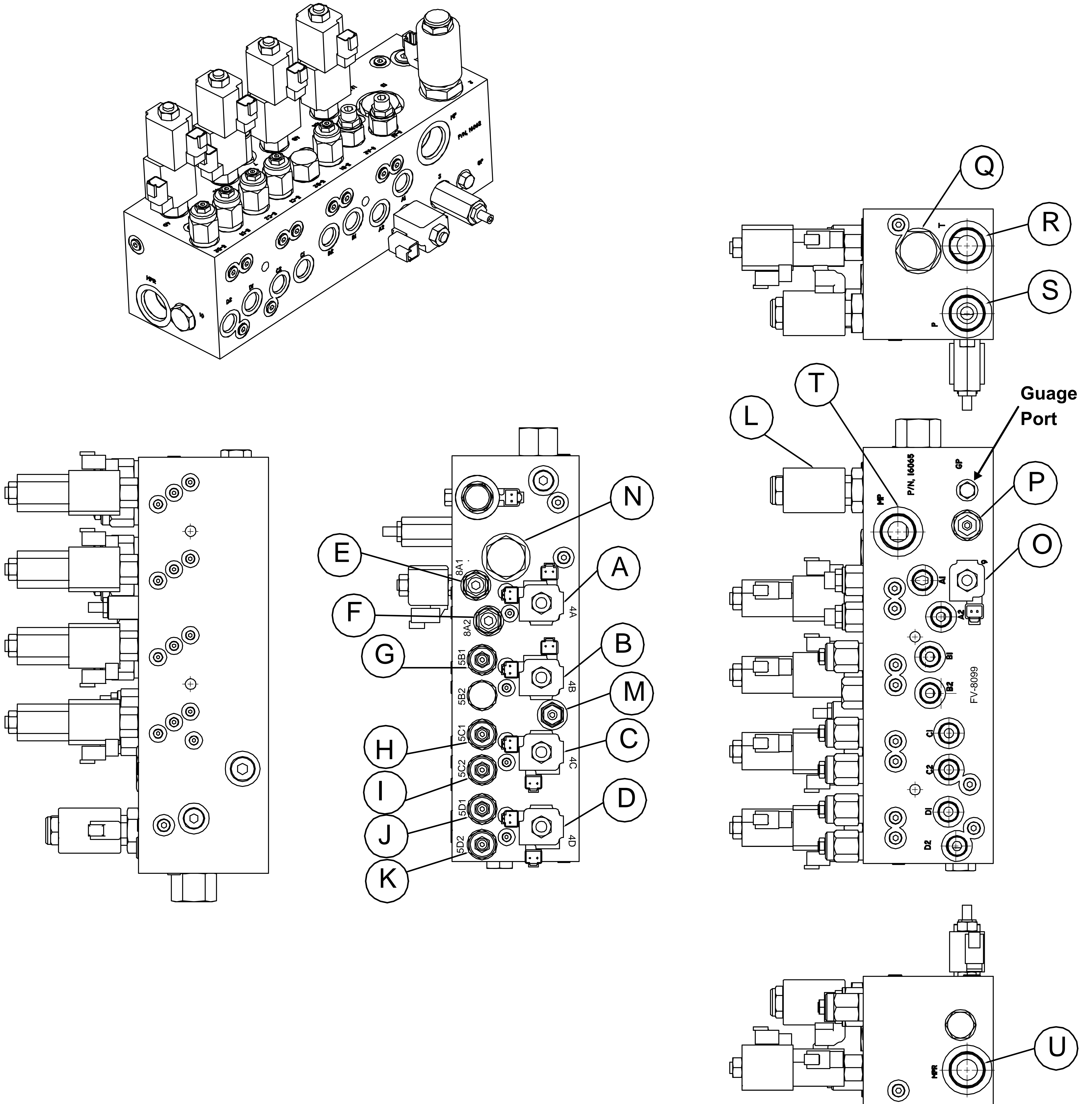


Section 5  
Maintenance

## LR50160 CONTROL VALVE PORT LISTING

Item	EVH P/N		Description	Code	Setting	Torque	Coil Nut
A	16262	Stem	Solenoid Valve (Deck Cyl. Control)	4A		25 ft lbs.	2.5 ft lbs.
	16263	Coil					
B	16262	Stem	Solenoid Valve (II stg Boom Control)	4B		25 ft lbs.	2.5 ft lbs.
	16263	Coil					
C	16262	Stem	Solenoid Valve (I stg Boom Control)	4C		25 ft lbs.	2.5 ft lbs.
	16263	Coil					
D	16262	Stem	Solenoid Valve (Swing Control)	4D		25 ft lbs.	2.5 ft lbs.
	16263	Coil					
E	16258		Counterbalance Valve (Swing Right)	8A1	1300 PSI	35 ft lbs.	
F	16258		Counterbalance Valve (Swing Left)	8A2	1300 PSI	35 ft lbs.	
G	16256		Counterbalance Valve (1st Stage Up)	5B1	2500 PSI	35 ft lbs.	
H	16256		Counterbalance Valve (2nd Stage Down)	5C1	1800 PSI	35 ft lbs.	
I	16256		Counterbalance Valve (2nd Stage Up)	5C2	3300 PSI	35 ft lbs.	
J	16256		Counterbalance Valve (Deck Down)	5D1	1800 PSI	35 ft lbs.	
K	16257		Counterbalance Valve (Deck UP)	5D2	3300 PSI	35 ft lbs.	
L	16523	Stem	Proportional Flow Control	2		50 ft lbs.	2.5 ft lbs.
	16524	Coil					
M	16259		Cylinder Relief Valve	7	2500 PSI	25 ft lbs.	
N	N/A		Check Valve	13		130 ft lbs.	
O	16260	Stem	Solenoid Valve (Deck Motor Control)	9		22 ft lbs.	
	16261	Coil					
P	16255		Main Relief	3	2700 PSI	37 ft lbs.	
Q	N/A		Pilot Opp. Dir. Valve	6		80 ft lbs.	2.5 ft lbs.
R	N/A		Return Port	T			
S	N/A		Pump Port	P			
T	N/A		Deck Motor Pressure Port	MP			
U	N/A		Deck Motor Return Port	MPR			
NOT SHOWN	16496		MAIN CONTROLLER				
NOT SHOWN	16278		JOYSTICK WITH WIRE HARNESS				
NOT SHOWN	16249		PROX SENSOR FOR SWING				
NOT SHOWN	16497		HITCH FRAME WIRING HARNESS FOR MAIN CONTROLLER				
NOT SHOWN	16637		Single Micro Joysticks for 16278 Joystick				
NOT SHOWN	16181		Wire Harness for HR2360/LR50160 16278 Joystick				

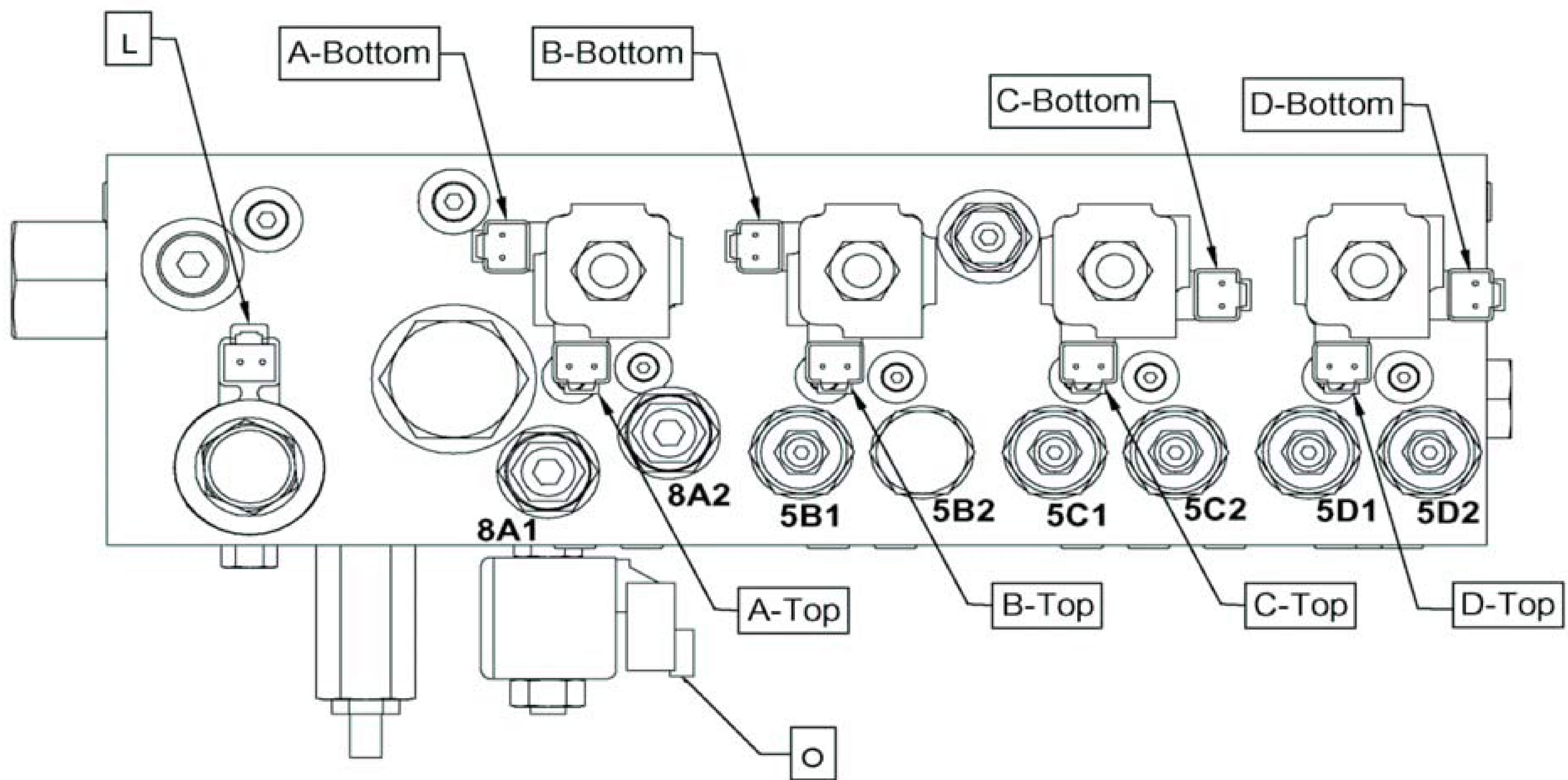
# CONTROL VALVE PORT SCHEMATIC



Section 5  
**Maintenance**

**LR50160 Valve / Joystick Wiring Schematic**

Function	Valve Port	Coil	Wire Color (+)	Connector No.	Handle Position
Swing (Boom) Right	8A1	A - Top	White	C10	Right (E)
Swing (Boom) Left	8A2	A - Bottom	White	C9	Left (W)
1st Stage Up	5B1	B - Top	White	C17	Up (N)
1st Stage Down	5B2	B - Bottom	White	C16	Down (S)
2nd Stage Down	5C1	C - Top	White	C12	Down (S)
2nd Stage Up	5C2	C - Bottom	White	C11	Up (N)
Deck Down	5D1	D - Top	White	C15	Left (W)
Deck Up	5D2	D - Bottom	White	C14	Right (E)
Deck Motor	9	O	Black	C19	Any
Proportional Control	2	L	Black	C20	Any





