, Steel, Pltd.
003	NM03000003	1	Spring, Extension, Loop Ends, 0.250 OD, 0.032 Wire Dia, 6.000 Zinc Plated
004	R604414PNT	1	Frame Weldment
005	NM09000002	28	Screw, #12-24 x ⅞ Hex Flange, No 4 Tapping, Carbon Steel, Clear Zinc Plated
006	R006414PNT	1	Guard Weldment
007	R606414PNT	1	Enclosure, Front with Door
008	R008414PNT	1	Side Panel, Right
009	R608414PNT	1	Side Panel, Left
010	R010414LBL	1	Instruction Label
011	R602414PNT	1	Top Enclosure, Weldment
012	R012414PNT	1	Coupling Guard
013	R609414PNT	1	Floor
014	R009424LBL	1	"C" Diameter Reference Label
015	R617414VE0	1	Gear Reducer Assembly
016	NM10000016	1	Coupling Half, 1 7⁄16 Dia Bore with ⅜ x 3⁄16 Keyway and Set Screw, Steel
017	NM10000022	1	Coupling Chain, Steel
018	NM10000015	1	Coupling Half, 1 ½ Dia Bore with ⅜ x 3⁄16 Keyway and Set Screw, Steel

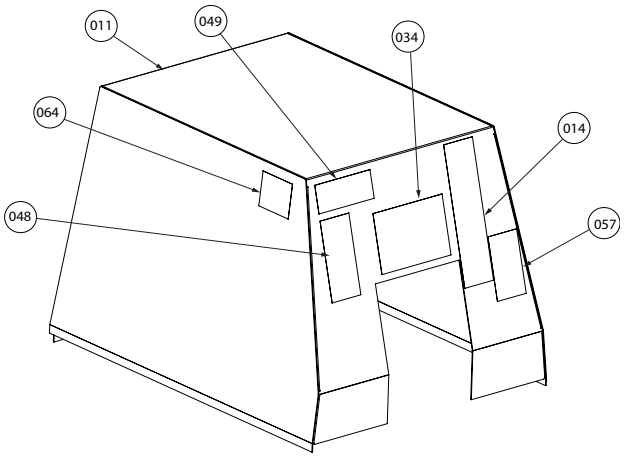
Item #	Part #	Qty.	Description
019A	NE01000001	1	VE414 230/460V - Motor, 5 HP, TEFC, 1760 RPM, 230/460V, 60 HZ, Three Phase, NEMA 56C Mount
019B	NE01000004		VE414 380/415V - Motor, 5 HP, TEFC. 1450 RPM, 190/380V, 50 HZ, Three Phase, NEMA 56C Mount
023	NW01040000	15	Washer, ¼ Nominal, Plain, 0.312 x 0.734 x 0.065, Fe/Zn 3A Clear Zinc Plated
024	NN01040000	13	Nut ¼-20 Hex, ASME B18.2.2, ASTM A563 Grade A, ASTM F1941 Fe/Zn 3A Clear Zinc Plated
025	NW03040000	20	Washer, ¼, Helical Spring-Lock, Regular, Zinc Plated
026	NS03040008	4	Screw, ¼ - 20 x ½ Hex Socket Head Cap, Black Oxide Coated
027	NS06040012	12	Screw, ¼ - 20 x ¾ Pan Head Machine, Type 1 Cross Recessed, Fe/Zn 3A Clear Zinc Plated
028	R618414PNT	1	Left Guard

MAIN ASSEMBLY (UPDATED DESIGN)





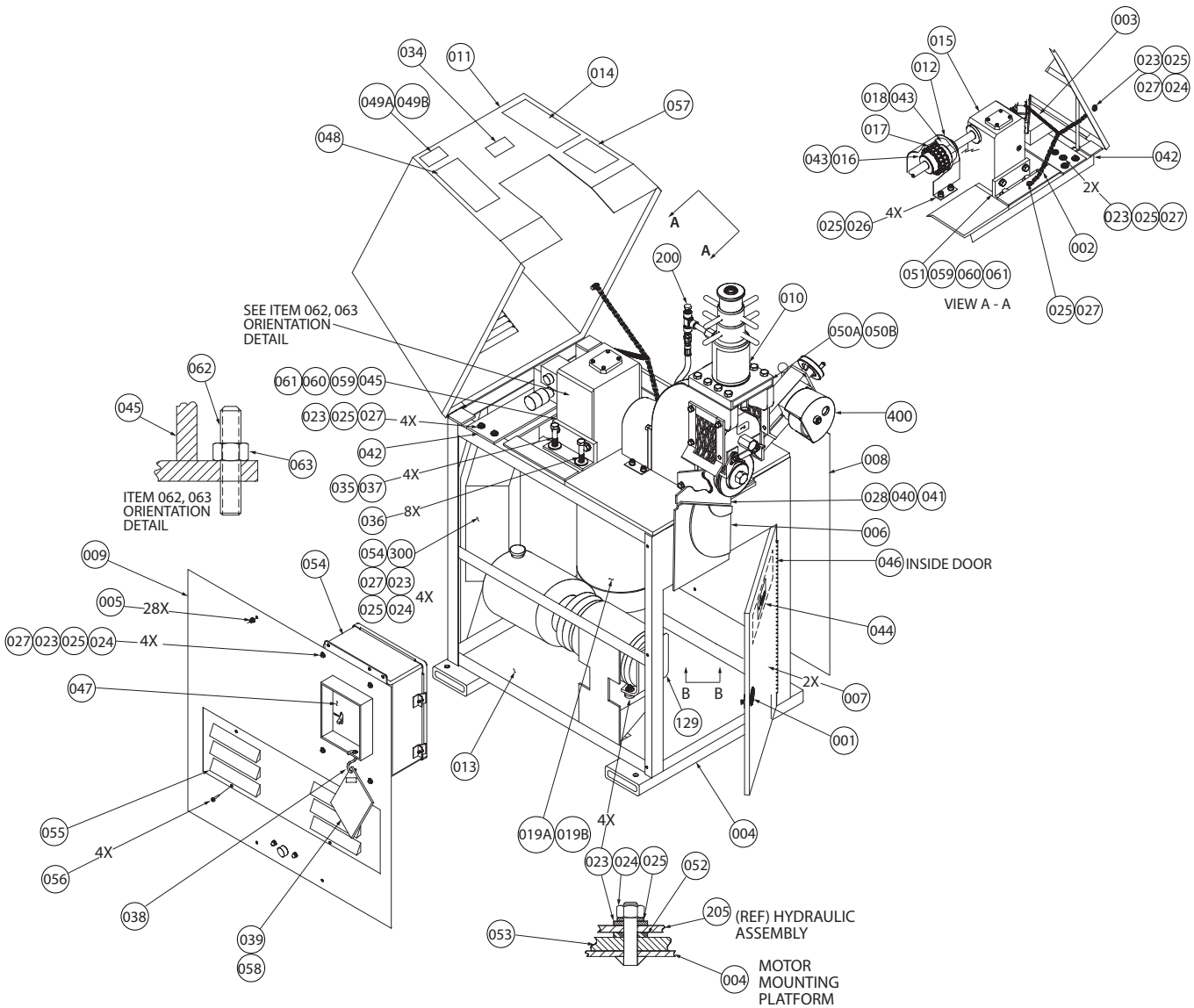




Item #	Part #	Qty.	Description
034	R010416LAB	1	Standard Pipe Wall Thickness Label
036	NW01080000	8	Washer, ½ Nominal, Plain, 0.531 x 1.062 x 0.095, Fe/Zn 3A Clear Zinc Plated
037	NN08080000	4	Locknut, ½ - 13 Hex, Nylon Insert, Fe/Zn 3A Clear Zinc Plated
038	NM07000005	1	S Hook, 1 ¾ x 9⁄16, ⅛ Dia, Steel Clear Zinc Plated
039	R0392720FS	1	Guard Setting Pad
040	NS01060100	2	Screw, ⅜ - 16 x 1 Hex Cap, Fe/Zn 3A Clear Zinc Plated
041	NW03060000	2	Washer, ⅜, Helical Spring-Lock, Regular, Zinc Plated
042	R601414PNT	1	Manifold Mounting Plate
043	NK02060112	2	Key, Parallel, ⅜ x ⅜ x 1 ¾, ASME B17.1 Class 1, Carbon Steel, Plain
044	R055260LBL	1	Victaulic Logo Label
045	R064274PNT	1	Left Gearbox Foot
046A	R512934LBL	1	VE414MC 230V/460V 60HZ Electrical Specifications Plate
046B	R512935LBL		VE414MC 380V/415V 50HZ Electrical Specifications Plate
048	R070260VE0	1	"C" Diameter Reference Label for 2" - 8" Copper Grooving Rolls
049	R071414LBL	1	VE414MC Series Label
050	R075414LBL	1	VE414MC Identification Label
051	R065274PNT	1	Right Gearbox Foot
052	NM16000003	4	Washer, 0.230 ID x 0.625 OD x 0.093 Thickness, EPDM, Plain
053	R619414PNT	1	Hydraulic Pump Motor Guard
054	R090424LAB	2	Danger Label
055	R603414PNT	1	Left Side Access Panel

Item #	Part #	Qty.	Description
056	NS21010006	4	Screw, #10-24 x 0.375 Hex Washer Head, Fe/Zn 3A Clear Zinc Plated
057	R011424LBL	1	AGS Roll Groove Dimension Specification Label
058	R077416ASY	1	Guard Setting Pad Assembly
059	NS02070104	4	Screw, 7⁄16 - 14 x 1 ¼ Hex Cap, Fe/Zn 3A Clear Zinc Plated
060	NW02060000	4	Washer, 7⁄16 Nominal, Plain, 0.500 x 1.250 x 0.083, Fe/Zn 3A Clear Zinc Plated
061	NW03070000	4	Washer, 7⁄16, Helical Spring-Lock, Regular, Zinc Plated
062	NS81060200	2	Screw, ⅜-16 x 2 Hex Socket Set, Cup Point, Black Oxide Coated
063	NN01060000	2	Nut, ⅜-16 Hex, ASME B18.2.2, Fe/Zn 3A Clear Zinc Plated
064	R207264LBL	1	Groove Profile Information Label
066	NS06040012	4	Screw, ¼ - 20 x ⅝ Pan Head Machine, Type 1 Cross Recessed, Fe/Zn 3A Clear Zinc Plated
068	NW03050000	4	Washer, 5⁄16, Helical Spring-Lock, Regular, Carbon Steel, Clear Zinc Plated
070	R635414PNT	1	Enclosure, Rear with Door
400	R400416VE0	1	Stabilizer Assembly

MAIN ASSEMBLY (ORIGINAL DESIGN)

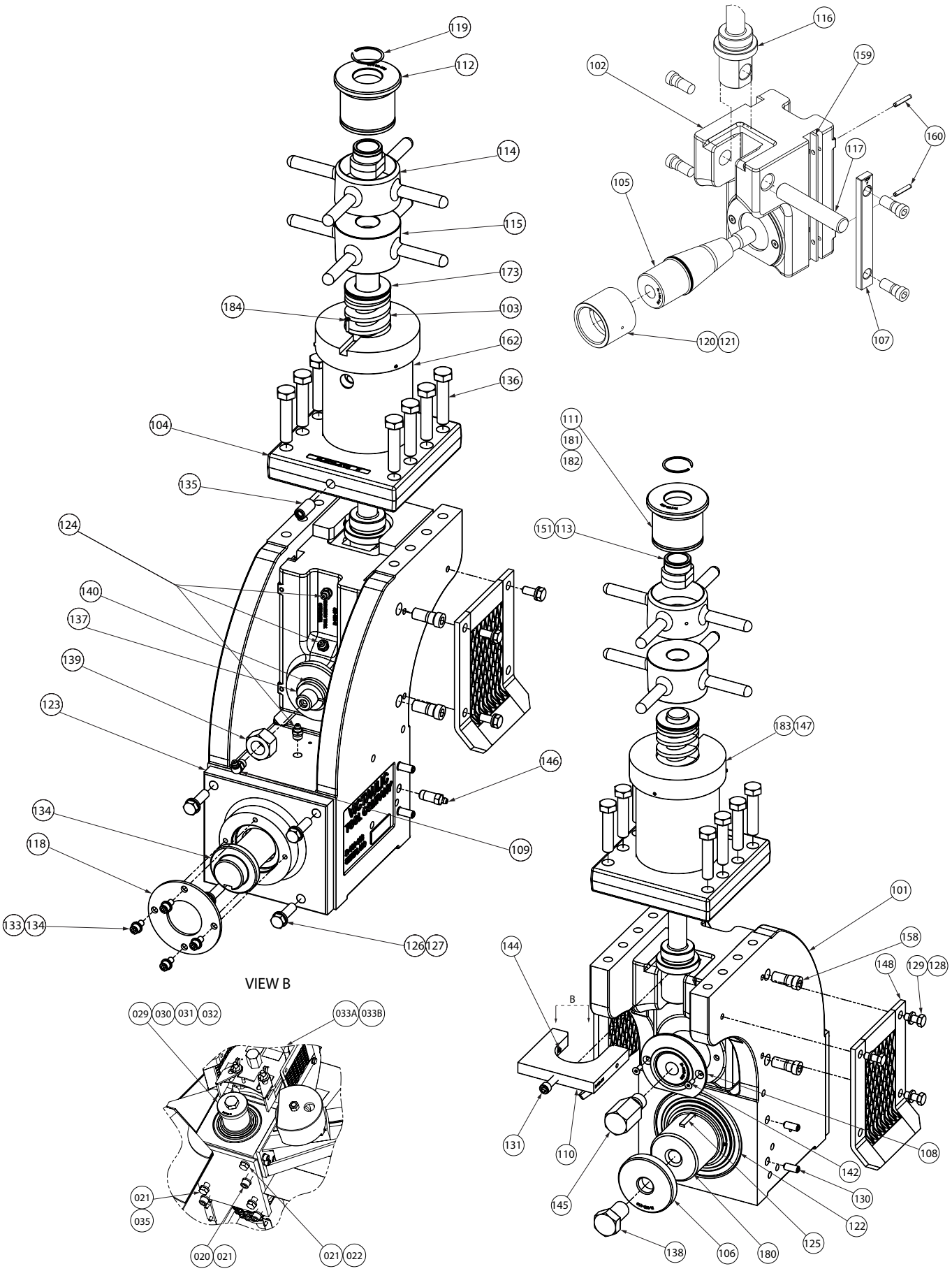


MAIN ASSEMBLY (ORIGINAL DESIGN)

Item #	Part #	Qty.	Description
001	NM07000001	2	Latch, Door
002	NM09000002	16"	Chain, Welded, .13 Thk. Wire, .80 x .40, Steel, Pltd.
003	NM03000003	1	Spring
004	R604414PNT	1	Frame Weldment
005	NS30012014	28	#12 - 24 x .88 Heavy Duty Hex Washer Head Structural Self Drilling and Tapping Screw
006	R006414PNT	1	Guard Weldment
007	R606414PNT	2	Front and Rear Enclosure with Door
008	R008414PNT	1	Side Panel, RH
009	R608414PNT	1	Side Panel, LH
010	R010414LBL	1	Instruction Label
011	R602414PNT	1	Top Enclosure
012	R012414PNT	1	Coupling Guard
013	R609414PNT	1	Floor, Plywood
014	R009424LBL	1	"C" Diameter Label
015	R617414VE0	1	Gear Reducer Assembly
016	NM10000016	1	Coupling 1 7⁄16" Bore
017	NM10000022	1	Chain Coupling
018	NM10000015	1	Coupling, 1 ½" Bore
019A	NE01000001	1	VE414 230/460V - Motor, 5 HP, TEFC, 1760 RPM, 230/460V, 60 HZ, Three Phase, NEMA 56C Mount
019B	NE01000004		VE414 380/415V - Motor, 5 HP, TEFC. 1450 RPM, 190/380V, 50 HZ, Three Phase, NEMA 56C Mount
023	NW01040000	19	¼" ID Flat Washer, Pltd.
024	NN01040000	13	¼ - 20 UNC Hex Nut, Pltd.
025	NW03040000	28	¼" ID Lock Washer, Split, Pltd.
026	NS03040008	4	¼ - 20 UNC x .50 Lg. Socket Head Cap Screw, Blk. Ox.
027	NS06040012	16	¼ - 20 UNC x .75 Lg. Pan Head Phillips Screw, Pltd.
028	R618414PNT	1	Left Guard
034	R010416LAB	1	Standard Pipe Wall Thickness Label
036	NW01080000	8	½" SAE Flat Washer, 1.06 OD, Pltd.
037	NN08080000	4	½ - 13 UNC Nulock Locking Hex Nut, Pltd.
038	NM07000005	1	S-Hook
039	R0392720FS	1	Guard Setting Pad Assembly
040	NS01060100	2	⅜ - 16 UNC x 1.00 Lg. Hex Hd. Cap Screw, Pltd.
041	NW03060000	2	⅜" ID Lock Washer, Split, Pltd.
042	R601414PNT	1	Manifold Mounting Plate
043	NK02060112	2	Square Key, ⅜ x 1.75" Lg.
044	R055260LBL	1	Victaulic Logo Label
045	R064274PNT	1	Left Gearbox Foot
046	R024268LBL	1	Operating Specifications Label
047	–	1	Control Station Plate
048	R070260VE0	1	"C" Diameter Reference Label for Copper