## Fault Codes for Status LED

<b>Blink Code</b>	<b>Reason for Fault</b>	<b>Corrective Action</b>
21	Left Joystick X axis Voltage out of range	Check Joystick and wires
22	Left Joystick Y axis Voltage out of range	Check Joystick and wires
23	Right Joystick X axis Voltage out of range	Check Joystick and wires
24	Right Joystick Y axis Voltage out of range	Check Joystick and wires
25	Left X axis No cal	Recalibrate the Joysticks
26	Left Y axis No cal	Recalibrate the Joysticks
27	Right X axis No cal	Recalibrate the Joysticks
28	Right Y axis No cal	Recalibrate the Joysticks
31	Stage 1 Down/Stage 2 Down Output Open or Short Circuit	Check valve coil and wires
32	Proportional Unloader Output Open or Short Circuit	Check valve coil and wires
33	Head Down/Swing Right Output Open or Short Circuit	Check valve coil and wires
34	Head Up/Swing Left Valve Output Open or Short Circuit	Check valve coil and wires
35	Cutter Head Motor Valve Output Open or Short Circuit	Check valve coil and wires
36	LED Output Open or Short Circuit	Check valve coil and wires
37	Stage 1 Up/Stage 2 Up Output Open or Short Circuit	Check valve coil and wires
38	Relay Driver Output Open or Short Circuit	Check relay and wires

### How to interpret the “BLINK CODE”:

On the bottom of the Controller Box, locate two (2) LED's; one Red; one Green. Whenever the red LED lights up you may see the following “BLINKS”:

- (2) Red “BLINKS” – pause – (1) Red “BLINK” = “BLINK CODE” 21
- (3) Red “BLINKS” – pause – (6) Red “BLINKS” = “BLINK CODE” 36

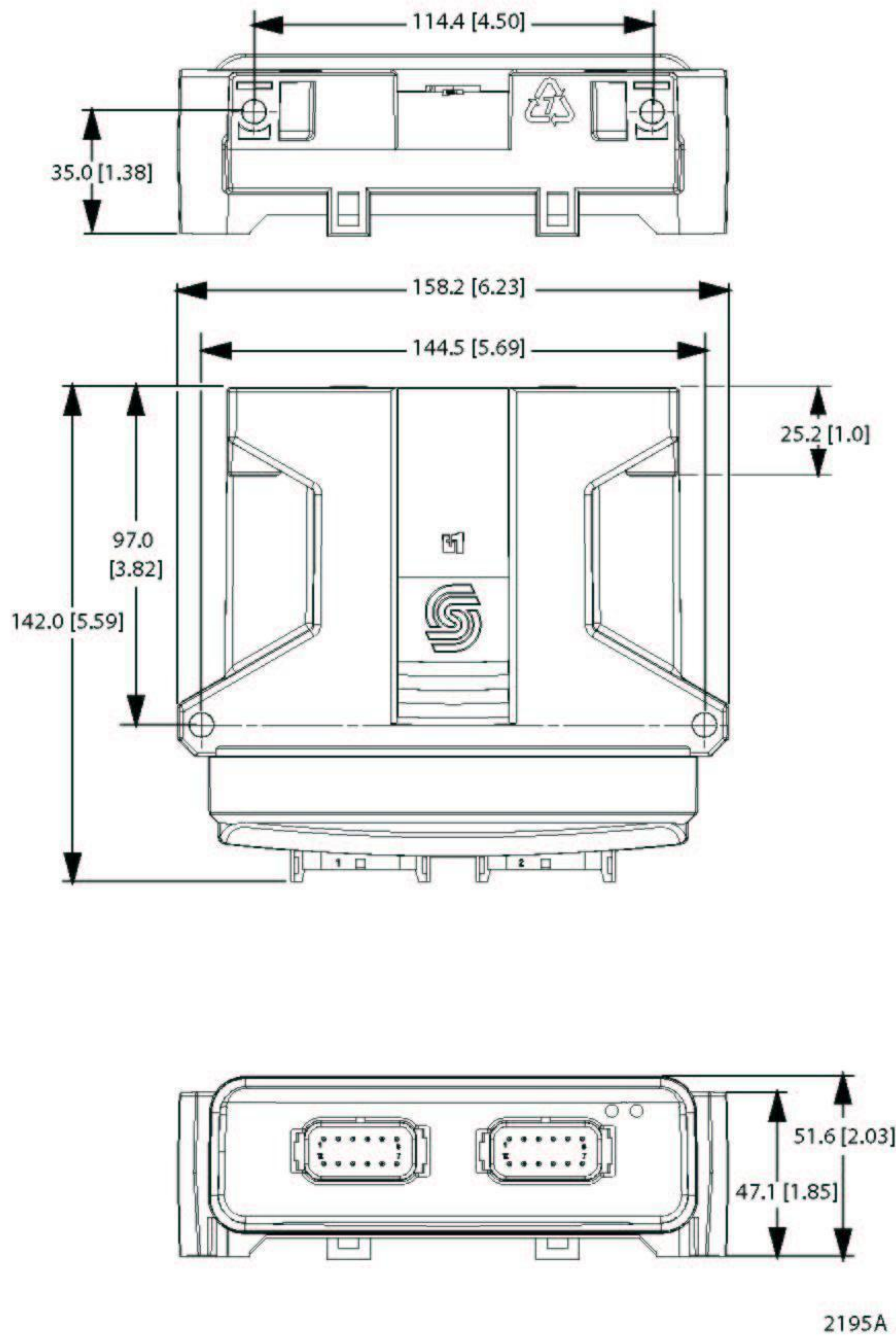
ETC.

- Now check “Reason for Fault” and “Corrective Action” opposite the corresponding “BLINK CODE”.



# MC024-020-00000 PLUS+1 CONTROLLER

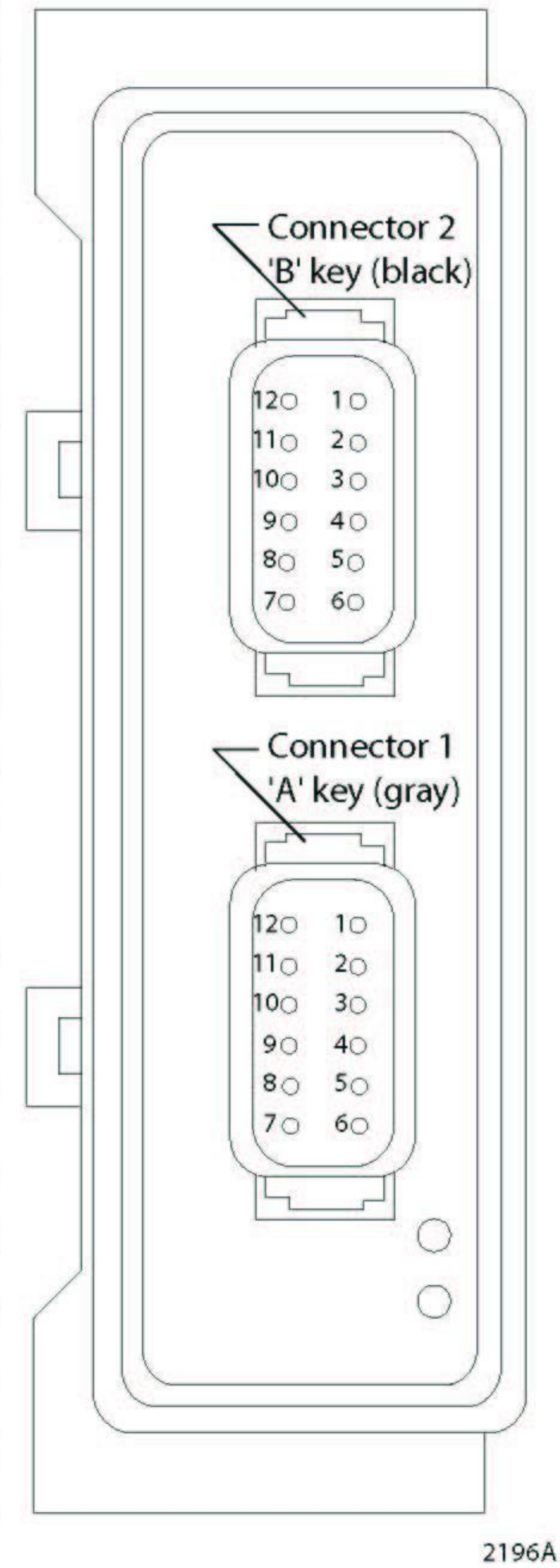
## Dimensions and Pin Assignment



MC024-020-00000 mounting dimensions

DIN/AIN/FreqIN	C2-P1
DIN/AIN/FreqIN	C2-P2
PWMOUT/DOUT/PVG Power supply 1	C2-P3
PWMOUT/DOUT/PVG Power supply 2	C2-P4
PWMOUT/DOUT/PVGOUT 1	C2-P5
PWMOUT/DOUT/PVGOUT 1	C2-P6
PWMOUT/DOUT/PVGOUT 1	C2-P7
PWMOUT/DOUT/PVGOUT 2	C2-P8
PWMOUT/DOUT/PVGOUT 2	C2-P9
PWMOUT/DOUT/PVGOUT 2	C2-P10
Power Supply +	C2-P11
Power Supply +	C2-P12

Power ground -	C1-P1
Power supply +	C1-P2
CAN +	C1-P3
CAN -	C1-P4
AIN/CAN shield	C1-P5
DIN	C1-P6
DIN	C1-P7
5 VDC sensor power +	C1-P8
Sensor power ground -	C1-P9
DIN/AIN/FreqIN	C1-P10
DIN/AIN/FreqIN	C1-P11
DIN/AIN/FreqIN	C1-P12



MC024-020-00000 24 pin connector

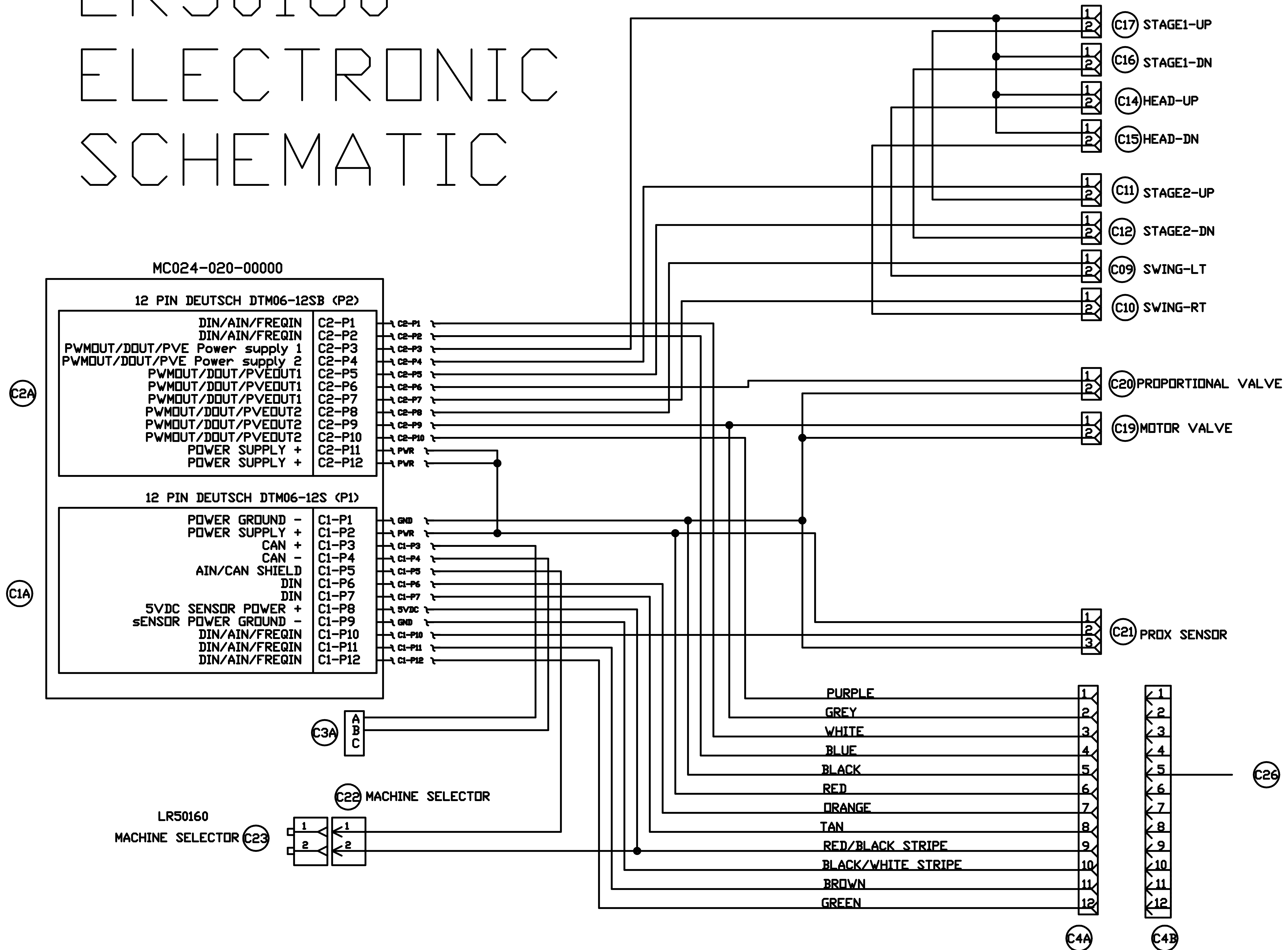
## Specifications

Product Parameters	
Supply voltage:	9 to 36 V
Operating temperature (ambient):	-40 to 70° C
Storage temperature:	-40 to 85° C
IP rating:	IP 67
EMI/RFI rating:	100 V/M
Weight:	0.40 kg (0.88 lb)
Vibration:	IEC 60068-2-64
Shock:	IEC 60068-2-27 test Ea
Maximum current, sourcing:	24 A
Maximum current, sinking:	8 A