Item #	Part #	Qty.	Description
049A	R071414LBL	1	VE414MC Series Label
049B	R071415LBL		VE415MC Series Label
050A	R075414LBL	1	VE414MC Identification Label
050B	R075415LBL		VE415MC Identification Label
051	R065274PNT	1	Right Gearbox Foot
052	NM16000003	3	Cushioning Washer
053	R619414PNT	1	Hydraulic Pump Motor Guard
054	R090424LAB	2	Electrical Danger Label
055	R603414PNT	1	Left Side Access Panel
056	NS21010006	4	#10 x .38 Lg. Type AB Self Tapping Screw, Pltd.
057	R011424LBL	1	"C" Diameter Label, AGS
058	R077416ASY	1	Guard Setting Pad Assembly
059	NS02070104	4	7⁄16 - 14 UNC x 1 ¼" Lg. Hex Hd. Cap Screw, Pltd.
060	NW02060000	4	7⁄16" ID Flat Washer, Pltd.
061	NW03070000	4	7⁄16" ID Lock Washer, Pltd.
062	NS81060200	2	⅜ - 16 UNC x 2.00 Lg. Cut Pt. Set Screw, Adjusting
063	NN01060000	2	⅜ - 16 UNC Hex Nut, Pltd.
400	R400416VE0	1	Stabilizer Assembly

TOOL HEAD ASSEMBLY (UPDATED DESIGN)



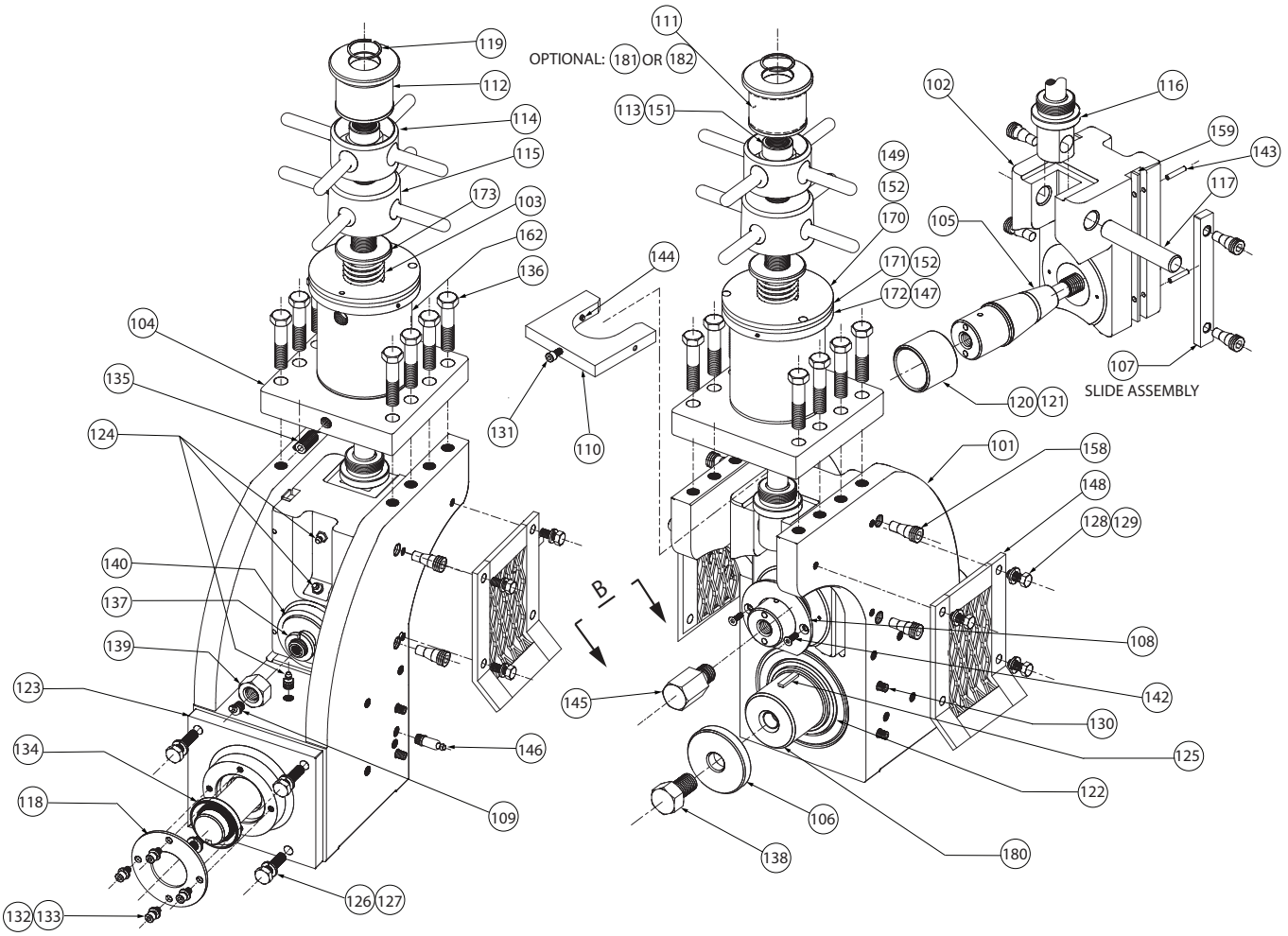
TOOL HEAD ASSEMBLY (UPDATED DESIGN)

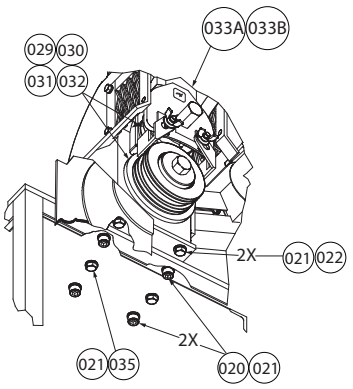
Item #	Part #	Qty.	Description
020	NS03080104	4	Screw, ½ - 13 x 1 ¼ Hex Socket Head Cap, Black Oxidecoated
021	NW03080000	8	Washer, ½, Helical Spring-Lock, Regular, Zinc Plated
022	NS01080108	2	Screw, ½ - 13 x 1 ½ Hex Cap, Fe/Zn 3A Clear Zinc Plated
029	R902414003	1	2 - 3 ½" Roll Set*
030	R904416006	1	4 - 6" Roll Set*
031	R908416012	1	8 - 12" Roll Set*
032	RW01416016	1	14 - 16" AGS Roll Set*
033A	R0354160FS	1	4 - 16" Upper Roll Guard Assembly
033B	R0374160FS	1	Weldment, Upper Roll Guard Assembly, OGS-200, 4"/114, 3mm thru 6"/168,3mm Steel Pipe, VE416FSD*
035	NS01080204	6	Screw, ½ - 13 x 2 ¼ x 1 ¼ Thread Hex Cap, Fe/Zn 3A Clear Zinc Plated
101	R101414MCH	1	Tool Head Housing
102	R602416MCH	1	Slide
103	NM03000001	1	Compression Spring
104	R604416MCH	1	Cylinder Mounting Block
105	R105416MAC	1	Upper Shaft
106	R106416MAC	1	Lower Roll Washer
107	R607416MCH	2	Gib
108	R108416MAC	1	Upper Roll Thrust Washer
109	NM01000001	1	Lubrication Fitting
110	R110414MCH	1	Slide Spacer
111	R111414LBL	1	Pipe Size Indicator Label
112	R112416PLT	1	Depth Adjuster Barrel
113	R113416PLT	1	Depth Calibration Nut
114	R114416MAC	1	Depth Adjuster
115	R115416ASY	1	Depth Adjuster Lock
116	R611414PLT	1	Cylinder Ram
117	R117416MAC	1	Ram to Slide Pin
118	R118414PLT	1	Seal Plate
119	NT52000125	1	Retaining Ring
120	NB02250001	Ref.	Roller Bearing (Supplied with Upper Rolls)
121	NB04175001	1	Bearing Race
122	NB02350001	1	Roller Bearing
123	R123414PLT	1	Seal Housing
124	NM01000002	3	Lubrication Fitting
125	NK01080900	1	Woodruff Key #809
126	NW03060000	4	⅜" Lock Washer, Pltd.
127	NS01060104	4	⅜ - 16 UNC x 1.25 Lg. Hex Hd. Cap Screw, Pltd.
128	NW03050000	6	5⁄16" Lock Washer, Pltd.
129	NS01050012	6	5⁄16 - 18 UNC x .75 Lg. Hex Hd. Cap Screw, Pltd.
130	NS81050012	4	5⁄16 - 18 UNC x .75 Lg. Cup Point Set Screw
131	NS03050100	1	5⁄16 - 18 UNC x 1.00 Lg. Socket Hd. Cap Screw, Blk. Ox.
132	NS03040008	4	¼ - 20 UNC x .50 Lg. Socket Hd. Cap Screw, Blk. Ox.
133	NW03040000	4	¼" ID Lock Washer, Pltd.
134	NM11000003	1	Seal
135	NS80080100	1	½ - 13 UNC x 1.00 Lg. Brass Tip Set Screw
136	NS01080204	8	½ - 13 UNC x 2.25 Lg. Hex Hd. Cap Screw, Gr. 5, Pltd.
137	NW03120000	1	¾" Lock Washer (Standard), Pltd.
138	NS02120104	1	¾ - 10 UNC x 1.25 Lg. Hex Hd. Cap Screw, Gr. 8, Pltd.
139	NN01120000	1	¾ - 10 UNC Hex Nut, Pltd.
140	NW01120000	1	¾" Standard Flat Washer, Pltd.
141	–	A/R	Lubriplate #1242
142	NS18010008	2	10 - 24 UNC x .50 Lg. Flat Hd. Cap Screw (Hexagon Socket)
143	NP01003100	4	Ø.187 x 1.00 Lg. Roll Pin
144	NM12000001	2	Ball Plunger
145	R0302720FS	1	Upper Roll Guard Cover Screw
146	NM01000009	1	Lubrication Fitting
147	NS81006006	3	#6 - 32 UNC x .38 Lg. Cup Pt. Set Screw
148	R148416PNT	2	Roll Guard
151	R151416PLT	1	Depth Calibration Lock Nut
158	R658416MCH	4	Gib Screw
159	R159416MAC	1	Gib Wear Plate
160	NP01003100	4	⅜ x 1.00 Lg. Roll Pin
162	R162416VE0	1	Cylinder
162A	NHYD000038	1	Cylinder Repair Kit #PSK-CH20 (Item not shown)**
173	R615414PNT	1	Spring Washer
181	R181414LBL	1	JIS and British Pipe Size Indicator Label
182	R182414LBL	1	DIN Pipe Size Indicator Label
183	R750414MCH	1	Proximity Sensor Grounding Ring

*Contact Victaulic for optional roll offerings

** Must confirm cylinder model#. For model #PSK-CH20 only.

TOOL HEAD ASSEMBLY (ORIGINAL DESIGN)





VIEW B-B

TOOL HEAD ASSEMBLY (ORIGINAL DESIGN)

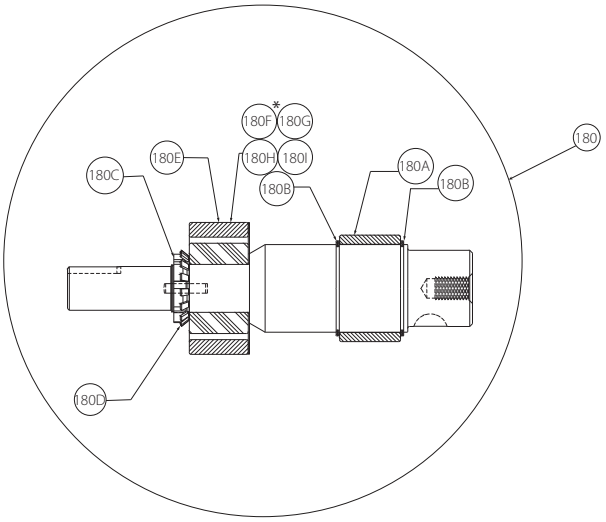
Item#	Part #	Qty.	Description
020	NS03080104	4	½ - 13 UNC x 1.25 Lg. Socket Head Cap Screw, Blk. Ox.
021	NW03080000	8	½" ID Lock Washer, Split, Pltd.
022	NS01080108	2	½ - 13 UNC x 1.50 Lg. Hex Hd. Cap Screw, Pltd.
029	R902414003	1	2 - 3" Roll Set*
030	R9A4416U06	1	4 - 6" Upper Roll Assembly*
	R904416L06	1	4 - 6" Lower Roll*
031	R9A8416U16	1	8 - 12" Upper Roll Assembly*
	R908416L12	1	8 - 12" Lower Roll*
032	RW01416ASY	1	14 - 16" AGS Upper Roll Assembly*
	RW01416L16	1	14 - 16" AGS Lower Roll*
033A	R0354160FS	1	4 - 16" Upper Roll Guard Assembly
033B	R0374160FS		Weldment, Upper Roll Guard Assembly, OGS-200, 4"/114, 3mm thru 6"/168,3mm Steel Pipe, VE416FSD*
035	NS01080204	6	½ - 13 UNC x 2.25 Lg. Hex Hd. Cap Screw, Pltd.
101	R101414MCH	1	Tool Head Housing
102	R602416MCH	1	Slide
103	NM03000001	1	Compression Spring
104	R604416MCH	1	Cylinder Mounting Block
105	R105416MAC	1	Upper Shaft
106	R106416MAC	1	Lower Roll Washer
107	R607416MCH	2	Gib
108	R108416MAC	1	Upper Roll Thrust Washer
109	NM01000001	1	Lubrication Fitting
110	R110414MCH	1	Slide Spacer
111	R111414LBL	1	Pipe Size Indicator Label
112	R112416PLT	1	Depth Adjuster Barrel
113	R113416PLT	1	Depth Calibration Nut
114	R114416MAC	1	Depth Adjuster
115	R115416ASY	1	Depth Adjuster Lock
116	R611414PLT	1	Cylinder Ram
117	R117416MAC	1	Ram to Slide Pin
118	R118414PLT	1	Seal Plate
119	NT52000125	1	Retaining Ring
120	NB02250001	Ref.	Roller Bearing (Supplied with Upper Rolls)
121	NB04175001	1	Bearing Race
122	NB02350001	1	Roller Bearing
123	R123414PLT	1	Seal Housing
124	NM01000002	3	Lubrication Fitting
125	NK01080900	1	Woodruff Key #809
126	NW03060000	4	⅜" Lock Washer, Pltd.
127	NS01060104	4	⅜ - 16 UNC x 1.25 Lg. Hex Hd. Cap Screw, Pltd.

Item#	Part #	Qty.	Description
128	NW03050000	6	5⁄16" Lock Washer, Pltd.
129	NS01050012	6	5⁄16 - 18 UNC x .75 Lg. Hex Hd. Cap Screw, Pltd.
130	NS81050012	4	5⁄16 - 18 UNC x .75 Lg. Cup Point Set Screw
131	NS03050100	1	5⁄16 - 18 UNC x 1.00 Lg. Socket Hd. Cap Screw, Blk. Ox.
132	NS03040008	4	¼ - 20 UNC x .50 Lg. Socket Hd. Cap Screw, Blk. Ox.
133	NW03040000	4	¼" ID Lock Washer, Pltd.
134	NM11000003	1	Seal
135	NS80080100	1	½ - 13 UNC x 1.00 Lg. Brass Tip Set Screw
136	NS01080204	8	½ - 13 UNC x 2.25 Lg. Hex Hd. Cap Screw, Gr. 5, Pltd.
137	NW03120000	1	¾" Lock Washer (Standard), Pltd.
138	NS02120104	1	¾ - 10 UNC x 1.25 Lg. Hex Hd. Cap Screw, Gr. 8, Pltd.
139	NN01120000	1	¾ - 10 UNC Hex Nut, Pltd.
140	NW01120000	1	¾" Standard Flat Washer, Pltd.
141	–	A/R	Lubriplate #1242
142	NS18010008	2	10 - 24 UNC x .50 Lg. Flat Hd. Cap Screw (Hexagon Socket)
143	NP01003100	4	Ø .187 x 1.00 Lg. Roll Pin
144	NM12000001	2	Ball Plunger
145	R0302720FS	1	Upper Roll Guard Cover Screw
146	NM01000009	1	Lubrication Fitting
147	NS81006006	3	#6 - 32 UNC x .38 Lg. Cup Pt. Set Screw
148	R148416PNT	2	Roll Guard
149	NS37006006	1	#6 - 32 UNC x .38 Lg. Type F Pan Hd. Screw, Pltd.
151	R151416PLT	1	Depth Calibration Lock Nut
152	NS04006006	5	#6 - 32 UNC x .38 Lg. Flat Hd. Slotted Scew, Pltd.
158	R658416MCH	4	Gib Screw
159	R159416MAC	2	Gib Wear Plate
162	R162416VE0	1	Cylinder
162A	NH50000081	1	Cylinder Repair Kit Power T 300615 (Item not shown)**
170	R614414PLT	1	Grounding Ring
171	R613414MCH	1	Insulating Ring
172	R612414PNT	1	Return Spring Seat
173	R615414PNT	1	Spring Washer
181	R181414LBL	1	JIS and British Pipe Size Indicator Label
182	R182414LBL	1	DIN Pipe Size Indicator Label

*Contact Victaulic for optional roll offerings

**Must confirm cylinder model#. For model SPX#RH202 only.

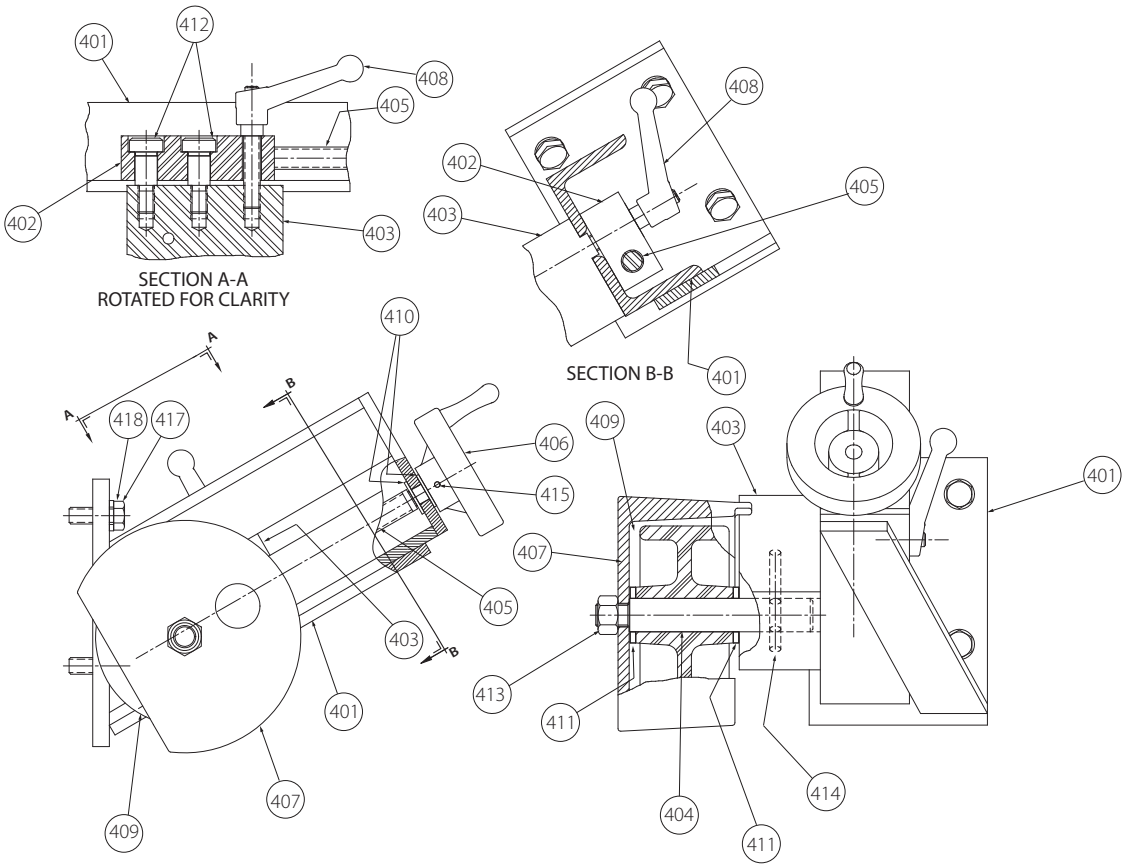
MAIN SHAFT ASSEMBLY



Item#	Part #	Qty.	Description
180	R180414VE0	1	Main Shaft Assembly
180A	NB04287001	1	Bearing Race
180B	NT56000287	2	Retaining Ring
180C	NB63000008	1	Lock Nut
180D	NB61000108	1	Lock Washer
180E	NB01433001	1	Main Bearing
180F	R160414MCH	1	.040 Shim*
180G	R161414MCH	1	.020 Shim*
180H	R162414MCH	1	.005 Shim*
180I	R163414MCH	1	.007 Shim*

*Quantity of shims will vary depending on individual tool

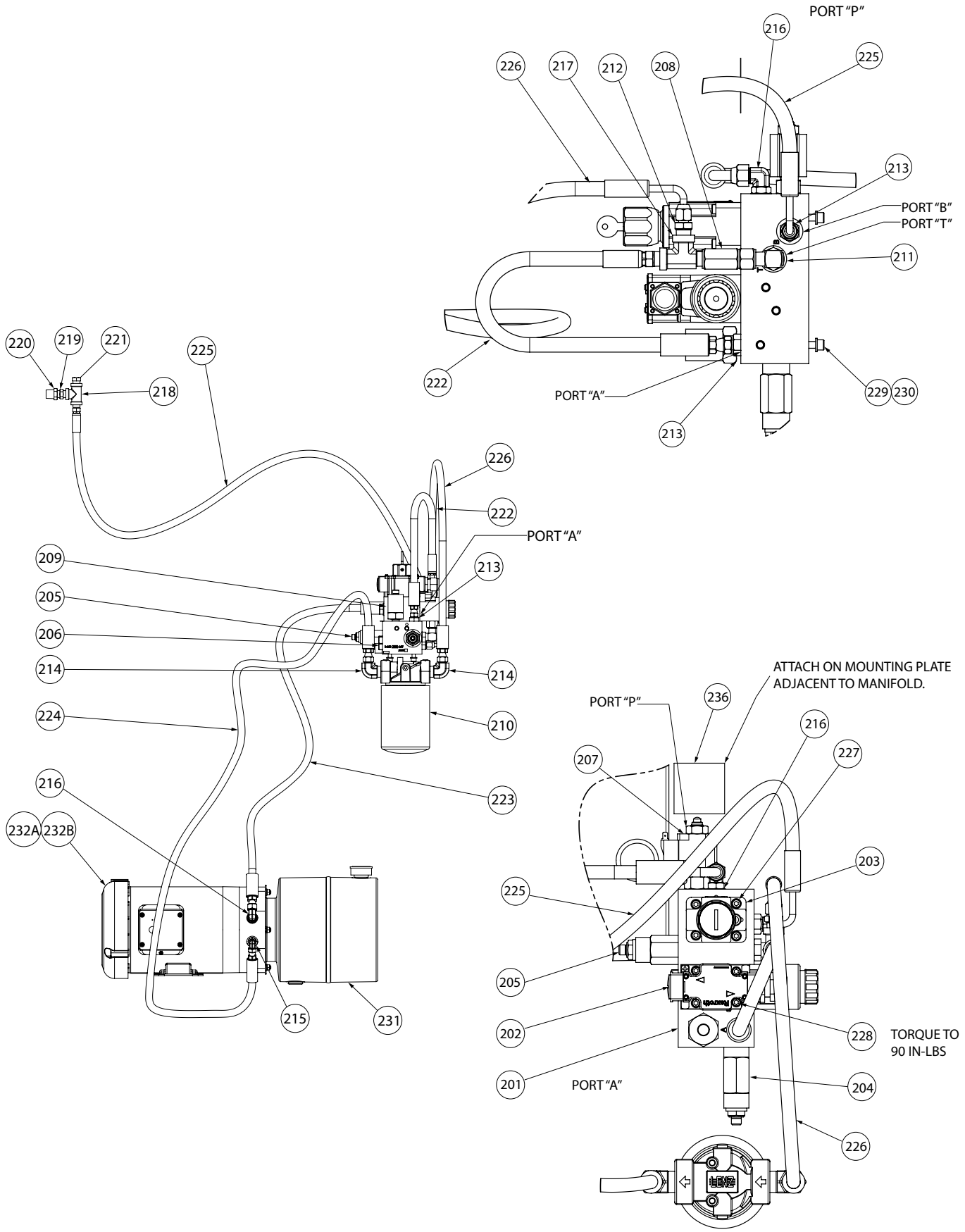
STABILIZER ASSEMBLY (R400416VE0)



Item#	Part #	Qty.	Description
400	R400416VE0	1	Stabilizer Assembly
401	R401416PNT	1	Stabilizer Body
402	R402416PLT	1	Stabilizer Guide Nut
403	R403416PLT	1	Stabilizer Guide
404	R404416MAC	1	Stabilizer Roller Shaft
405	R405416MAC	1	Stabilizer Adjusting Screw
406	R406416MAC	1	Stabilizer Handwheel
407	R407416PNT	1	Stabilizer Wheel Guard
408	NM04000002	1	Stabilizer Locking Handle

Item#	Part #	Qty.	Description
409	NM05000004	1	Ø4 x 2 Polyurethane Wheel
410	NB05037002	2	Thrust Washer
411	NB05075004	2	Thrust Washer
412	NS05080012	2	Ø.50 x .75 Lg. Socket Hd. Shoulder Bolt, Blk. Ox.
413	NN02080000	1	½ - 20 UNF Hex Nut, Pltd.
414	NP01004208	1	Ø.25 x 2.50 Lg. Roll Pin
415	NP01002102	1	Ø.125 x 1.125 Lg. Roll Pin
417	NS02060100	4	⅜ - 16 UNC x 1.00 Lg. Hex Hd. Cap Screw, Gr. 8, Pltd.
418	NW03060000	4	⅜" Lock Washer, Pltd.

HYDRAULIC ASSEMBLY (UPDATED DESIGN)

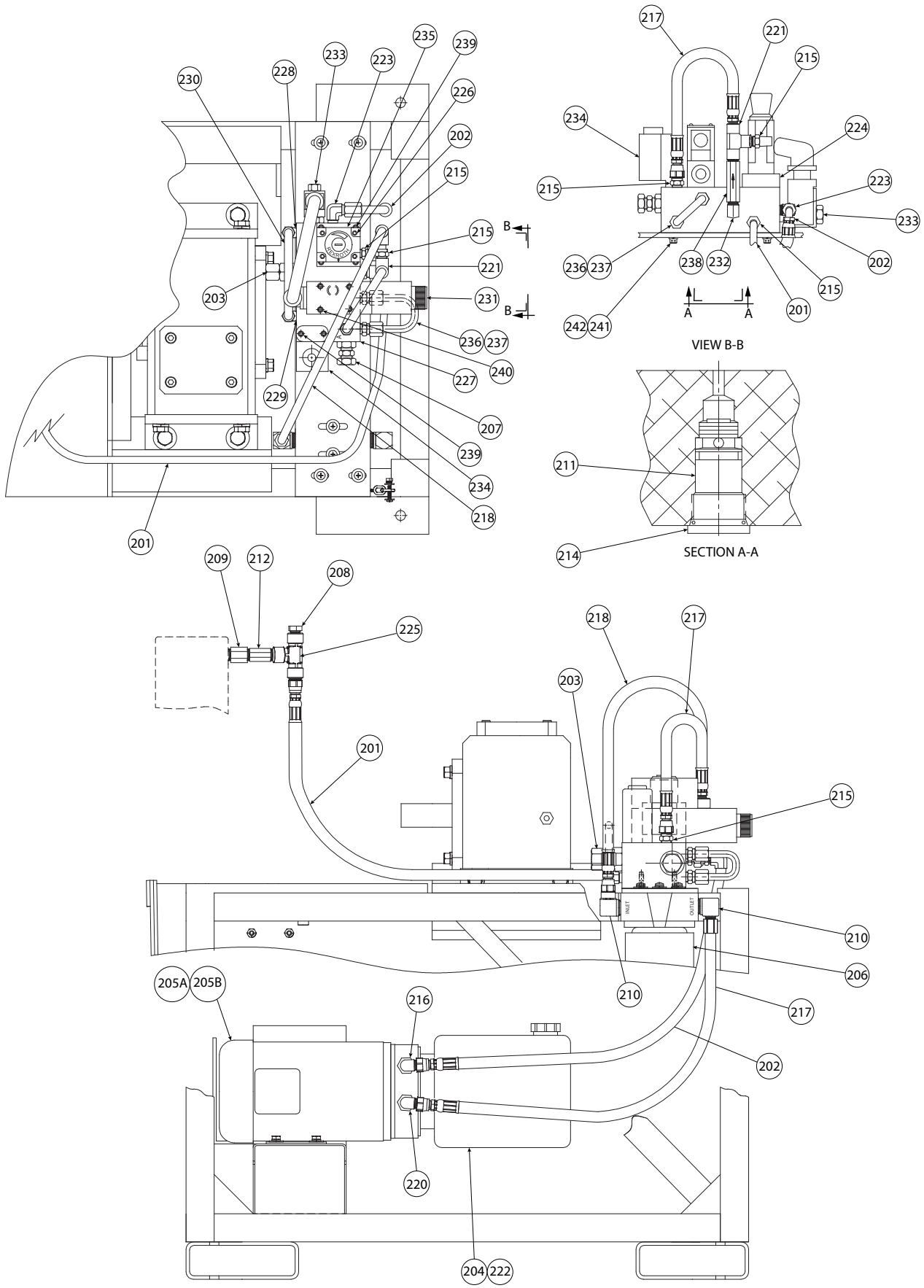


HYDRAULIC ASSEMBLY (UPDATED DESIGN)