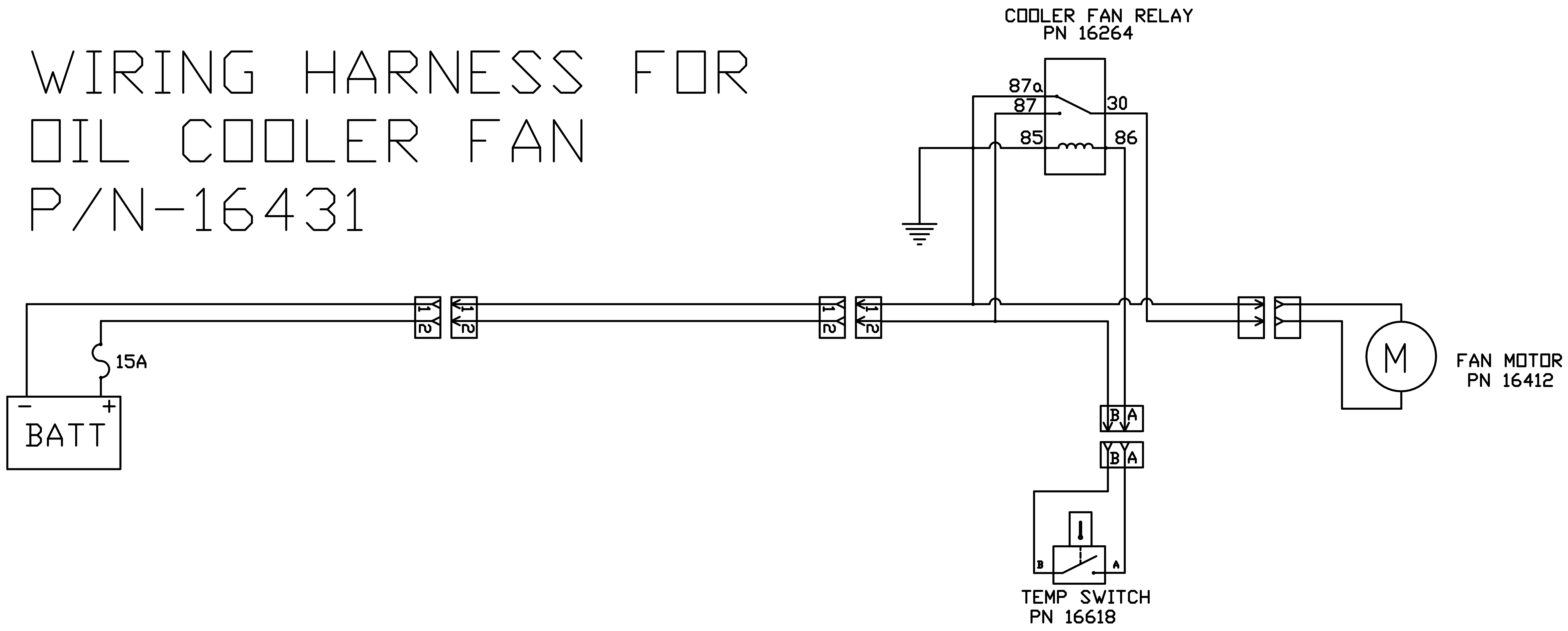


# LR50160 ELECTRONIC SCHEMATIC

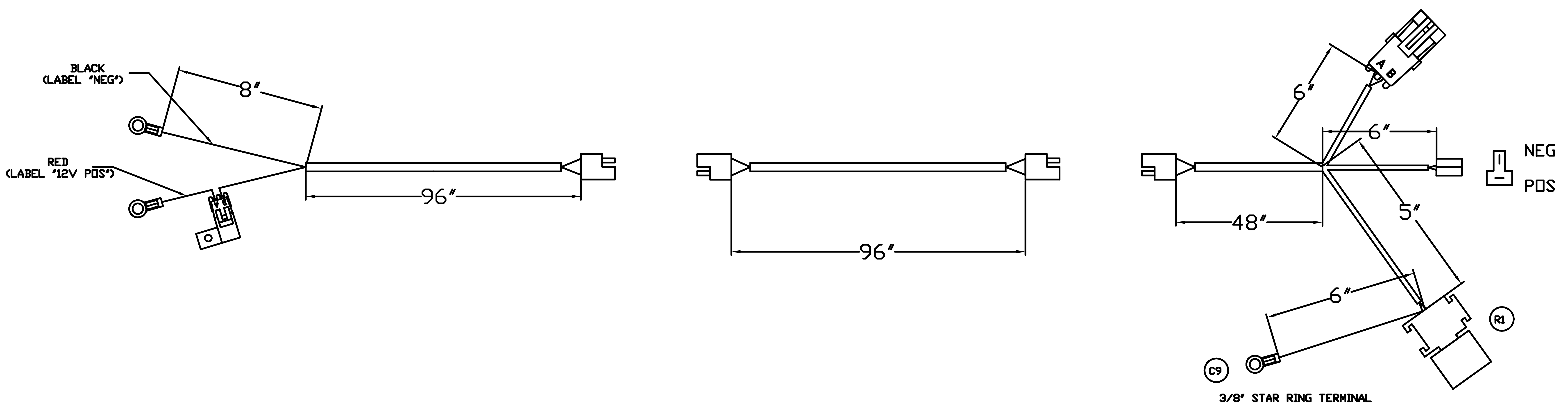
26



# WIRING HARNESS FOR OIL COOLER FAN P/N-16431



27



# LR50160 Complete

Item	Part Number	Qty.	Description	50	11005	1	Decal, Warning - Thrown Objects	95	16084	2	Swivel Nut Run Tee - 37 Deg. Flare
1	10002	2	Hex Bolt, 1/4"-20 X 1" Gr.5 Plated								
2	10006	6	Hex Bolt 1/4" x 3" gr.5 plated	50	11005	1	Decal, Warning - Thrown Objects	95	16084	2	Swivel Nut Run Tee - 37 Deg. Flare
3	10031	13	Hex Bolt 3/8 x 1 gr.5 plated	51	11010	3	Large Hardee Logo Decal	96	16086	1	Reducer 37 Deg. Flare (16-12 TRTXN-S)
4	10032	1	Hex Bolt 3/8 x 1-1/2 gr.5 plated	52	11032	1	Small Hardee Logo Decal	97	16100	1	Sight Gauge 5", With Thermometer
5	10034	2	Hex Bolt 3/8" x 2-1/2" gr.5 plated	53	11675	1	Return Filter Assembly	98	16138	2	Lock Nut 7/16"-14 NC with Nylon Insert
6	10041	2	HEX BOLT (3/8" X 6" GR. 5 PLATED)	54	11727	1	Serial Number Plate	99	16191	2	16-M-JIC X 16-M-NPT 90 Deg. Elbow
7	10071	10	Hex Bolt 1/2 x 1 gr.5 plated	55	11850	1	Web Site Decal	100	16249	1	PROX SENSOR
8	10072	2	Hex Bolt 1/2 x 1 1/2 gr.5 plated	56	11860	10	TIE STRAP, (14" LG.) (100/PK)	101	16278	1	Joystick Assembly (Not Shown)
9	10092	4	Hex Bolt 5/8 x 2 gr.5 plated	57	13535	4	STAINLESS STEEL CLAMP, 1-1/2" TO 1-3/4"	102	16335	1	Hour Meter - not for resale
10	10093	2	Hex Bolt 5/8" x 2-1/2" gr.5 plated	58	13563	1	1-1/4"-M-NPT X 1-1/2" Metal Hose Barb	103	16339	3	DECAL, MODEL LR50160
11	10111	4	Hex Bolt 3/4"-10 X 2" gr.5 Plated	59	13632	1	1/4" NPT Metal Cap	104	16353	2	16 M-JIC - 12 MORB Elbow
12	10135	2	HEX BOLT(M6x1x20MM GR.5 ZINC)	60	13697	1	1-1/4" NPT Female Threaded Elbow	105	16354	1	Fitting, 16-M-ORB/16-F-JIC0
13	10153	6	Lock Nut, 1/4" Plated	61	13758	1	20-M-NPT X 16-F-NPT Reducer	106	16379	1	HYDRAULIC HOSE, 1" - OIL
14	10154	1	Lock Nut 5/16"-18 Plated	62	13778	1	1-1/4" X 3-1/2" Long NPT Nipple	107	16390	1	HYD. HOSE, 1" 5 PSI RELIEF - OIL FILTER
15	10166	12	Lock Nut 5/8"-11 plated	63	13902	8	STRAIGHT, 6-M-JIC X 8-M-ORB	108	16392	1	PRESSURE HOSE 3/4" X 143" LG
16	10168	14	3/4"-10 Locknut (Gr.5 Plated)	64	13905	8	6-M-JIC X 8-M-NPT 90 Deg. Elbow	109	16393	1	PRESSURE HOSE 1" X 153" LG
17	10175	13	3/8"-16 Locknut (Gr.5 Plated)	65	13974	1	16-M-JIC X 16-M-NPT 90 Deg. Elbow	110	16404	1	CHECK VALVE- INLINE 5 PSI
18	10176	8	1/2" Locknut (Gr.5 Plated)	66	15242	1	Hydraulic Vane Motor	111	16431	1	WIRING HARNESS, Oil Cooler
19	10181	1	Lockwasher 5/16" plated	67	15251	2	1" Hose Clamp Body (SET OF 2)	112	16436	1	Clamp, 1/2" Plated Steel Loom
20	10184	8	Lockwasher 1/2 plated	68	15252	1	3/4" Hose Clamp Body (SET OF 2)	113	16496	1	CONTROLLER, MC 024 020 for 16065
21	10185	2	Lockwasher 5/8" Plated	69	15255	3	Hose Clamp Cover Plate	114	16579	1	Hydraulic Motor Housing Assembly
22	10186	10	Lockwasher 3/4" Plated	70	15256	2	Hex Bolt (1/4" X 2-3/8" Gr. 5 Plated)	115	16617	1	OIL COOLER
23	10200	6	1/4" Plated Flatwasher	71	15326	1	Pressure Hose 3/8" X 17" Lg. W/ 6-F-JIC Both Ends	116	16618	1	TEMPERATURE SWITCH
24	10202	25	3/8" Flatwasher (Plated)	72	15338	1	Danger Decal, Exposed Blades	117	16747	2	CYLINDER, 3 X 17"
25	10204	20	1/2 Flatwasher (Plated)	73	15339	1	PRESSURE HOSE 3/8" X 32" W/6-F-JIC	118	16751	1	CYLINDER, 4 X 24 TIE ROD, Long Rod, LR"
26	10206	8	Flatwasher 3/4 plated	74	15466	2	Tubing Insert, 3-1/2" Sqr. X 11	119	16845	1	Cylinder, 4" X 24" With 2.0" Rod
27	10207	23	Flatwasher, 1" plated	75	15481	1	Slotted Hex Nut 1-1/4" -18UNEF	120	20031	1	Access Cover
28	10252	12	Cotter Pin 3/16" X 2" Plated	76	15845	1	Hydraulic Decal Kit	121	22710	1	Short Belting Flat
29	10335	1	Hardee Red Paint - (Not Shown)	77	15845-1	1	DANGER DECAL (KIT 15845)	122	22728	1	DB4060/LR50160 Rubber Belting Kit
30	10336	1	Gear Oil [85W-140] - (Not Shown)	78	15845-10	1	WARNING DECAL (KIT 15845)	123	22768	1	LR50160 Front Corner Belting
31	10339	2	Pop Rivet	79	15845-11	1	WARNING DECAL (KIT 15845)	124	22770	1	LR40148 / LR50148 Belting Extension Kit
32	10346	2	3 pt. Snap Pin (Lynch Pin)	80	15845-15	1	DANGER DECAL (KIT 15845)	125	22781	1	LR50160 Deck Weldment (6 Bolt)
33	10368	1	1-1/4" Gate Valve	81	15845-16	1	DANGER DECAL (KIT 15845)	126	22833	2	Fluid Connector
34	10373	1	Hydraulic Oil	82	15845-9	1	WARNING DECAL (KIT 15845)	127	23130	1	Pivot Sleeve
35	10387	2	O-ring	83	15852	2	Red Reflector Decal	128	23131	1	End Cap Weldment
36	10388	1	O-Ring	84	15853	2	Yellow Reflector Decal	129	23160	2	Stand Weldment, 17-7/8" Tall
37	10390	3	Clip Pin (1/8 x 2)	85	15854	1	Manual Holder	130	23232	1	Support Brace
38	10393	3	Universal Clip Pin	86	15860	2	U-Nut, 1/4"-20	131	23280	1	WELDMENT, Cylinder Breakaway
39	10419	2	Hitch Pin, Cat. 2 & 3, Clevis Style	87	15910	46	HOSE SLEEVE	132	23287	2	Boom To Deck Bracket Weldment
40	10501	1	FLOW EZY BREATHER	88	15968	1	Cotter Pin 1/4" x 3"	133	23290	2	WELDMENT, Boom to Deck Bracket, 21"
41	10538	2	Sleeve for 10419 Pin	89	16065	1	CONTROL VALVE & Joy Stick Kit	134	23292	1	PIN WELDMENT (1" x 5" LG)
42	10582	1	PRESSURE HOSE 3/8" X 55" W/6-F-JIC	90	16067	1	PUMP - VALVE HOSE	135	23294	1	1st Stage Boom
43	10583	1	3/8" SAE 100 R1 X 125" W/6-F-JIC	91	16068	1	HOSE ASSY. VALVE TO TANK	136	23310	1	2nd Stage Boom
44	10584	1	PRESSURE HOSE 3/8" X 210" W/6-F-JIC	92	16070	8	3/8" - 90DEG. SWIVEL NUT	137	23320	1	Cylinder Mount Weldment
45	10585	2	PRESSURE HOSE 3/8" X 83" W/6-F-JIC	93	16071	1	PRESSURE HOSE 3/8" X 192" W/6-F-JIC				
46	10587	1	PRESSURE HOSE 3/4" X 106" W/12-M-JIC	94	16077	3	Straight Fitting - 1"				
47	10646	1	Grease								
48	10866	1	1" X 106" Pressure Hose								
49	10872	4	Pressure Flange SET								

REV.	CHANGE	BY	DATE	ECN
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620
E	Pump 15240 Has Changed To Pump 16705 Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	12/14/16	1672
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	1/16/17	1655
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	2/3/17	1672
			8/11/17	1686

**Note:**  
*This list of components is strictly to be viewed as a "BILL OF MATERIALS" of the "COMPLETE" mower. It is not related to any illustration.*

MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO. LORIS S.C.</b>	
DRAWN BY	C.K.N.	3/23/10	DESCRIPTION	SHEET 1 of 10
MATERIAL	R.M.N. N/A		LR50160 COMPLETE	
Manufactured By: EVH Mfg. Co., LLC			DO NOT SCALE	B DWG. NO. 25695

All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16"  
 Decimal Dim. to Limits Shown  
 Angular Dimensions ± 1°  
 All Holes to be +0 -1/32"