Item#	Part #	Qty.	Description
201	R221460ASY	1	Manifold Block Assembly
202	NH04000036	1	Valve, Flow Control, 4-way Directional Spool, Spring Return, 6mm Port Size, 24VDC Wet Pin Solenoid, 21 GPM Capacity
203	NH04000014	1	Valve, Flow Control with Flow Check, 2-way Mechanically Actuated
204	NHYD000028	1	Pressure Relief Valve, Cartridge, ⅞-14 UNF Thread
205	NHYD000017	1	Pressure Relief Valve, Cartridge, ⅞-14 UNF Thread, 500 - 5000 PSI Operating Pressure
206	NHYD000029	1	Check Valve, Cartridge, ⅞ - 14 UNF Thread, 2 to 5 PSI Cracking Pressure
207	NHYD000030	1	Solenoid Valve, Normally Closed Spool Type with 24V Coil, 2-Position, 2-Way Restricted Reverse Flow, ¾ - 16 UNF Thread
208	NHYD000032	1	Valve, Check, ¼ NPT Female, Buna-N Seal, Steel
209	NHYD000033	1	Switch, Mechanical Pressure, ¼ NPT
210	NH08000003	1	Hydraulic Oil Filter
211	NH11006066	1	Elbow, 90 Deg Male, 9⁄16 SAE Straight Male with O-Ring x ¼ NPT Male, Carbon Steel, Clear Zinc Plated
212	NHYD000034	1	Male Connector, 7⁄16-20 SAE 37 Deg Flare Male x ¼ NPT Male 1.420, Cabon Steel, Clear Zinc Plated
213	NHYD000014	2	Male Connector, 7⁄16-20 SAE 37 Deg Flare Male x 9⁄16-18 SAE Straight Male with O-Ring x 1.230, Carbon Steel, Clear Zinc Plated
214	NH12006005	2	Elbow, 90 Deg Male, 9⁄16-18 SAE 37 Deg Flare Male x ½ NPT Male, Carbon Steel, Clear Zinc Plated
215	NH12004009	1	Elbow, 90 Deg Male, 7⁄16-20 SAE 37 Deg Flare Male x 7⁄16-20 SAE Straight Thread Male with O-Ring, Carbon Steel, Clear Zinc Plated
216	NH12004007	2	Elbow, 90 Deg Male, 7⁄16-20 SAE 37 Deg Flare Male x 9⁄16-18 SAE Straight Thread Male with O-Ring, Carbon Steel, Clear Zinc Plated
217	NH14004002	1	Tee, Street, ¼ NPT Female x ¼ NPT Male x ¼ NPT Female, Carbon Steel, Clear Zinc Plated

Item#	Part #	Qty.	Description
218	NH14004001	1	Tee, Straight, ¼ NPT Female, Carbon Steel, Clear Zinc Plated
219	NH11004017	1	Nipple, Hex Head, ¼ NPT x ¼ NPT x 1.450, Carbon Steel, Clear Zinc Plated
220	NH11004016	1	Bushing, Hex Head, ⅜ NPT Male x ¼ NPT Female, Carbon Steel, Clear Zinc Plated
221	NH16004001	1	Plug, Hex Head, ¼ NPT Male, Carbon Steel, Clear Zinc Plated
222	R259424VE0	1	Hose Assembly, Manifold
223	R621414ASY	1	Hose Assembly Manifold to Pump
224	R622414ASY	1	Hose Assembly Oil Filter to Pump
225	R623414ASY	1	Hose Assembly Manifold to Cylinder
226	R624414ASY	1	Hose Assembly Manifold to Oil Filter
227	NS03005035	4	Screw, M5 x 0.8 x 35 x 22 Thread Hex Socket Head Cap, ASME B18.3 1M, ASTM A574M Alloy Steel, Black Oxide Coated
228	NS03010200	4	Screw, #10-24 x 2 x ⅞ Thread Hex Socket Head Cap, ASME B18.3, ASTM A574 Alloy Steel, Black Oxide Coated
229	NS01040012	2	Screw, ¼-20 x ¾ Hex Socket Head Cap, ASME B18.3, ASTM A574 Alloy Steel, Black Oxide Coated
230	NW01040000	2	Washer, ¼, Helical Spring-Lock, Regular, ASME B18.21.1, Carbon Steel, ASTM B695 Class 55 Type I Zinc Plated
231	NH17000002	1	Piston Pump, Hydraulic, Axial, 500 Bar/7250 PSI Maximum Operating Pressure, 0, 35 CM/Rev Displacement, Aluminum Anodized Body, Blued Steel Pump Head and Tank Only
232A	NE01000005	1	VE414 230/460V - Motor, 1 HP, TEFC, 1760 RPM, 208-230/460V, 60 HZ, Three Phase, NEMA, 56C Frame, with Rigid Base
232B	NE01000008		VE414 380/415V - Motor, 1 HP, TEFC, 1425 RPM, 220/380/440V, 50 HZ, Three Phase, NEMA, 56C Frame, with Rigid Base
236	R115715LBL	1	Hot Surface Label

HYDRAULIC ASSEMBLY (ORIGINAL DESIGN)

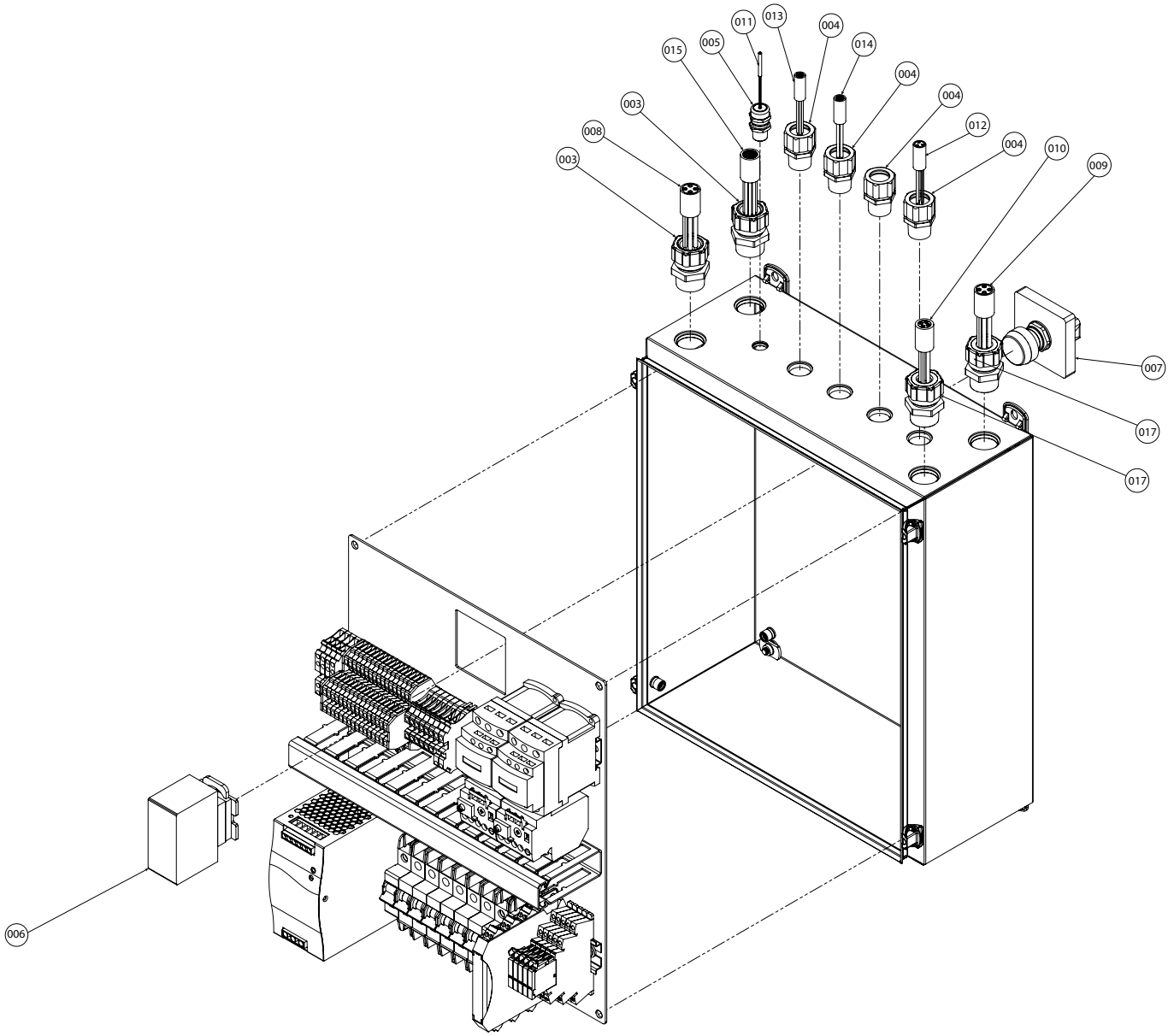


HYDRAULIC ASSEMBLY (ORIGINAL DESIGN)

Item#	Part #	Qty.	Description
201	R623414ASY	1	Hose Assembly, Manifold - Cylinder
202	R621414ASY	1	Hose Assembly, Manifold - Pump
203	–	1	Relief Valve
204	–	A/R	ISO 32 Hydraulic Oil or Equivalent
205A	NE01000005	1	VE414 230/460V - Motor, 1 HP, TEFC, 1760 RPM, 208-230/460V, 60 HZ, Three Phase, NEMA, 56C Frame, with Rigid Base
205B	NE01000008		VE414 380/415V - Motor, 1 HP, TEFC, 1425 RPM, 220/380/440V, 50 HZ, Three Phase, NEMA, 56C Frame, with Rigid Base
206	NH08000003	1	Hydraulic Oil Filter
207	NH04000002	1	Relief Valve
208	NH16004001	1	¼" Hex Hd. Plug
209	NH11004016	1	Reducing Bushing, Female x Male
210	NH12006005	2	90° Elbow, 37° JIC Male Thread
211	NH04000003	1	Check Valve
212	NH11004017	1	Hex Nipple
213	–	A/R	Ribbon Dope
214	NH16010001	1	O-Ring Plug
215	NH11004001	3	Connector, ¼" Male JIC 37° Tube x ¼" MPT
216	NH12006006	1	90° Elbow with O-Ring, 37° JIC Straight Thread
217	R259424VE0	1	Hose Assembly, Manifold - Port A to Port T
218	R624414ASY	1	Hose Assembly, Manifold - Oil Filter
220	NH12004007	1	90° Elbow with O-Ring, 37° JIC Straight Thread
221	NH14006002	1	¼" FPT x ¼" MPT Male Run Tee, Forged
222	NH17000002	1	Pump and Reservoir

Item#	Part #	Qty.	Description
223	–	1	90° Elbow, ⅜" 37° JIC x ⅜" MPT, Forged
224	R210460ASY	1	Hydraulic Manifold Adapter Plate
225	NH14004001	1	¼" Female Branch Tee
226	–	4	M5 x .8 x 35mm Lg. Socket Hd. Cap Screw, Blk. Ox.
227	R262424MAC	1	Hydraulic Manifold
228	–	1	90° Male Elbow, ⅛" MPT x ⅜" Tube
229	–	1	90° Male Elbow, ¼" MPT x ⅜" Tube
230	R277424MAC	1	Hydraulic Tubing, Manifold to Manifold
231	NH04000004	1	4-Way Valve
232	–	1	90° Elbow, ¼" MPT, Forged
233	NH04000005	1	Solenoid Valve, Fluid Controls
234	NH18000001	1	Pressure Switch
235	NH04000014	1	2-Way Valve
236	R276424MAC	1	Hydraulic Tubing, Manifold to Manifold
237	–	2	Connector, ¼" NPT male x ⅜" OD tube
238	–	1	Check Valve, In-Line, ¼ NPT female x ¼ NPT female 10,150 PSI, 7PSI cracking pressure
239	–	6	#10-24 UNC x 1.0" Lg. Socket Hd. Cap Screw, Blk. Ox.
240	–	4	#10-24 UNC x 2.0" Lg. Socket Hd. Cap Screw, Blk. Ox.
241	–	2	¼ -20 UNC x .75 Lg. Socket Hd. Cap Screw, Blk. Ox.
242	–	2	¼" Lock Washer, Pltd.

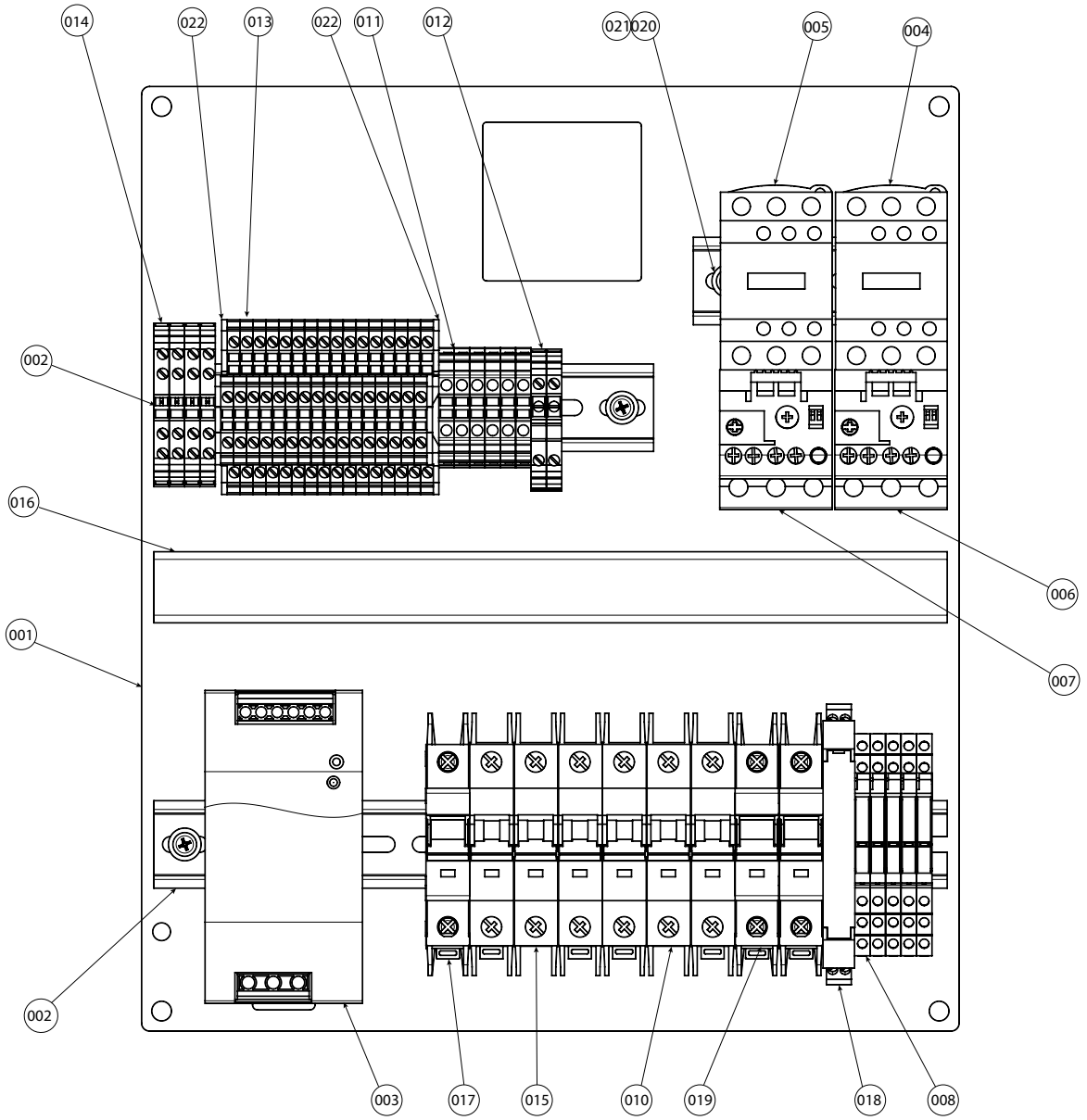
ELECTRICAL ENCLOSURE (UPDATED DESIGN)



Item#	Part #	Qty.	Description
003	NELC000089	2	Connector, Cord, Liquid-Tight, ⅝ to ¾ Dia Cord Range, Straight, Steel
004	NE06000015	4	Connector, Cord, Liquid -Tight, ⅜ to ½ Dia Cord Range, Straight, Zinc, Plain
005	NM30000006	1	Connector, Cable Gland, 0.120 Dia to 0.390 Dia Range, ¼ NPT Thread
006	NELC000093	1	Disconnect, 3-Pole 1000VAC, 32 AMP, Door Coupling Mount, Rotary Handle
007	NELC000054	1	Handle, Operator, Mechanical Interlock, with Lockout Feature, Ring Fixing
008	R310268SCH	1	Cable Assembly, External Bulkhead Connector to Main Power Outlet
009	R311268SCH	1	Cable Assembly, External, Bulkhead Connector to Motor Terminal Block, to Motor
010	R743414SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to Motor
011	R744414SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to Proximity Switch
012	R313268SCH	1	Cable Assembly, External, Bulkhead Connector to Solenoid Vave, VE268

Item#	Part #	Qty.	Description
013	R746414SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to 2-Way Valve
014	R747414SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to Pressure Switch
015	R748414SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to Control Station
017	NE06000002	2	Connector, Cord, Liquid-Tight, ⅜ to ½ Dia Cord Range, Straight, Steel
018	–	4	Locknut, ¾ Dia, Steel, Zinc Plated Thomas & Betts #142-TB
019	NE06000003	4	Locknut, ½ Dia, Steel, Zinc Plated Thomas & Betts #141
020	NH12004025	1	Locknut, ¼ NPT, Steel, Zinc Plated Mencom #214M

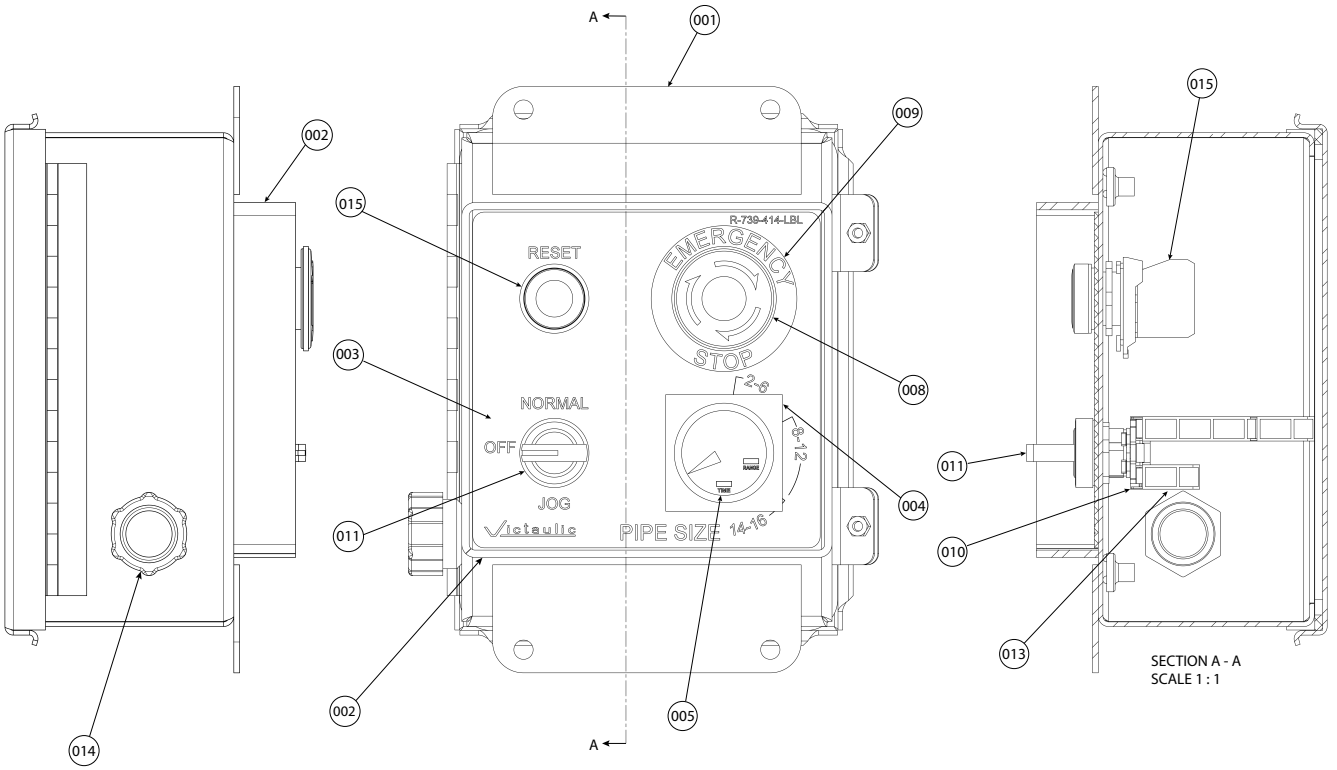
ENCLOSURE PANEL (UPDATED DESIGN)



Item#	Part #	Qty.	Description
001	–	1	Enclosure Panel, Modified
002	NM02G52001	1	DIN Rail, Symmetrical, Slotted, Type PR30, 35mm Height x 7.5mm Width x 1m Length, Galvanized Steel, White Passivated
003	NELC000065	1	Power Supply, 200-500 VAC Nominal Input Voltage, 24V Nominal Output Voltage
004	NELC000067	1	Contractor, 3-Pole, 3 NO, 440VAC, 18 AMP, 24V DC Coil, DIN Rail Mount
005	NELC000098	1	Contractor, 3-Pole, 3 NO, 440 VAC, 9 AMP, 24V DC Coil, DIN Rail Mount
006	NELC000066	1	Relay, Overload, Thermal, Motor, 6.4 to 32 Amp Adjustment Range
007	NELC000099	1	Relay, Overload, Thermal, Motor, 1.6 to 8 AMP Adjustment Range
008	NELC000069	5	Relay, Power, SPDT, 24 VDC, DIN Rail Mount
010	NELC000086	1	Circuit Breaker, 3-Pole, 277/480 VAC, 5 AMP, D Curve, DIN Rail
011	NELC000087	6	Terminal Block, 2 Pole, Feed Through, 2 Connection, 32 AMP, Nylon, Grey
012	NELC000088	2	Terminal Ground, 6.1mm Wide, 35mm DIN Rail Mounted, 2-Terminal

Item#	Part #	Qty.	Description
013	NELC000081	16	Terminal Block, 5.2mm Wide, 35mm DIN Rail Mounted, Double Level, 4 Terminals
014	NELC000100	4	Terminal Ground, 6.2mm Wide, 35mm DIN Rail Mounted, 4-Terminal
015	NELC000101	1	Circuit Breaker, 3-Pole, 277/480 VAC, 25 AMP, D Curve, DIN Rail Mounted
016	–	1	Conduit, Rectangular, Wire Duct, 1 x 3 x 72 Length, with Snap-on Cover, PVC, Gray
017	NELC000064	1	Circuit Breaker, Single Pole, 277/480 VAC, 10 AMP, D Curve, DIN Rail Mounted
018	NELC000083	1	Relay, Safety Control, 24VDC, 5 AMPS, Category 4, 3 No Contacts, DIN Rail Mount
019	NELC000070	1	Circuit Breaker, 2-Pole, 277/480 VAC, 15 AMP, D Curve, DIN Rail Mounted
020	–	10	Screw, #10-32 x ¼ Pan Head Machine, Type 1 Cross Recessed
021	–	10	Washer, #10 Nominal, Plain, 0.219 x 0.500 x 0.049, Carbon Steel, Clear Zinc Plated
022	–	2	Terminal End Plate, Screw Mount, Polyamide, Grey

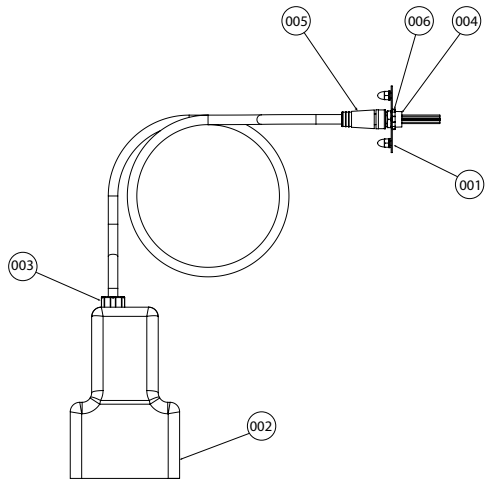
CONTROL STATION (UPDATED DESIGN)



Item#	Part #	Qty.	Description
001	–	1	Electrical Enclosure, Control Station
002	–	1	Switch Guard
003	–	1	Control Station Plate
004	NELC000046	1	Relay, Time Delay, Power on, 1 Second to 500 Hour Range, 24V AC/DC, 8-Pin, Plastic Housing
005	R651414LBL	1	Dial Label
008	NELC000094	1	Switch, Pushbutton, Turn to Release, Emergency Stop, Red, 22mm, 1 Normally Closed, Plastic Base, Metal Bezel
009	NELC000095	1	Legend Plate, E-Stop, Round, 22mm, 60mm O.D., Yellow with Black Characters, Plastic
010	NELC000057	1	Adapter, Body Fixing Collar, Plastic

Item#	Part #	Qty.	Description
011	NELC000096	1	Switch, Selector, 22mm Mounting, 3 Position Stay Put, Plastic Housing
012	NELC000097	1	Contact Block, 22mm Push Button, 2NO, 600 VAC, 10AMP, Slow Break, Front Mounting
013	NELC000061	2	Contact Block, 22mm Push Button, 1NO, 600 VAC, 10AMP, Slow Break, Front Mounting
014	NELC000089	1	Connector, Cord, Liquid-Tight, ⅝ to ¾ Dia Cord Range, Straight, Steel
015	NELC000060	1	Switch, Complete Control Push Button, Spring Return, Green, 22mm Mounting, Plastic Housing

FOOT SWITCH (UPDATED DESIGN)



Item#	Part #	Qty.	Description
001	–	1	Foot Switch Connector Plate
002	NE03000003	1	Foot Switch, Single Stage, Full Shield, Momentary Contact
003	NE06000002	1	Connector, Cord, Liquid-Tight, ⅜ to ½ Dia Cord Range, Straight, Steel
004	NE19000002	1	Cable Sub-Assembly, External, Bulkhead Connector to Electrical Enclosure
005	R312268SCH	1	Cable Sub-Assembly, External, Bulkhead Connector to Foot Switch
006	NE06000003	1	Locknut, ½ Dia, Steel, Zinc Plated

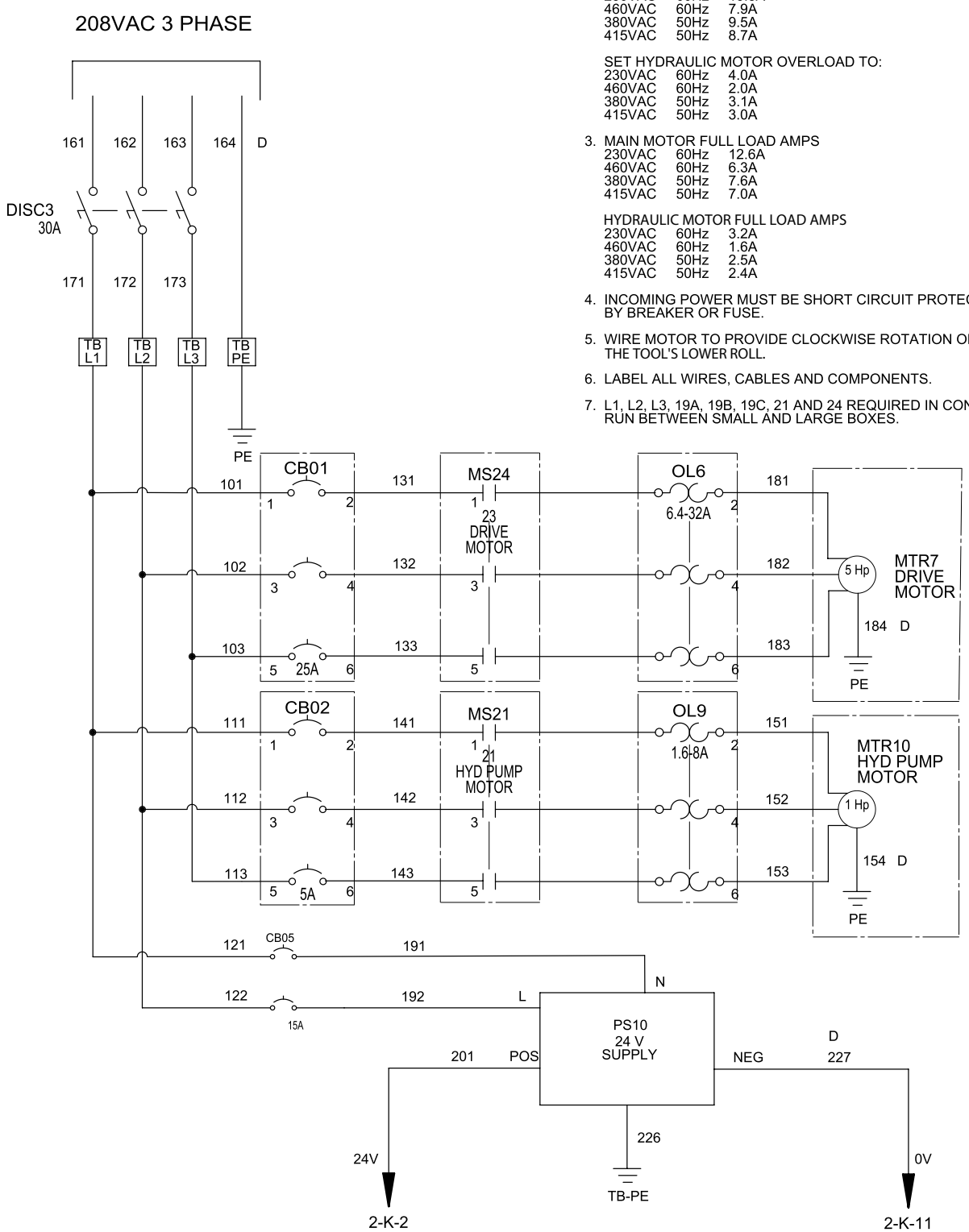
ELECTRICAL SCHEMATIC (UPDATED DESIGN)

NOTES:

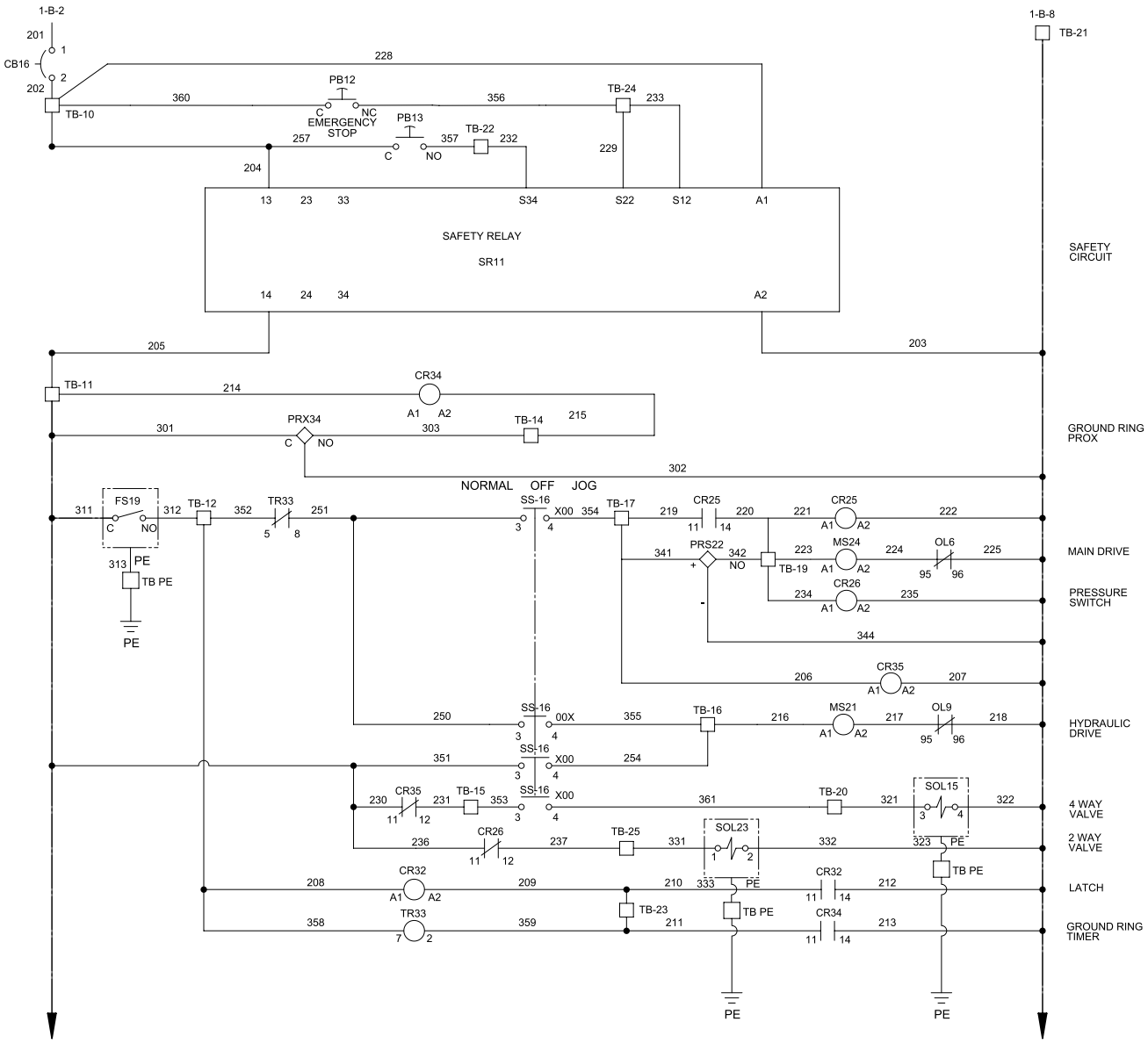
1. INCOMING POWER REQUIREMENTS:
   230VAC 60Hz 17.8A
   460VAC 60Hz 8.9A
   380VAC 50Hz 11.3A
   415VAC 50Hz 10.4A
2. SET MAIN MOTOR OVERLOAD TO:
   230VAC 60Hz 15.8A
   460VAC 60Hz 7.9A
   380VAC 50Hz 9.5A
   415VAC 50Hz 8.7A