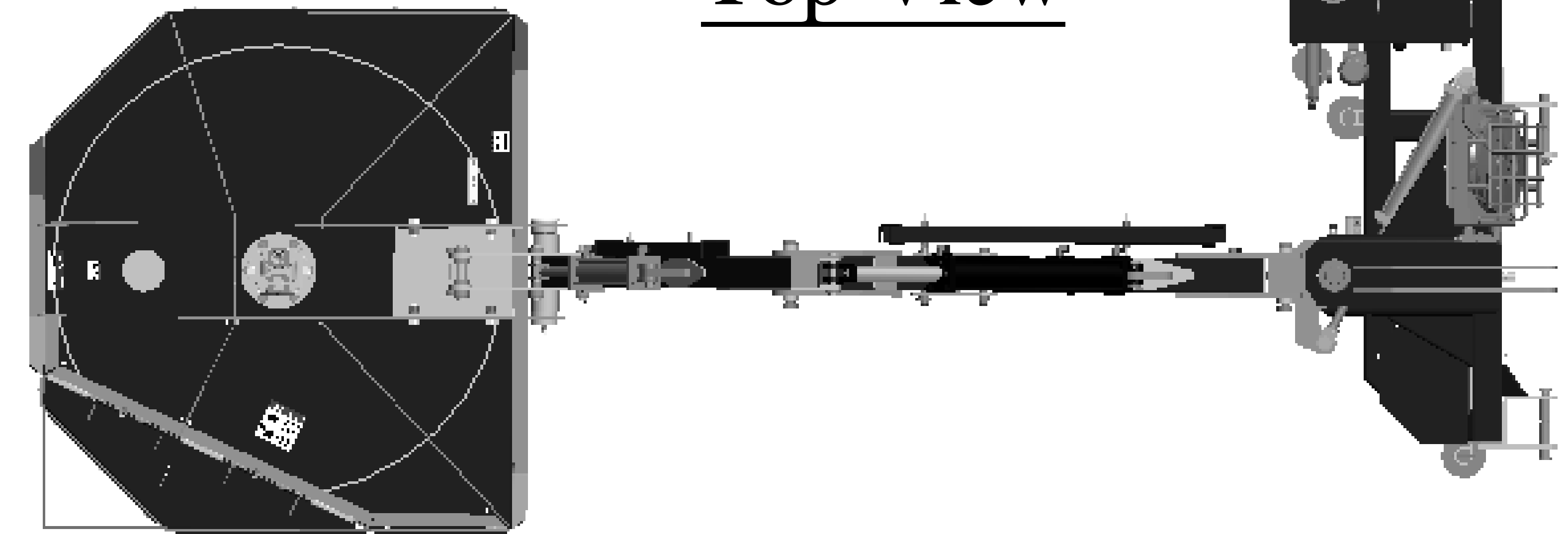


# LR50160 Complete

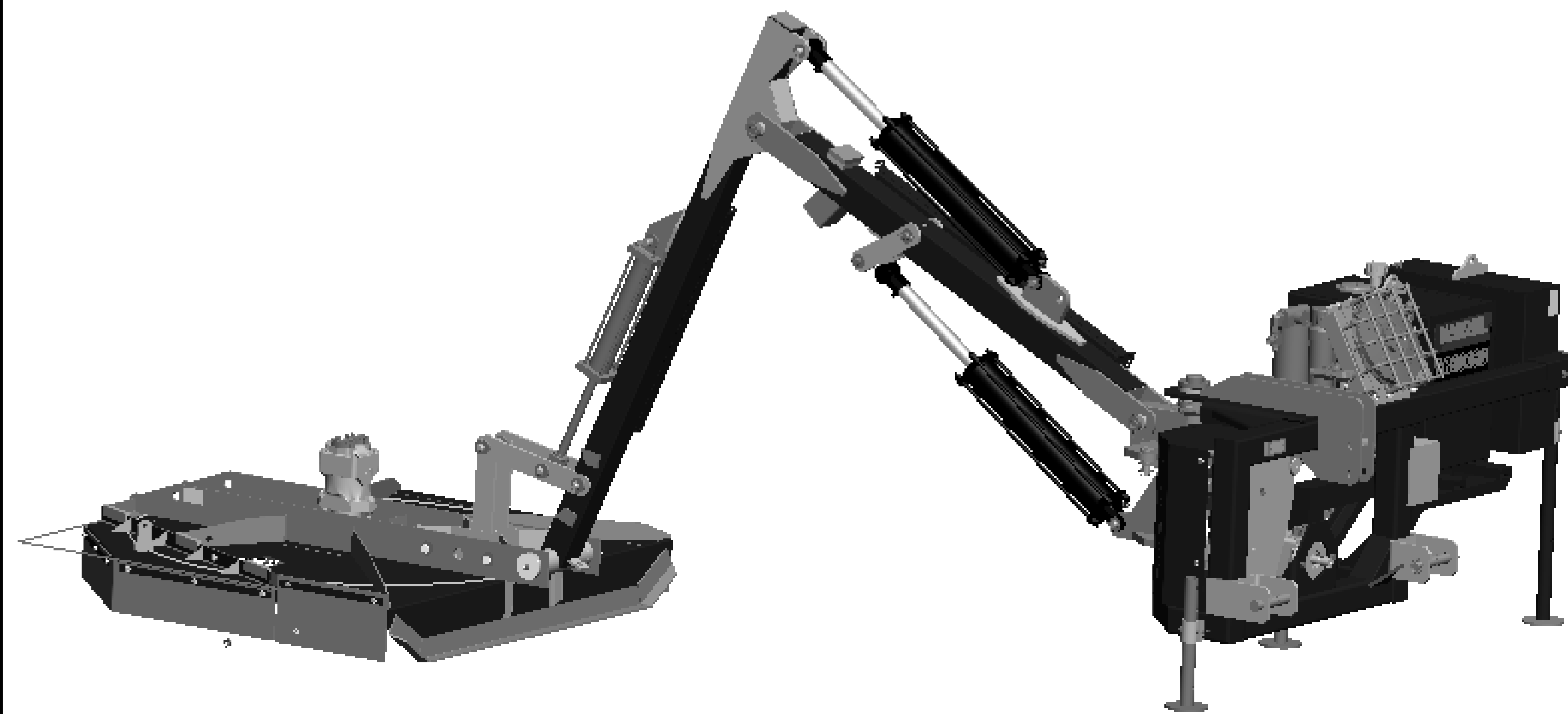
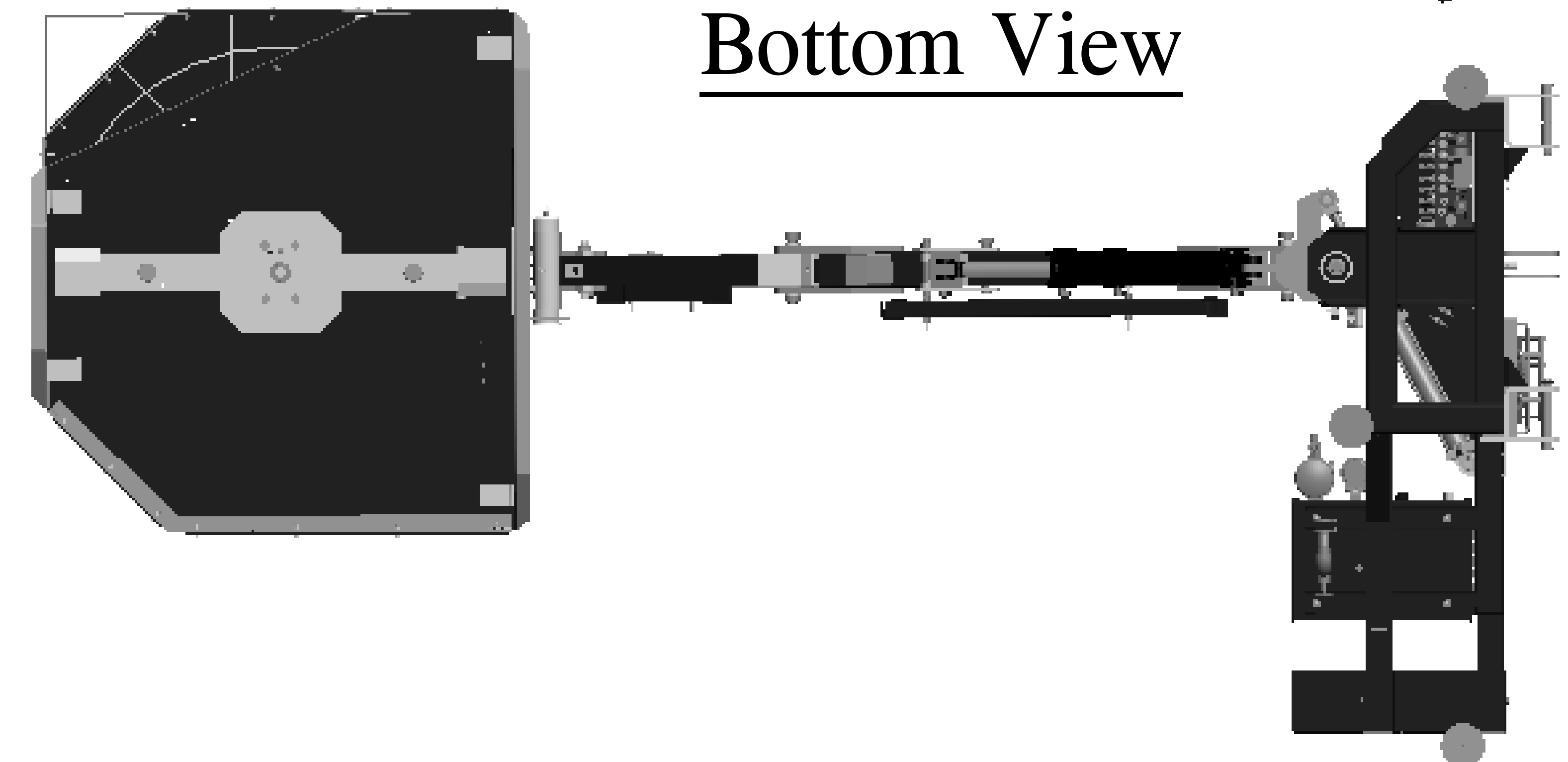
DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	



Top View



Bottom View



MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO. LORIS S.C.</b>	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N. N/A		DESCRIPTION	SHEET 2 of 10
All Dimensions in Inches Unless Otherwise Specified Dimensions in [ ] are in Millimeters Tolerance Unless Otherwise Specified Fractional Dimensions ± 1/16" Decimal Dim. to Limits Shown			LR50160 COMPLETE	
Manufactured By: EVH Mfg. Co., LLC			DO NOT SCALE	DWG. NO. <b>25695</b> B DWG SIZE



# Hitch Frame & Components

Item	Part Number	Qty.	Description				
1	10002	2	Hex Bolt, 1/4"-20 X 1" Gr.5 Plated	36	15845-16	1	DANGER DECAL (KIT 15845)
2	10006	2	Hex Bolt 1/4" x 3" gr.5 plated	37	15845-9	1	WARNING DECAL (KIT 15845)
3	10031	11	Hex Bolt 3/8 x 1 gr.5 plated	38	15852	1	Red Reflector Decal
4	10032	1	Hex Bolt 3/8 x 1-1/2 gr.5 plated	39	15853	1	Yellow Reflector Decal
5	10041	2	HEX BOLT (3/8" X 6" GR. 5 PLATED)	40	15854	1	Manual Holder
6	10072	2	Hex Bolt 1/2 x 1 1/2 gr.5 plated	41	15860	2	U-Nut, 1/4"-20
7	10092	2	Hex Bolt 5/8 x 2 gr.5 plated	42	16065	1	CONTROL VALVE & Joy Stick Kit
8	10135	2	HEX BOLT(M6x1x20MM GR.5 ZINC)	43	16070	8	3/8" - 90DEG. SWIVEL NUT
9	10153	2	Lock Nut, 1/4" Plated	44	16077	3	Straight Fitting - 1"
10	10166	2	Lock Nut 5/8"-11 plated	45	16084	2	Swivel Nut Run Tee - 37 Deg. Flare
11	10175	7	3/8"-16 Locknut (Gr.5 Plated)	46	16086	1	Reducer 37 Deg. Flare (16-12 TRTXN-S)
12	10176	6	1/2" Locknut (Gr.5 Plated)	47	16100	1	Sight Gauge 5", With Thermometer
13	10200	6	1/4" Plated Flatwasher	48	16191	2	16-M-JIC X 16-M-NPT 90 Deg. Elbow
14	10202	19	3/8" Flatwasher (Plated)	49	16249	1	PROX SENSOR
15	10204	8	1/2 Flatwasher (Plated)	50	16339	3	DECAL, MODEL LR50160
16	10368	1	1-1/4" Gate Valve	51	16353	2	16 M-JIC - 12 MORB Elbow
17	10387	1	O-ring	52	16354	1	Fitting, 16-M-ORB/16-F-JIC0
18	10390	3	Clip Pin (1/8 x 2)	53	16404	1	CHECK VALVE- INLINE 5 PSI
19	10393	3	Universal Clip Pin	54	16436	1	Clamp, 1/2" Plated Steel Loom
20	10501	1	FLOW EZY BREATHER	55	16496	1	CONTROLLER, MC 024 020 for 16065
21	10872	1	Pressure Flange SET	56	16617	1	OIL COOLER
22	11005	1	Decal, Warning - Thrown Objects	57	16618	1	TEMPERATURE SWITCH
23	11010	3	Large Hardee Logo Decal	58	22833	1	Fluid Connector
24	11675	1	Return Filter Assembly	59	23160	2	Stand Weldment, 17-7/8" Tall
25	11850	1	Web Site Decal	60	23232	1	Support Brace
26	13535	4	STAINLESS STEEL CLAMP, 1-1/2" TO 1-3/4"	61	23325	1	WELDMENT, Weight Box
27	13563	1	1-1/4"-M-NPT X 1-1/2" Metal Hose Barb	62	23335	1	Weldment, Oil Tank
28	13632	1	1/4" NPT Metal Cap	63	23340	1	Stand Weldment
29	13697	1	1-1/4" NPT Female Threaded Elbow	64	25725	1	WELDMENT, Hardee Logo
30	13758	1	20-M-NPT X 16-F-NPT Reducer	65	25857	1	WELDMENT-OIL COOLER SUPPORT
31	13778	1	1-1/4" X 3-1/2" Long NPT Nipple	66	25930	1	ASSEMBLY Hitch Frame, LR50160 / LR50148
32	13902	8	STRAIGHT, 6-M-JIC X 8-M-ORB	67	26855	1	WELDMENT - FAN GUARD FOR OIL COOLER
33	13974	1	16-M-JIC X 16-M-NPT 90 Deg. Elbow				
34	15466	2	Tubing Insert, 3-1/2" Sqr. X 11				
35	15845-15	1	DANGER DECAL (KIT 15845)				

DWG. NO.	25695			REV.	<b>G</b>
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO. LORIS S.C.</b>	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N.	N/A	DESCRIPTION	SHEET 3 of 10
			LR50160 COMPLETE	
Manufactured By: EVH Mfg. Co., LLC			DO NOT SCALE	DWG. NO. <b>25695</b>