   SET HYDRAULIC MOTOR OVERLOAD TO:
   230VAC 60Hz 4.0A
   460VAC 60Hz 2.0A
   380VAC 50Hz 3.1A
   415VAC 50Hz 3.0A
3. MAIN MOTOR FULL LOAD AMPS
   230VAC 60Hz 12.6A
   460VAC 60Hz 6.3A
   380VAC 50Hz 7.6A
   415VAC 50Hz 7.0A

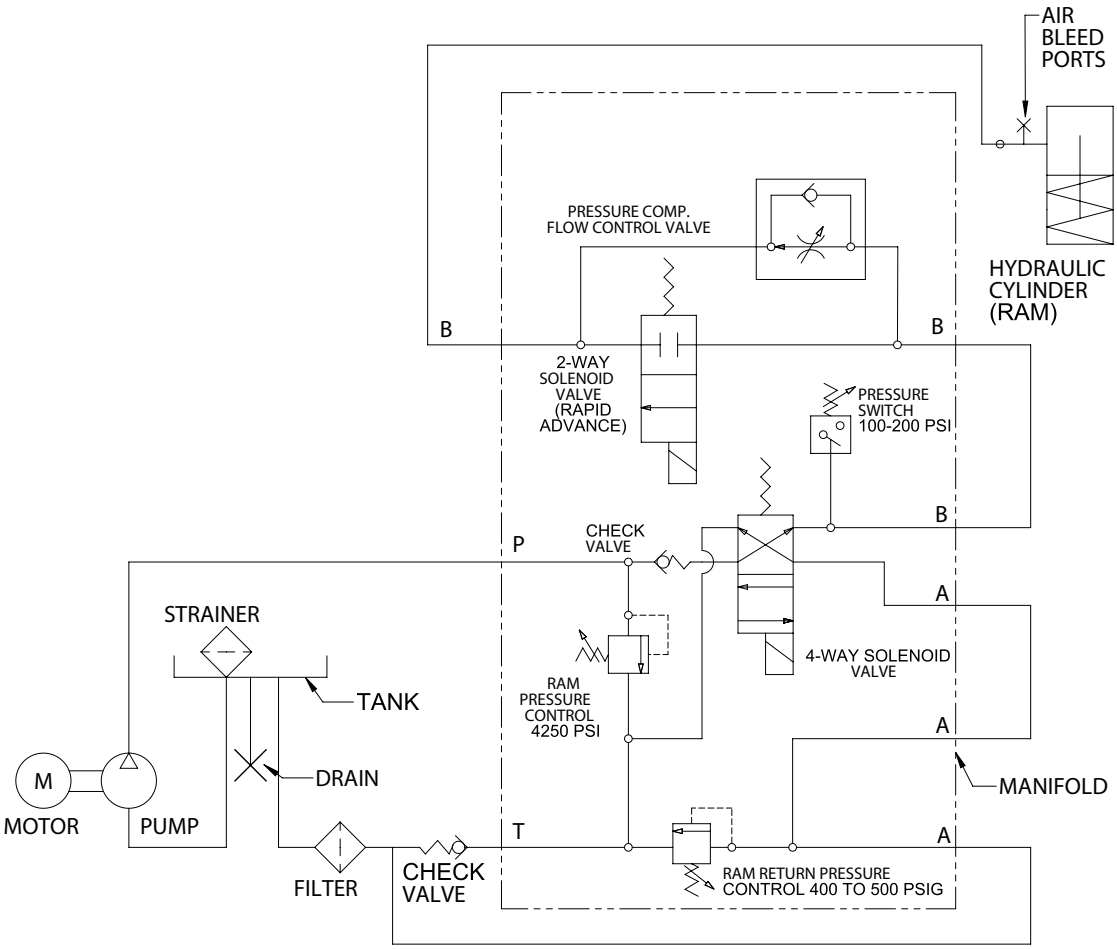
   HYDRAULIC MOTOR FULL LOAD AMPS
   230VAC 60Hz 3.2A
   460VAC 60Hz 1.6A
   380VAC 50Hz 2.5A
   415VAC 50Hz 2.4A
4. INCOMING POWER MUST BE SHORT CIRCUIT PROTECTED BY BREAKER OR FUSE.
5. WIRE MOTOR TO PROVIDE CLOCKWISE ROTATION OF THE TOOL'S LOWER ROLL.
6. LABEL ALL WIRES, CABLES AND COMPONENTS.
7. L1, L2, L3, 19A, 19B, 19C, 21 AND 24 REQUIRED IN CONDUIT RUN BETWEEN SMALL AND LARGE BOXES.



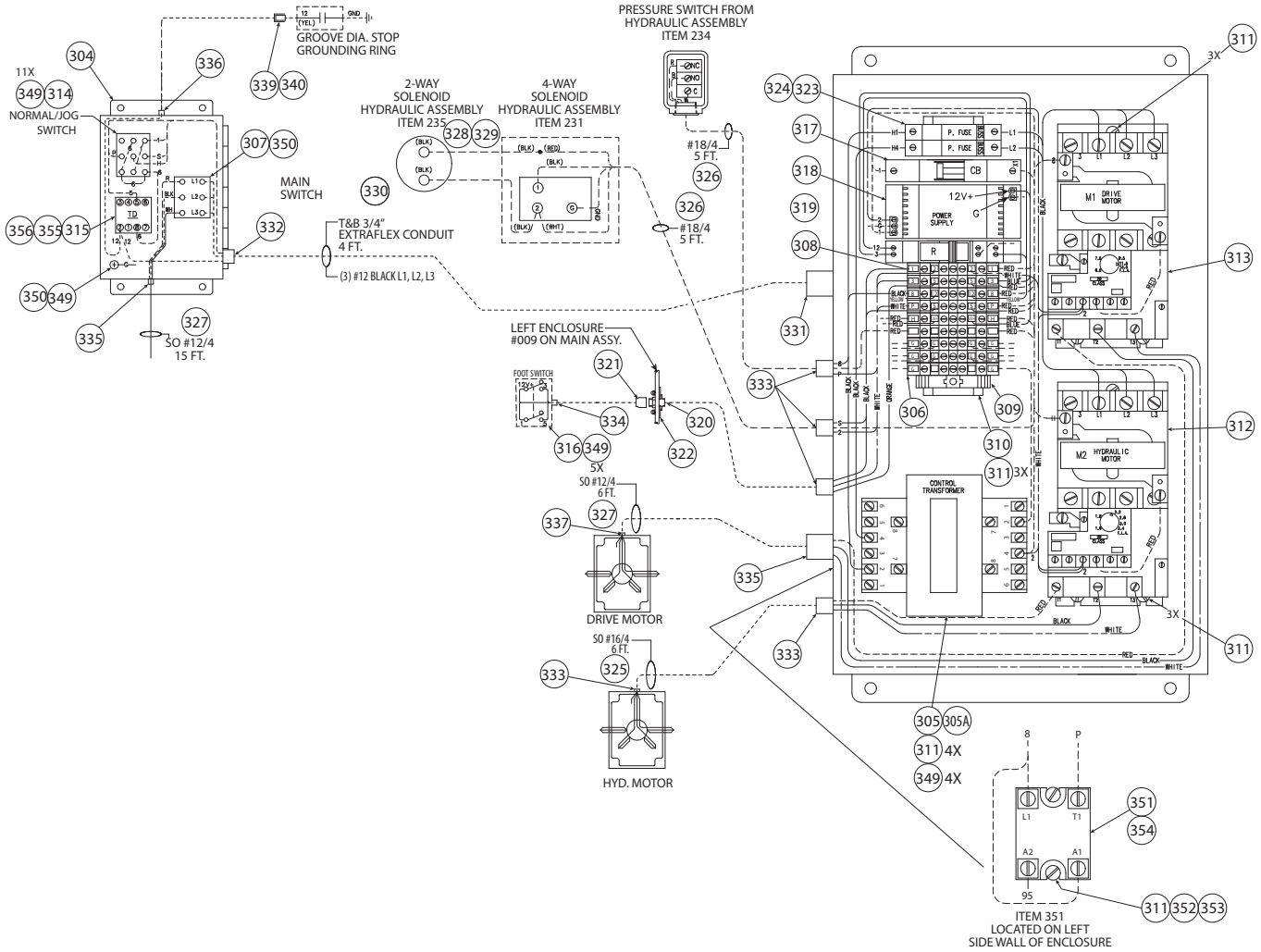
ELECTRICAL SCHEMATIC (UPDATED DESIGN)



HYDRAULIC SCHEMATIC (UPDATED DESIGN)



ELECTRICAL ASSEMBLY (ORIGINAL DESIGN)

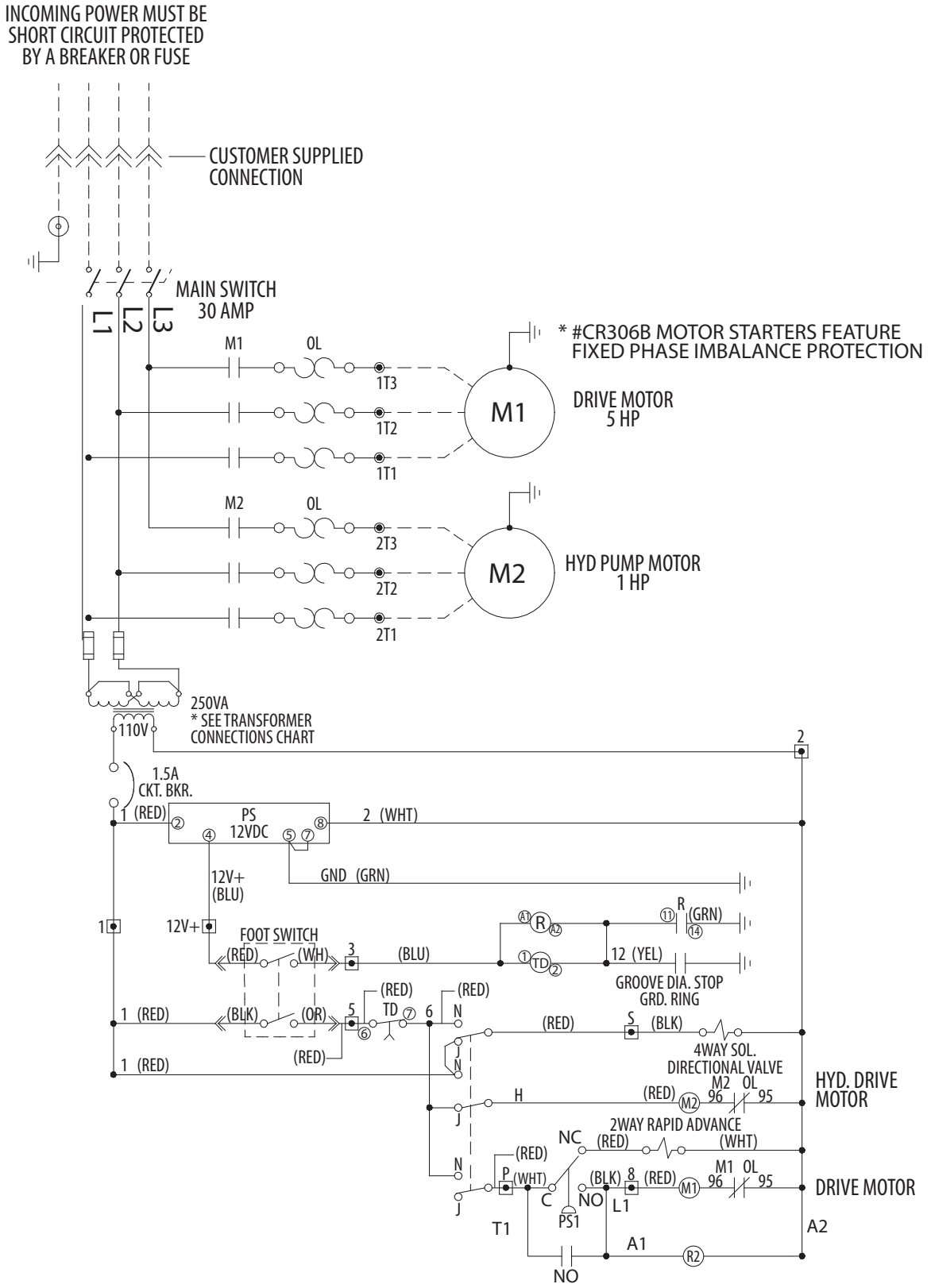


ELECTRICAL ASSEMBLY (ORIGINAL DESIGN)

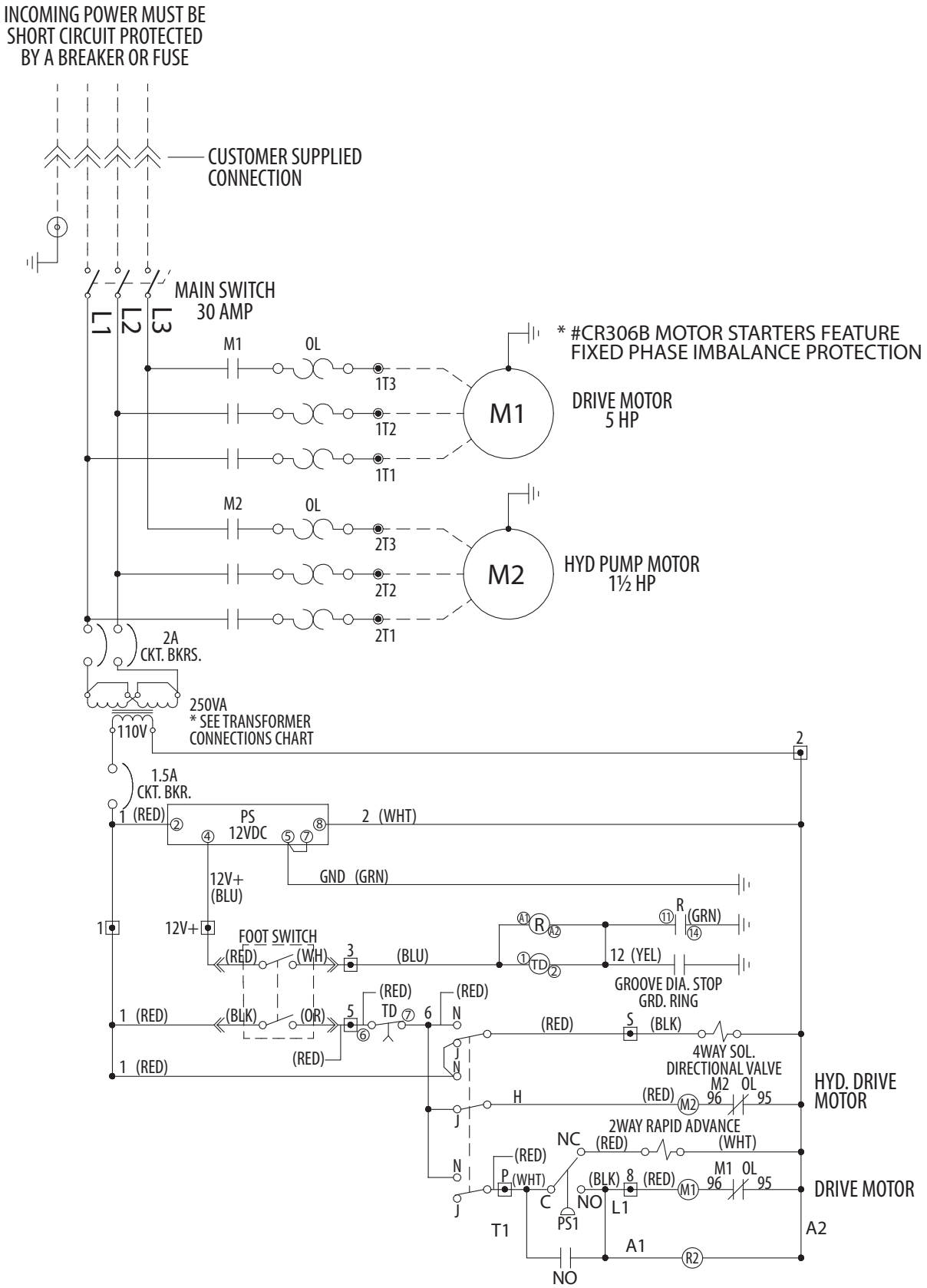
Item#	Part #	Qty.	Description
304	–	1	Control Station Nameplate
305	NE10000021	1	Transformer, VE414MC 230V/460V
305A	NE10000022	1	Transformer, VE414MC 380V
306	–	4	Terminal Block, Ground
307	–	1	Main Power Switch
308	–	8	Terminal Block
309	–	1	End Stop
310	–	9.25"	DIN Rail
311	–	15	#8 - 32 UNC x .50 Lg. Binding Hd. Slot Screw
312	NE10000013	1	Motor Starter, Size 0
313	NE10000009	1	Motor Starter, Size 1
314	NE02000012	1	Toggle Switch
315	NE09000004	1	Time Delay Relay with Adjustable Timer
316	NE03000003	1	Footswitch
317	NE15000003	1	Circuit Breaker
318	–	1	Power Supply
319	NE09000007	1	Relay, 12VDC
320	NE19000002	1	Footswitch Female Mounted Connector
321	NE08000012	1	Footswitch Cable
322	–	1	Footswitch Connector Plate
323	–	1	Fuse Block, 2-Pole
324	NE13000009	2	Fuse, 1.5 Amp
325	–	6 Ft.	Cable 16/4
326	–	10 Ft.	Cable, 18/4
327	–	21 Ft.	Cable, 12/4
328	–	2	½" 90° Connector
329	–	6"	½" Plastic Extra Flex
330	–	4 Ft.	¾" L/T Conduit
331	–	1	¾" Connector, Conduit, Multi Degree
332	–	1	3/4" Connector, Conduit, Straight

Item#	Part #	Qty.	Description
333	–	5	½" Connector, Strain Relief
333A	–	6	½" Lock Nut
334	–	1	¾" Connector, Strain Relief
334A	–	3	¾" Lock Nut
335	–	2	¾" Connector, Strain Relief
336	–	1	⅜" Connector, Strain Relief
336A	–	1	⅜" Lock Nut
337	–	1	¾" 90° Connector, Strain Relief
339	–	1	Female Disconnect, .25 Tab
340	–	1	Male Tab, Ring Terminal
341	–	A/R	12 Ga. Black MTW (Line Voltage Circuits)
342	–	A/R	16 Ga. Red MTW (AC Control Circuits)
343	–	A/R	16 Ga. White MTW (Neutral)
344	–	A/R	16 Ga. Blue MTW (DC Control Circuits)
345	–	A/R	12 Ga. Green MTW (Ground)
346	–	A/R	16 Ga. Black MTW (Foot Pedal Line Cord)
347	–	A/R	16 Ga. Yellow MTW (Groove Dla. Stop Grnd. Ring)
348	–	A/R	16 Ga. Orange MTW (Foot Pedal Line Cord)
349	–	23	Fork Connector, #6 Blue
350	–	7	Ring Connector, #10 Yellow
351	NE09000005	1	Relay
352	–	2	#8 Lock Washer, Pltd.
353	–	2	#8 - 32 UNC Hex Nut, Pltd.
354	–	A/R	Dielectric Grease
355	–	1	Socket
356	R651414LBL	1	Dial Label

VE414MC 230/460V ELECTRICAL SCHEMATIC (ORIGINAL DESIGN)



VE414MC 380V ELECTRICAL SCHEMATIC (ORIGINAL DESIGN)

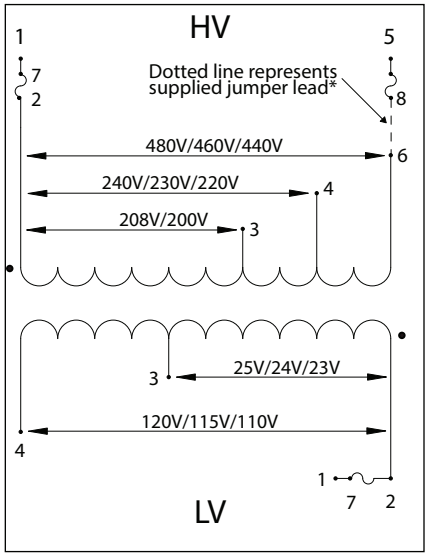


VE414MC 230/460V ELECTRICAL SCHEMATIC (ORIGINAL DESIGN)

GE #CR306 REMOTE RESET MODULE SETTINGS

		F.L.A OVERLOAD	CLASS	PHASE IMBALANCE
Drive Motor	220V	13.5 AMPS	20	*
	460V	6.5 AMPS	20	*
Hydraulic Pump Motor	220V	3.4 AMPS	20	*
	460V	1.9 AMPS	20	*

TRANSFORMER CONNECTIONS – PH250MLI



* This primary fuse jumper is supplied with the primary fuse kit only.

PH250MLI Schematic					
High Voltage (HV) (Primary Volts)			Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
480	460	440	None	2, 6	Unfused
240	230	220	None	2, 4	Unfused
	208	200	None	2, 3	Unfused
480	460	440	8-6	1, 5	2-7, 5-8
240	230	220	4-8	1, 5	2-7, 5-8
	208	200	3-8	1, 5	2-7, 5-8

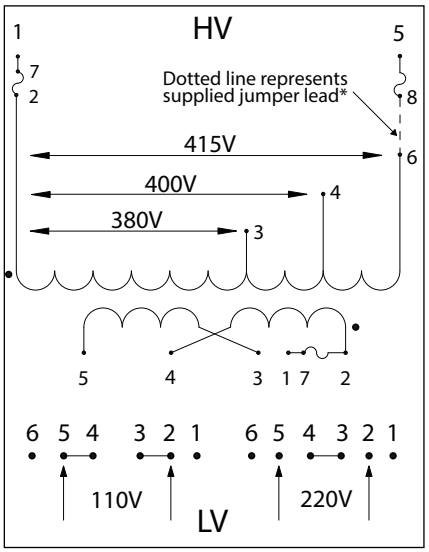
Low Voltage (LV) (Secondary Volts)			Install Supplied Jumpers Between Terminals	Load Lines Connect To	Install Fuse Clips To
120	115	110	None	2, 4	Unfused
25	24	23	None	2, 3	Unfused
120	115	110	None	1, 4	2-7
25	24	23	None	1, 3	2-7

VE414MC 380V ELECTRICAL SCHEMATIC (ORIGINAL DESIGN)

GE #CR306 REMOTE RESET MODULE SETTINGS

		F.L.A OVERLOAD	CLASS	PHASE IMBALANCE
Drive Motor	380V	8 AMPS	20	*
Hydraulic Pump Motor	380V	2.2 AMPS	20	*

TRANSFORMER CONNECTIONS – PH250MEMX



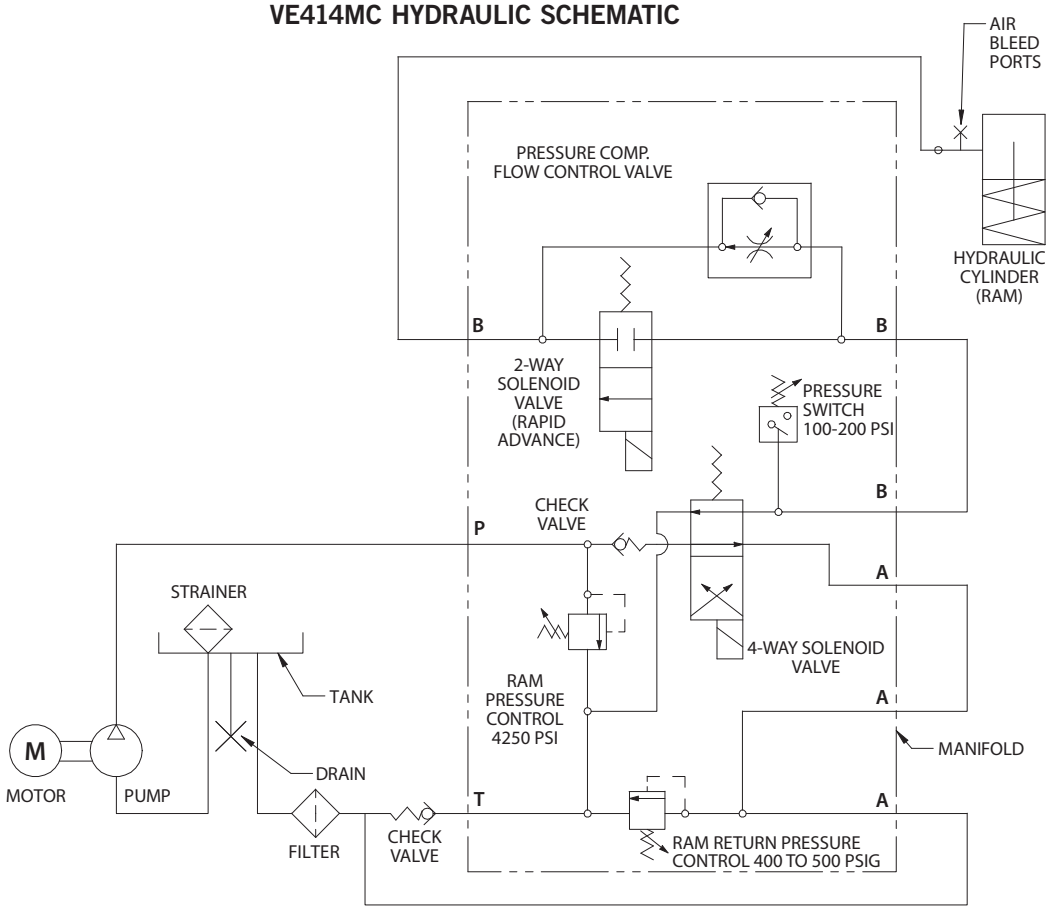
*This primary fuse jumper is supplied with the primary fuse kit only.

PH250MEMX Schematic			
High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
415	None	2, 6	Unfused
400	None	2, 4	Unfused
380	None	2, 3	Unfused
415	8-6	1, 5	2-7, 5-8
400	4-8	1, 5	2-7, 5-8
380	3-8	1, 5	2-7, 5-8

Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
110	4-5, 2-3	2, 5	Unfused
220	3-4	2, 5	Unfused
110	4-5, 2-3	1, 5	2-7
220	3-4	1, 5	2-7

HYDRAULIC SCHEMATIC (ORIGINAL DESIGN)

VE414MC HYDRAULIC SCHEMATIC

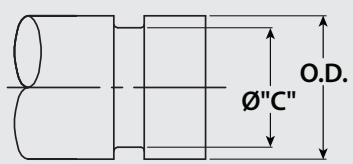


IMAGES OF THE LABELS ON PAGES 17 - 20 ARE NOT TO SCALE.

R009424LBL

Victaulic®

ORIGINAL GROOVE SYSTEM (OGS)
ROLL GROOVE DIAMETER
SPECIFICATIONS

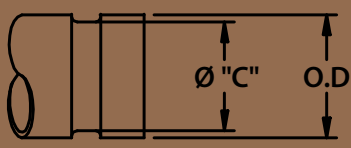


R009424LBL
4864 Rev. E

SIZE	O.D.		ø "C"	
	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
¾ [26.9]	1.060 [26.9]	1.040 [26.4]	0.938 [23.8]	0.923 [23.4]
1 [33.7]	1.328 [33.7]	1.302 [33.1]	1.190 [30.2]	1.175 [29.9]
1¼ [42.4]	1.676 [42.6]	1.644 [41.8]	1.535 [39.0]	1.520 [38.6]
1½ [48.3]	1.919 [48.7]	1.881 [47.8]	1.775 [45.1]	1.760 [44.7]
2 [60.3]	2.399 [60.9]	2.351 [59.7]	2.250 [57.2]	2.235 [56.8]
2½ [73.0]	2.904 [73.8]	2.846 [72.3]	2.720 [69.1]	2.702 [68.6]
3 [88.9]	3.535 [89.8]	3.469 [88.1]	3.344 [84.9]	3.326 [84.5]
3½ [101.6]	4.040 [102.6]	3.969 [100.8]	3.834 [97.4]	3.814 [96.9]
4 [114.3]	4.545 [115.4]	4.469 [113.5]	4.334 [110.1]	4.314 [109.6]
4½ [127.0]	5.050 [128.3]	4.969 [126.2]	4.834 [122.8]	4.814 [122.3]
5 [141.3]	5.619 [142.7]	5.532 [140.5]	5.395 [137.0]	5.373 [136.5]
6 [168.3]	6.688 [169.9]	6.594 [167.5]	6.455 [164.0]	6.433 [163.4]
203.2 mm	8.063 [204.8]	7.969 [202.4]	7.816 [198.5]	7.791 [197.9]
8 [219.1]	8.688 [220.7]	8.594 [218.3]	8.441 [214.4]	8.416 [213.8]
254.0 mm	10.063 [255.6]	9.969 [253.2]	9.812 [249.2]	9.785 [248.5]
10 [273.0]	10.813 [274.7]	10.719 [272.3]	10.562 [268.3]	10.535 [267.6]
304.8 mm	12.063 [306.4]	11.969 [304.0]	11.781 [299.2]	11.751 [298.5]
12 [323.9]	12.813 [325.5]	12.719 [323.1]	12.531 [318.3]	12.501 [317.5]
14 OD [355.6]	14.063 [357.2]	13.969 [354.8]	13.781 [350.0]	13.751 [349.3]
15 OD [381.0]	15.063 [382.6]	14.969 [380.2]	14.781 [375.4]	14.751 [374.7]
16 OD [406.4]	16.063 [408.0]	15.969 [405.6]	15.781 [400.8]	15.751 [400.1]
18 OD [457]	18.063 [458.8]	17.969 [456.4]	17.781 [451.6]	17.751 [450.9]
20 OD [508]	20.063 [509.6]	19.969 [507.2]	19.781 [502.4]	19.751 [501.7]
22 OD [559]	22.063 [560.4]	21.969 [558.0]	21.656 [550.1]	21.626 [549.3]
24 OD [610]	24.063 [611.2]	23.969 [608.8]	23.656 [600.9]	23.626 [600.1]
26 OD [660]	26.063 [662.0]	25.937 [658.8]	25.500 [647.7]	25.437 [646.1]
28 OD [711]	28.063 [712.8]	27.937 [709.6]	27.500 [698.5]	27.437 [696.9]
30 OD [762]	30.063 [763.6]	29.937 [760.4]	29.500 [749.3]	29.437 [747.7]
32 OD [813]	32.063 [814.4]	31.937 [811.2]	31.500 [800.1]	31.437 [798.5]
36 OD [914]	36.063 [916.0]	35.937 [912.8]	35.500 [901.7]	35.437 [900.1]
42 OD [1067]	42.063 [1068.4]	41.937 [1065.2]	41.500 [1054.1]	41.437 [1052.5]
48 OD [1219]	48.063 [1220.8]	47.937 [1217.6]	47.500 [1206.5]	47.437 [1204.9]

R070260VE0

COPPER ROLL GROOVE DIAMETER SPECIFICATION



SIZE	O.D.		Ø "C"	
	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
2 [54,0]	2.127 [54,0]	2.123 [53,9]	2.029 [51,5]	2.009 [51,0]
2½ [66,7]	2.627 [66,7]	2.623 [66,6]	2.525 [64,1]	2.505 [63,6]
3 [79,4]	3.127 [79,4]	3.123 [79,3]	3.025 [76,8]	3.005 [76,3]
4 [104,8]	4.127 [104,8]	4.123 [104,7]	4.019 [102,1]	3.999 [101,6]
5 [130,2]	5.127 [130,2]	5.123 [130,1]	4.999 [127,0]	4.979 [126,5]
6 [155,6]	6.127 [155,6]	6.123 [155,5]	5.999 [152,3]	5.979 [151,9]
8 [206,4]	8.127 [206,4]	8.121 [206,3]	7.959 [202,2]	7.939 [201,7]

-IMPORTANT-

USE ONLY VICTAULIC GROOVING ROLLS DESIGNED FOR COPPER TUBING (COLOR CODED COPPER)

GROOVE COPPER TUBING AT A MODERATE RATE BY UNIFORMLY FORMING GROOVES IN 5 TO 10 TUBE ROTATIONS. FORMING GROOVES AT FASTER RATES CAN RESULT IN POOR GROOVE SHARPNESS AND JOINT FAILURE.