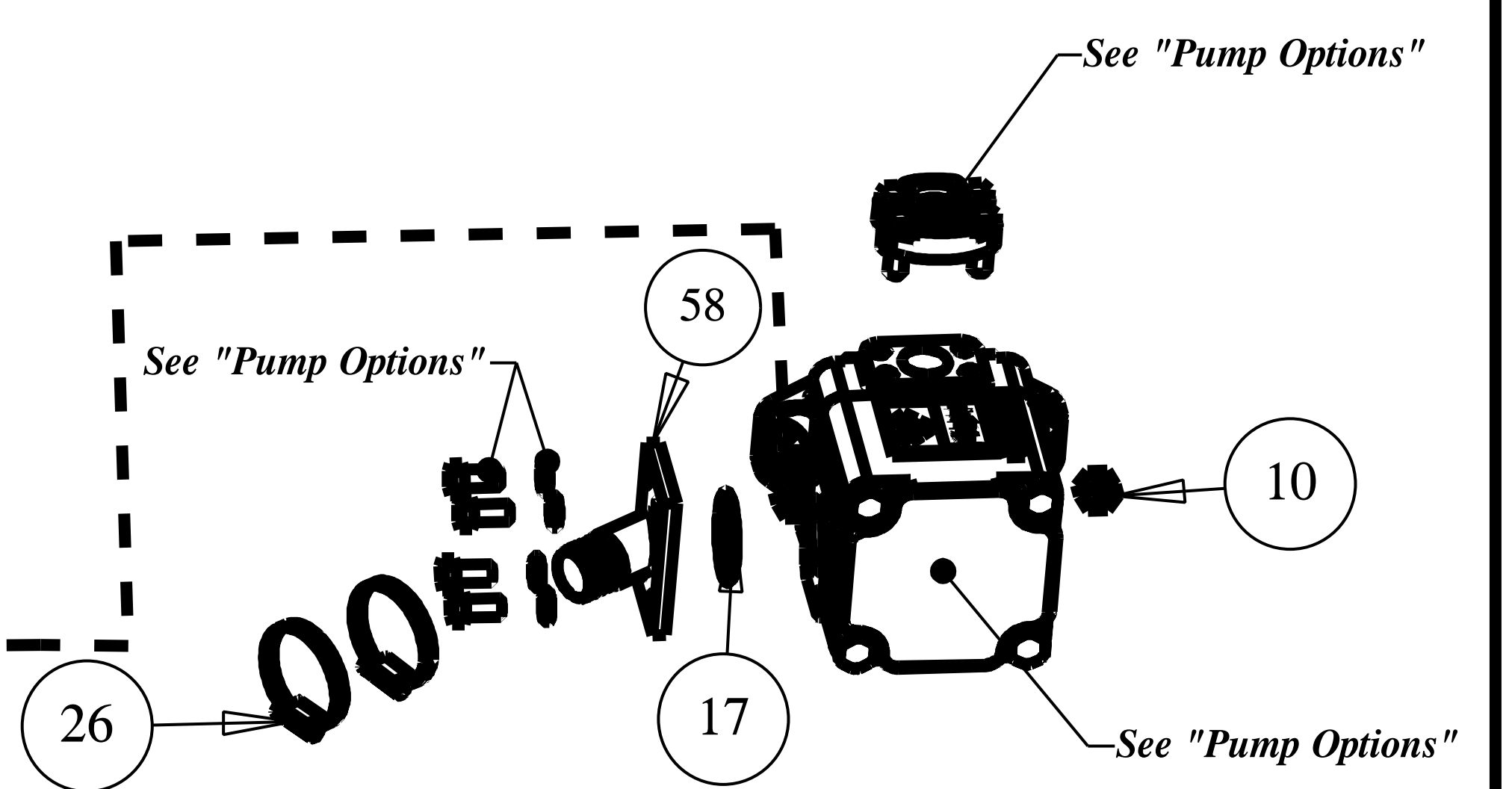
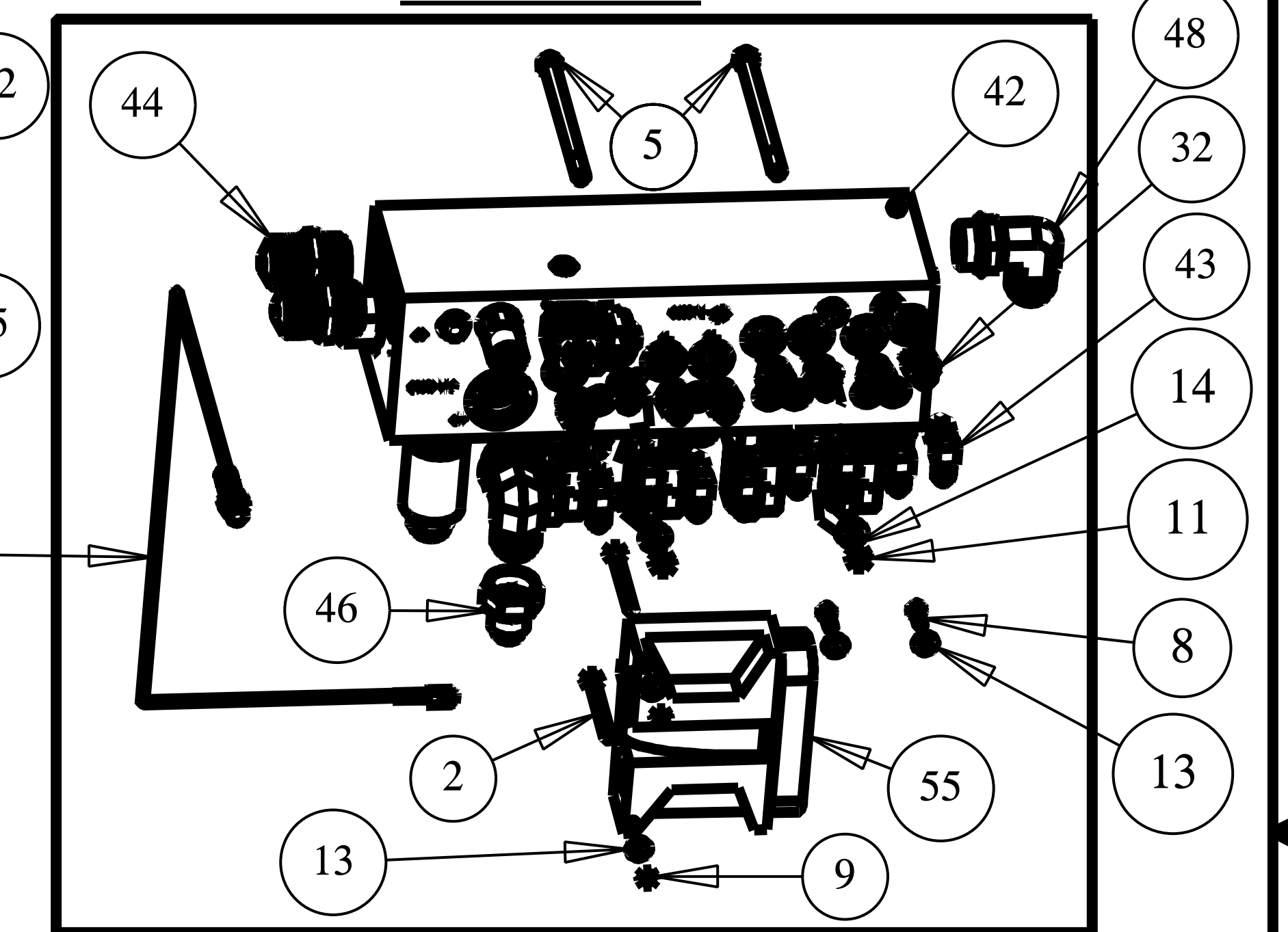
All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
**Fractional Dimensions ± 1/16"**  
 Decimal Dim. to Limits Shown  
**Angular Dimensions ± 1°**  
 All Holes to be +0 -1/32"



# Hitch Frame & Components

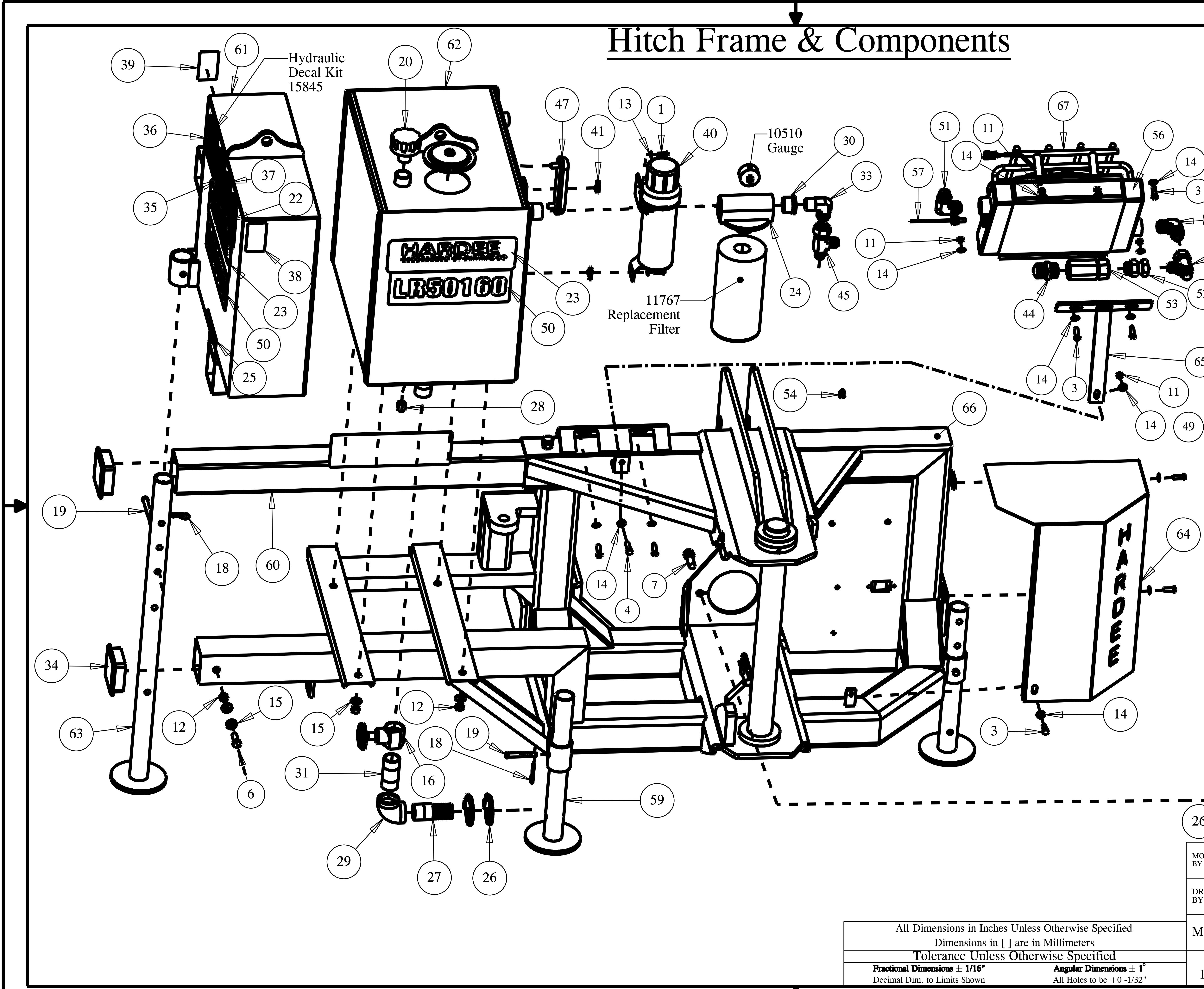
DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

## Valve Kit



MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO. LORIS S.C.</b>	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N. N/A		DESCRIPTION	SHEET 4 of 10
Manufactured By: EVH Mfg. Co., LLC			LR50160 COMPLETE	
DO NOT SCALE	B DWG SIZE	DWG. NO.	25695	

All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16"  
 Decimal Dim. to Limits Shown  
 Angular Dimensions ± 1°  
 All Holes to be +0 -1/32"