4921 Rev. E R070260VE0

R055260LBL

Victaulic®

R010416LAB

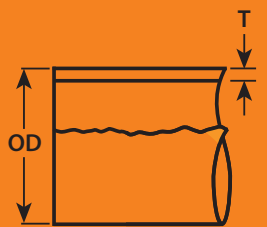
STANDARD PIPE WALL THICKNESS

PIPE SIZE	O.D.	SCHEDULE								PIPE SIZE	O.D.	SCHEDULE							
		5	10	20	30	40	STD	80	XStrg.			5	10	20	30	40	STD	80	XStrg.
¾	1.050	.065	.083	-	-	.113	.113	.154	.154	26	26.000	-	.312	.500	-	-	.375	-	.500
1	1.315	.065	.109	-	-	.133	.133	.179	.179	28	28.000	-	.312	.500	.625	-	.375	-	.500
1¼	1.660	.065	.109	-	-	.140	.140	.191	.191	30	30.000	-	.312	.500	.625	-	.375	-	.500
1½	1.900	.065	.109	-	-	.145	.145	.200	.200	32	32.000	-	.312	.500	.625	.688	.375	-	.500
2	2.375	.065	.109	-	-	.154	.154	.218	.218	36	36.000	-	.312	.500	.625	.750	.375	-	.500
2½	2.875	.083	.120	-	-	.203	.203	.267	.276	38	38.000	-	-	-	-	-	.375	-	.500
3	3.500	.083	.120	-	-	.216	.216	.300	.300	40	40.000	-	-	-	-	-	.375	-	.500
3½	4.000	.083	.120	-	-	.226	.226	.318	.318	42	42.000	-	-	-	-	-	.375	-	.500
4	4.500	.083	.120	-	-	.237	.237	.337	.337	44	44.000	-	-	-	-	-	.375	-	.500
5	5.563	.109	.134	-	-	.258	.258	.375	.375	46	46.000	-	-	-	-	-	.375	-	.500
6	6.625	.109	.134	-	-	.280	.280	.432	.432	48	48.000	-	-	-	-	-	.375	-	.500
8	8.625	.109	.148	.250	.277	.322	.322	.500	.500	52	52.000	-	-	-	-	-	.375	-	.500
10	10.750	.134	.165	.250	.307	.365	.365	.593	.500	54	54.000	-	-	-	-	-	.375	-	.500
12	12.750	.165	.180	.250	.330	.406	.375	.687	.500	56	56.000	-	-	-	-	-	.375	-	.500
14	14.000	-	.250	.312	.375	.437	.375	.750	.500	60	60.000	-	-	-	-	-	.375	-	.500
16	16.000	-	.250	.312	.375	.500	.375	.843	.500	64	64.000	-	-	-	-	-	.375	-	.500
18	18.000	-	.250	.312	.437	.562	.375	.937	.500	68	68.000	-	-	-	-	-	.375	-	.500
20	20.000	-	.250	.375	.500	.593	.375	1.031	.500	72	72.000	-	-	-	-	-	.375	-	.500
24	24.000	-	.250	.375	.562	.687	.375	1.281	.500										

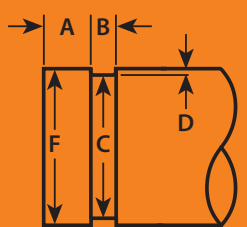
4920 Rev. D R010416LAB

R207264LBL

Pipe and groove features, noted below, must be measured to verify they are within current Victaulic specifications. Victaulic submittal publications can be downloaded at www.victaulic.com.



Measure Prior to Grooving

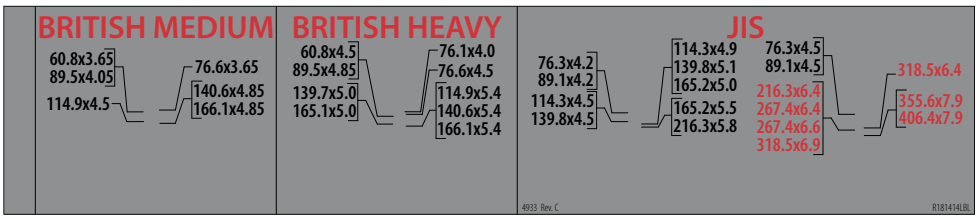


Measure After Grooving

OD= Average Pipe Outside Diameter
T = Pipe Wall Thickness
A = Distance from Pipe End to Groove
B = Groove Width
C = Average Diameter at Base of Groove
D = Groove Depth
F = Pipe-End Flare

7264 Rev. A R207264LBL

R181414LAB



R115715LBL

15715 Rev. A R115715LBL

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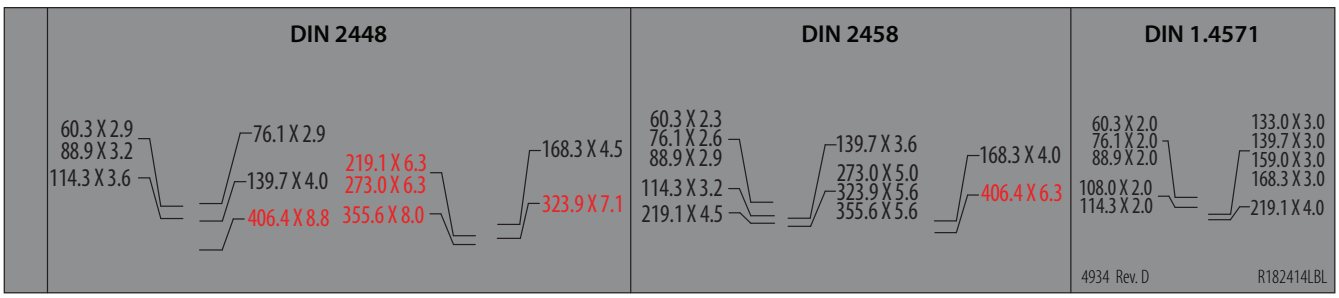


R512934LBL

VE414

victaulic

SERIAL NO. _____ DATE MFD. _____

VOLTS	PHASE	HERTZ	FULL-LOAD CURRENT
230	3	60	17.8 AMPS
460	3	60	8.9 AMPS

DRIVE MOTOR:

VOLTS	PHASE	HERTZ	FULL-LOAD CURRENT
230	3	60	12.6 AMPS
460	3	60	6.3 AMPS

SHORT CIRCUIT INTERRUPTING CAPACITY 5,000 AMPS

- GEAR OIL – AGMA 7
- HYDRAULIC OIL – HIGH-PRESSURE, ANTI-WEAR ISO GRADE 32
- BEARING LUBE – ANTI-WEAR, EXTREME PRESSURE NLGI GRADE 2

ELECTRICAL ASSEMBLY DWG. R-740-414-SCH REVISION LEVEL

Victaulic Company World Headquarters
4901 Kesslersville Road • Easton, PA 18040
victaulic.com

Manufactured in Canada

12934 Rev. A R512934LBL

R512935LBL

VE414

victaulic

SERIAL NO. _____ DATE MFD. _____

VOLTS	PHASE	HERTZ	FULL-LOAD CURRENT
380	3	50	11.3 AMPS
415	3	50	10.4 AMPS

DRIVE MOTOR:

VOLTS	PHASE	HERTZ	FULL-LOAD CURRENT
380	3	50	7.6 AMPS
415	3	50	7.0 AMPS

SHORT CIRCUIT INTERRUPTING CAPACITY 5,000 AMPS

- GEAR OIL – AGMA 7
- HYDRAULIC OIL – HIGH-PRESSURE, ANTI-WEAR ISO GRADE 32
- BEARING LUBE – ANTI-WEAR, EXTREME PRESSURE NLGI GRADE 2

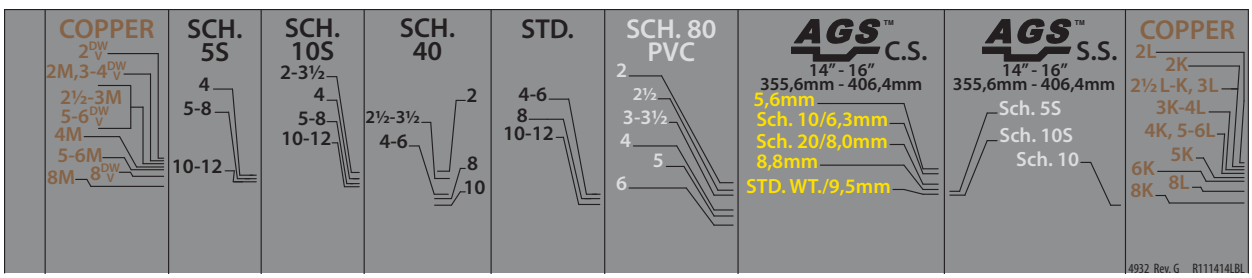
ELECTRICAL ASSEMBLY DWG. R-740-414-SCH REVISION LEVEL

Victaulic Company World Headquarters
4901 Kesslersville Road • Easton, PA 18040
victaulic.com

Manufactured in Canada

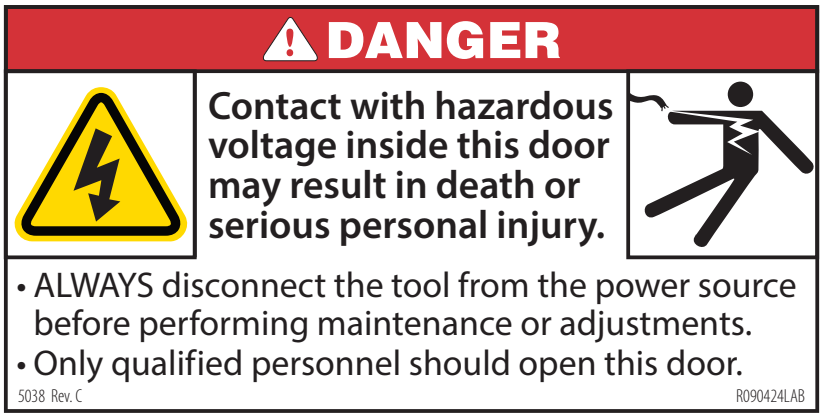
12935 Rev. B R512935LBL

R111414LAB



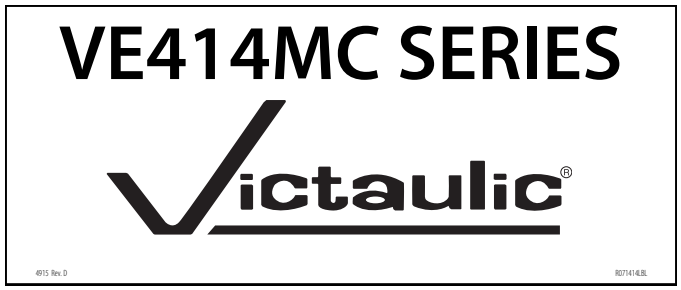
VE414MC Roll Grooving Tool

R090424LBL



R075414LBL

R071414LBL



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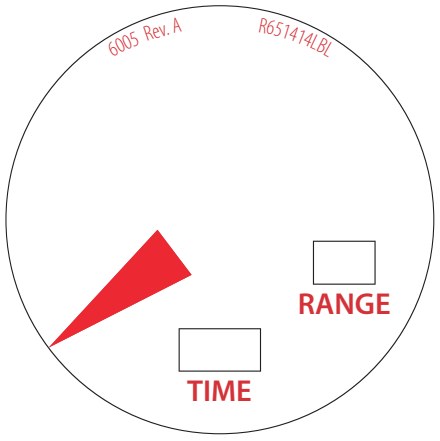

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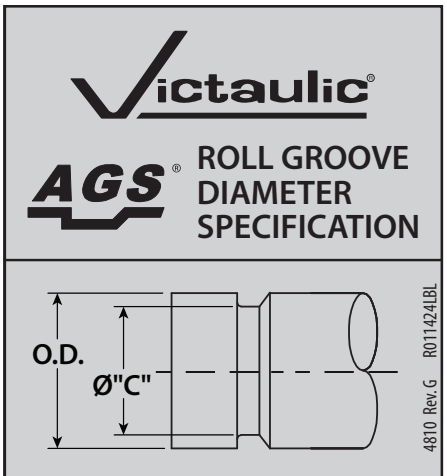

SIZE	O.D.		ø "C"	
	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
14 [355.6]	14.094 [358.0]	13.969 [354.8]	13.500 [342.9]	13.455 [341.8]
16 [406.4]	16.094 [408.8]	15.969 [405.6]	15.500 [393.7]	15.455 [392.6]
18 [457]	18.094 [459.6]	17.969 [456.4]	17.500 [444.5]	17.455 [443.4]
20 [508]	20.094 [510.4]	19.969 [507.2]	19.500 [495.3]	19.455 [494.2]
22 [559]	22.094 [561.2]	21.969 [558.0]	21.500 [546.1]	21.455 [545.0]
24 [610]	24.094 [612.0]	23.969 [608.8]	23.500 [596.9]	23.455 [595.8]
26 [660]	26.063 [662.0]	25.937 [658.8]	25.430 [645.9]	25.370 [644.4]
28 [711]	28.063 [712.8]	27.937 [709.6]	27.430 [696.7]	27.370 [695.2]
30 [762]	30.063 [763.6]	29.937 [760.4]	29.430 [747.5]	29.370 [746.0]
32 [813]	32.063 [814.4]	31.937 [811.2]	31.430 [798.3]	31.370 [796.8]
34 [837]	34.063 [865.2]	33.937 [862.0]	33.430 [849.1]	33.370 [847.6]
36 [914]	36.063 [916.0]	35.937 [912.8]	35.430 [899.9]	35.370 [898.4]
38 [965]	38.063 [966.8]	37.937 [963.6]	37.430 [950.7]	37.370 [949.2]
40 [1016]	40.063 [1017.6]	39.937 [1014.4]	39.375 [1000.1]	39.315 [998.6]
42 [1067]	42.063 [1068.4]	41.937 [1065.2]	41.375 [1050.9]	41.315 [1049.4]
44 [1118]	44.063 [1119.2]	43.937 [1116.0]	43.375 [1101.7]	43.315 [1100.2]
46 [1168]	46.063 [1170.0]	45.937 [1166.8]	45.375 [1152.5]	45.315 [1151.0]
48 [1219]	48.063 [1220.8]	47.937 [1217.6]	47.375 [1203.3]	47.315 [1201.8]
50 [1270]	50.063 [1271.6]	49.937 [1268.4]	49.375 [1254.1]	49.315 [1252.6]
54 [1372]	54.063 [1373.2]	53.937 [1370.0]	53.430 [1357.1]	53.370 [1355.6]
56 [1422]	56.063 [1424.0]	55.937 [1420.8]	55.430 [1407.9]	55.370 [1406.4]
60 [1524]	60.063 [1525.6]	59.937 [1522.4]	59.430 [1509.5]	59.370 [1508.0]
62 [1575]	62.063 [1576.4]	61.937 [1573.2]	61.430 [1560.3]	61.370 [1558.8]
72 [1829]	72.063 [1830.4]	71.937 [1827.2]	71.430 [1814.3]	71.370 [1812.8]

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