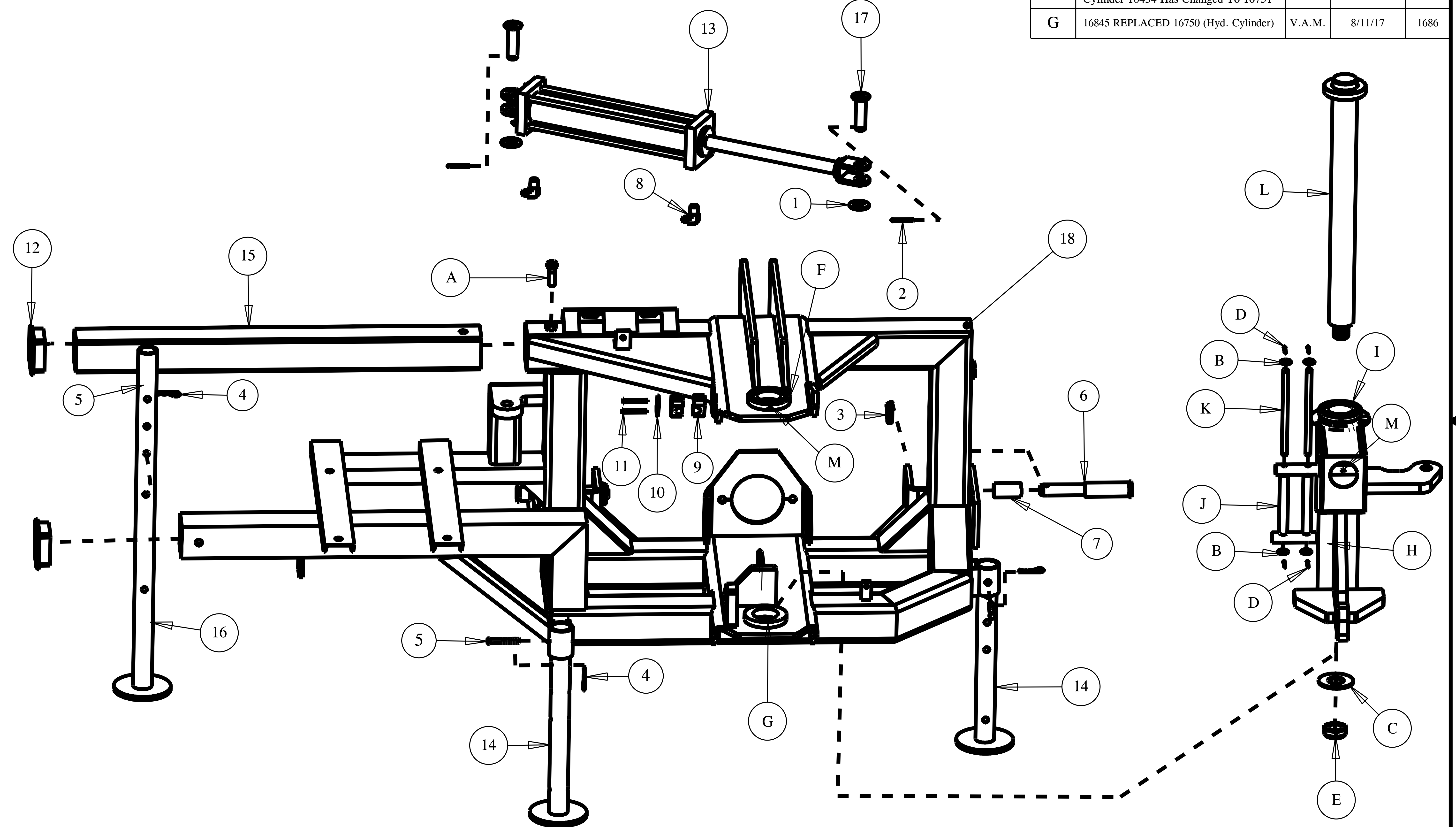




# Hitch Frame & Swivel

DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705 Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	12/14/16	1672	1655
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

Item	Part Number	Qty.	Description
1	10207	2	Flatwasher, 1" plated
2	10252	2	Cotter Pin 3/16" X 2" Plated
3	10346	2	3 pt. Snap Pin (Lynch Pin)
4	10390	3	Clip Pin (1/8 x 2)
5	10393	3	Universal Clip Pin
6	10419	2	Hitch Pin, Cat. 2 & 3, Clevis Style
7	10538	2	Sleeve for 10419 Pin
8	13905	2	6-M-JIC X 8-M-NPT 90 Deg. Elbow
9	15251	1	1" Hose Clamp Body (SET OF 2)
10	15255	1	Hose Clamp Cover Plate
11	15256	2	Hex Bolt (1/4" X 2-3/8" Gr. 5 Plated)
12	15466	2	Tubing Insert, 3-1/2" Sqr. X 11
13	16747	1	CYLINDER, 3 X 17"
14	23160	2	Stand Weldment, 17-7/8" Tall
15	23232	1	Support Brace
16	23340	1	Stand Weldment
17	25724	2	WELDMENT, Cylinder Pin
18	25930	1	ASSEMBLY Hitch Frame, LR50160 / LR50148



Item	Part Number	Qty.	Description
A	10092	1	HEX BOLT (5/8" X 2" GR. 5 PLATED)
B	10204	4	FLAT WASHER, 1/2" Plated, USS
C	10215	1	FLAT WASHER (1-1/2") USS Plain Zinc
D	10237	4	COTTER PIN (1/8" X 1-1/4" PLATED)
E	16294	1	LOCKNUT, 1-1/2"-12 Zinc Plated Nylon Insert Jam
F	23257	2	BUSHING W/ GREASE FITTING, 4-1/4" OD
G	23258	2	BUSHING, 4-1/4" OD X 7/8" LG.
H	23261	1	WELDMENT, Swivel, LR50160
I	23268	2	BUSHING W/GREASE FITTING, 4-1/4" OD
J	23272	2	HOSE BRACKET ROLLER
K	23273	2	Hose Bracket Rod
L	23284	1	WELDMENT, Swing arm shaft, LR50160/LR40160
M	10322	5	GREASE FITTING, 1/4"-28 Thd

All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16"  
 Decimal Dim. to Limits Shown  
 Angular Dimensions ± 1°  
 All Holes to be +0 -1/32"

MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY                  EVH MFG. CO.</b> LORIS S.C.
DRAWN BY	C.K.N.	3/23/10	
MATERIAL	R.M.N. N/A		DESCRIPTION
Manufactured By: EVH Mfg. Co., LLC			LR50160 COMPLETE
DO NOT SCALE	B DWG SIZE	DWG. NO.	25695

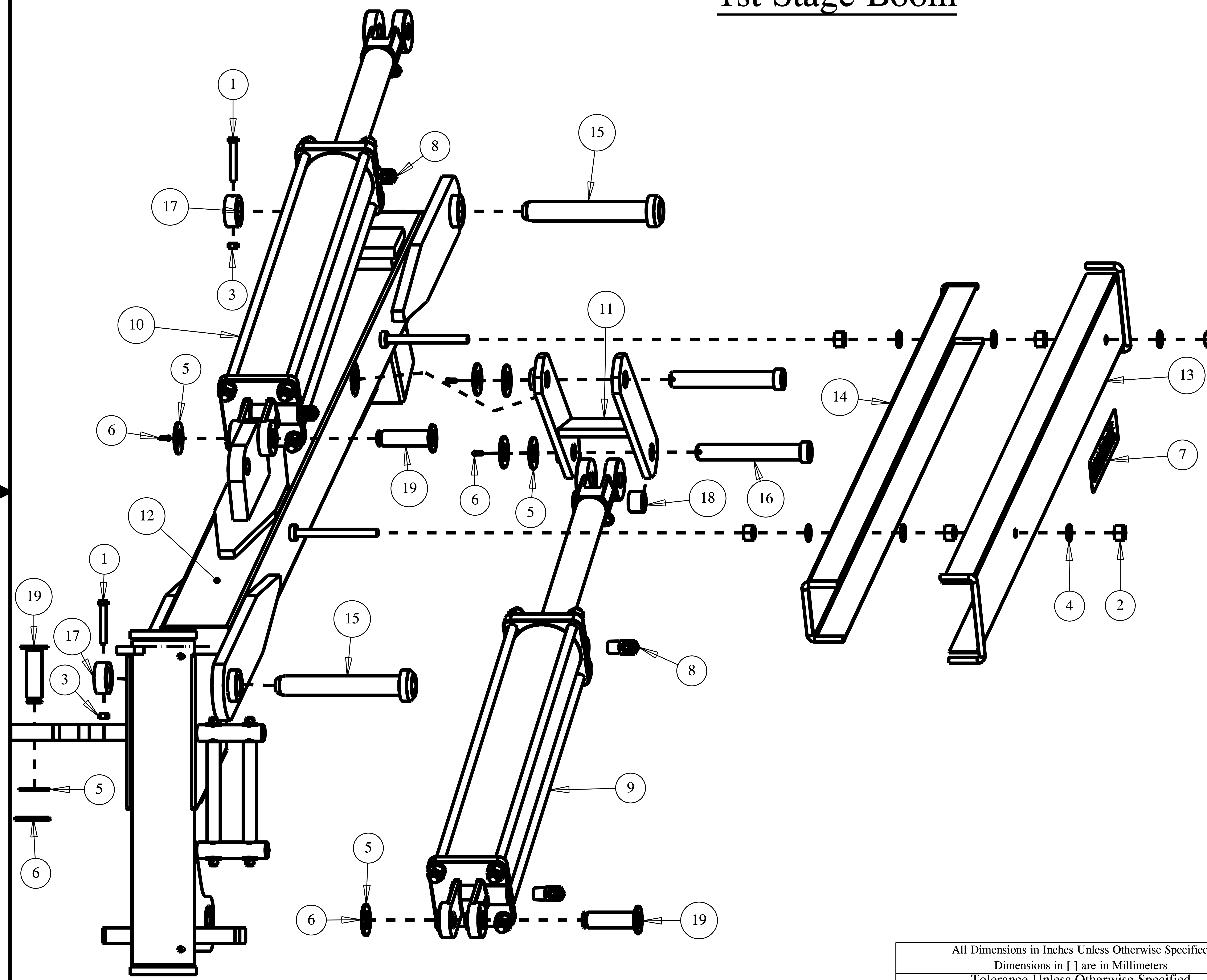


# 1st Stage Boom

DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

Item	Part Number	Qty.	Description
1	10034	2	Hex Bolt 3/8" x 2-1/2" gr.5 plated
2	10166	6	Lock Nut 5/8"-11 plated
3	10175	2	3/8"-16 Locknut (Gr.5 Plated)
4	10204	6	1/2 Flatwasher (Plated)
5	10207	7	Flatwasher, 1" plated
6	10252	5	Cotter Pin 3/16" X 2" Plated
7	11032	1	Small Hardee Logo Decal
8	13905	4	6-M-JIC X 8-M-NPT 90 Deg. Elbow
9	16751	1	CYLINDER, 4 X 24 TIE ROD, Long Rod, LR"
10	16845	1	Cylinder, 4" X 24" With 2.0" Rod
11	23280	1	WELDMENT, Cylinder Breakaway
12	23294	1	1st Stage Boom
13	23349	1	Outer Hose Guard Weldment
14	23352	1	Inner Hose Guard Weldment
15	23379	2	1-1/4" X 9" Pin Weldment for LR's
16	23434	2	Pin Weldment
17	23457	2	COLLAR, for 23379 PIN (Bushing)
18	25117	2	Spacer
19	25724	3	WELDMENT, Cylinder Pin

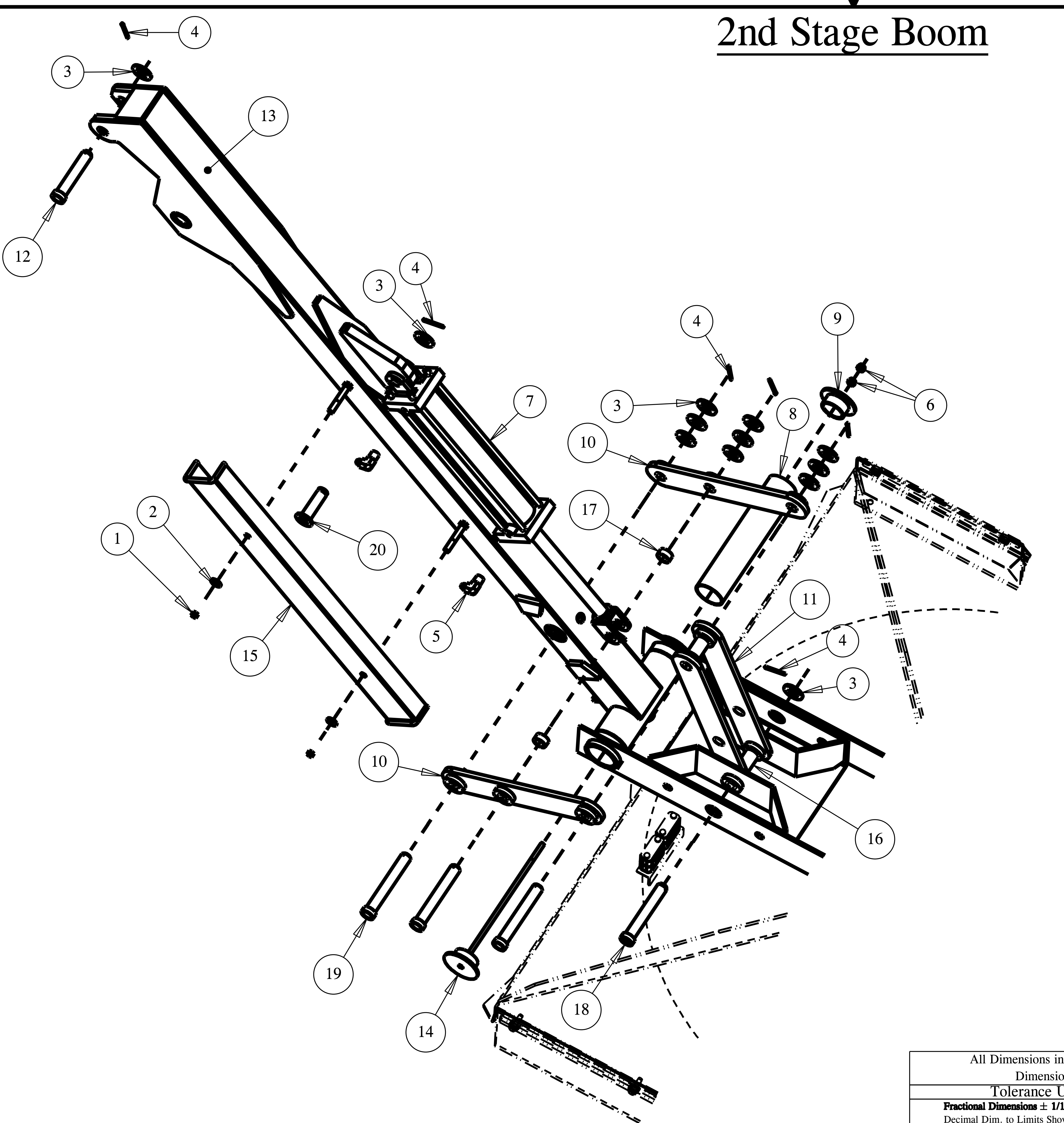
MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO.</b> LORIS S.C.	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N.	N/A	DESCRIPTION	SHEET 6 of 10
All Dimensions in Inches Unless Otherwise Specified Dimensions in [ ] are in Millimeters Tolerance Unless Otherwise Specified Fractional Dimensions ± 1/16" Decimal Dim. to Limits Shown			LR50160 COMPLETE	
Manufactured By: EVH Mfg. Co., LLC			DO NOT SCALE	DWG. NO. <b>25695</b> B DWG SIZE



# 2nd Stage Boom

DWG. NO.	25695	REV.	G
REV	CHANGE	BY	DATE
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17

Item	Part Number	Qty.	Description
1	10175	2	3/8"-16 Locknut (Gr.5 Plated)
2	10204	2	1/2 Flatwasher (Plated)
3	10207	12	Flatwasher, 1" plated
4	10252	6	Cotter Pin 3/16" X 2" Plated
5	13905	2	6-M-JIC X 8-M-NPT 90 Deg. Elbow
6	16138	2	Lock Nut 7/16"-14 NC with Nylon Insert
7	16747	1	CYLINDER, 3 X 17"
8	23130	1	Pivot Sleeve
9	23131	1	End Cap Weldment
10	23287	2	Boom To Deck Bracket Weldment
11	23290	2	WELDMENT, Boom to Deck Bracket, 21"
12	23292	1	PIN WELDMENT (1" x 5" LG)
13	23310	1	2nd Stage Boom
14	23345	1	Head Mounting Bracket Weldment
15	23355	1	WELDMENT, GUARD
16	23361	2	Spacer, 1" X 2-1/8"
17	23363	2	SPACER (1" SCH 40 Pipe x 5/8")
18	23380	1	WELDMENT, 1" x 6 1/4" PIN
19	23434	3	Pin Weldment
20	25724	1	WELDMENT, Cylinder Pin



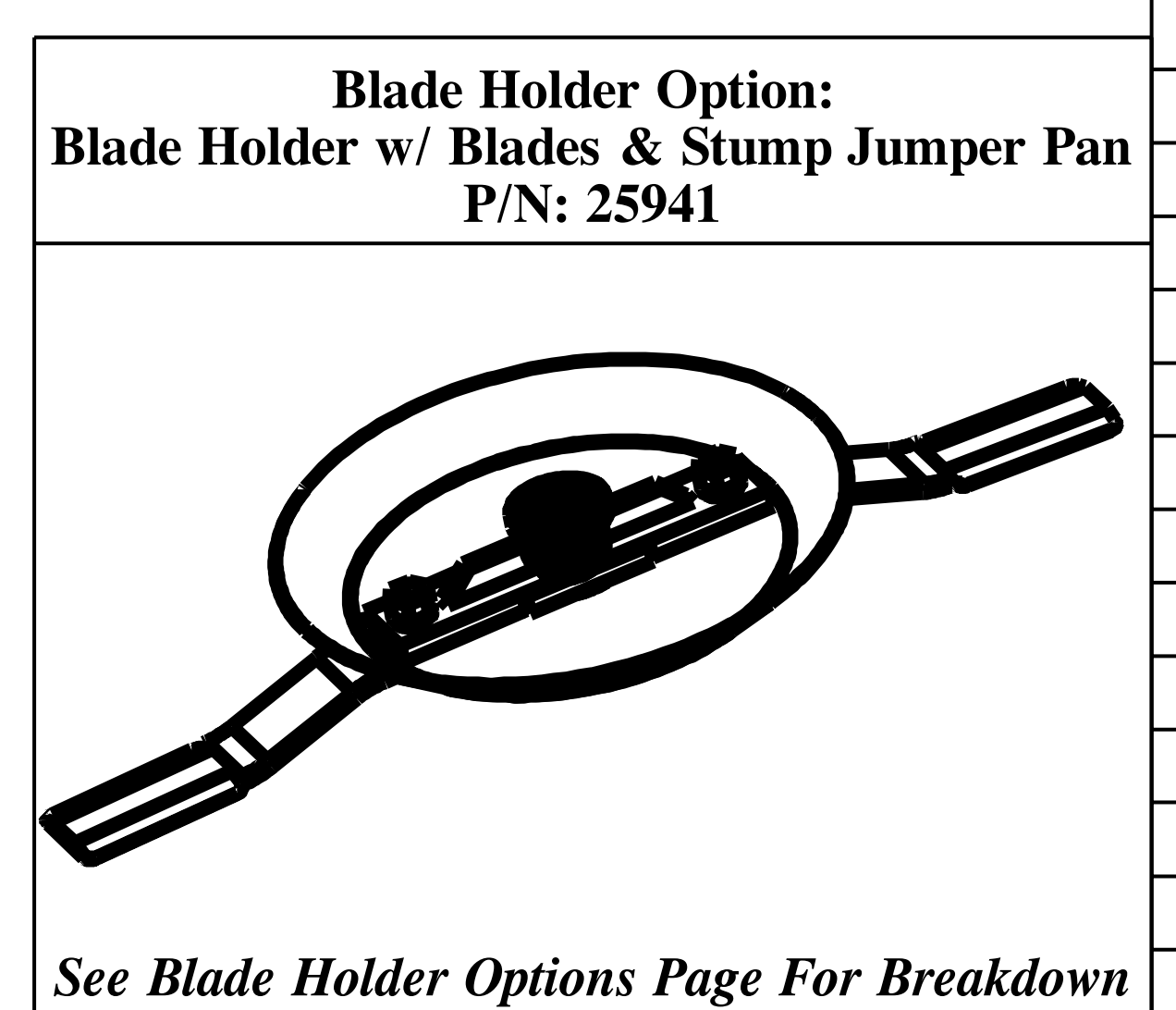
All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16"      Angular Dimensions ± 1°  
 Decimal Dim. to Limits Shown      All Holes to be +0 -1/32"

MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO.</b>	
DRAWN BY	C.K.N.	3/23/10	LORIS S.C.	
MATERIAL	R.M.N.	N/A	DESCRIPTION	SHEET 7 of 10
			LR50160 COMPLETE	
Manufactured By: EVH Mfg. Co., LLC			DO NOT SCALE	DWG. NO. 25695



DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750	T.B.B.	2/3/17	1672	
	Cylinder 10454 Has Changed To 16751	T.B.B.			
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

Item	Part Number	Qty.	Description
1	10006	4	Hex Bolt 1/4" x 3" gr.5 plated
2	10031	2	Hex Bolt 3/8 x 1 gr.5 plated
3	10071	2	Hex Bolt 1/2 x 1 gr.5 plated
4	10093	2	Hex Bolt 5/8" x 2-1/2" gr.5 plated
5	10111	4	Hex Bolt 3/4"-10 X 2" gr.5 Plated
6	10153	4	Lock Nut, 1/4" Plated
7	10154	1	Lock Nut 5/16"-18 Plated
8	10166	2	Lock Nut 5/8"-11 plated
9	10168	10	3/4"-10 Locknut (Gr.5 Plated)
10	10175	2	3/8"-16 Locknut (Gr.5 Plated)
11	10176	2	1/2" Locknut (Gr.5 Plated)
12	10181	1	Lockwasher 5/16" plated
13	10185	2	Lockwasher 5/8" Plated
14	10186	10	Lockwasher 3/4" Plated
15	10202	4	3/8" Flatwasher (Plated)
16	10204	4	1/2 Flatwasher (Plated)
17	10206	8	Flatwasher 3/4 plated
18	10388	1	O-Ring
19	10872	2	Pressure Flange SET
20	15242	1	Hydraulic Vane Motor
21	15251	1	1" Hose Clamp Body (SET OF 2)
22	15252	1	3/4" Hose Clamp Body (SET OF 2)
23	15255	2	Hose Clamp Cover Plate
24	15338	1	Danger Decal, Exposed Blades
25	15481	1	Slotted Hex Nut 1-1/4" -18UNEF
26	15845-1	1	DANGER DECAL (KIT 15845)
27	15845-10	1	WARNING DECAL (KIT 15845)
28	15845-11	1	WARNING DECAL (KIT 15845)
29	15852	1	Red Reflector Decal
30	15853	1	Yellow Reflector Decal
31	15968	1	Cotter Pin 1/4" x 3"
32	16579	1	Hydraulic Motor Housing Assembly
33	20031	1	Access Cover
34	22710	1	Short Belting Flat
35	22728	1	DB4060/LR50160 Rubber Belting Kit
36	22768	1	LR50160 Front Corner Belting
37	22770	1	LR40148 / LR50148 Belting Extension Kit
38	22781	1	LR50160 Deck Weldment (6 Bolt)
39	23320	1	Cylinder Mount Weldment
40	25841	1	BLADE HOLDER WITH BLADES, LR50160

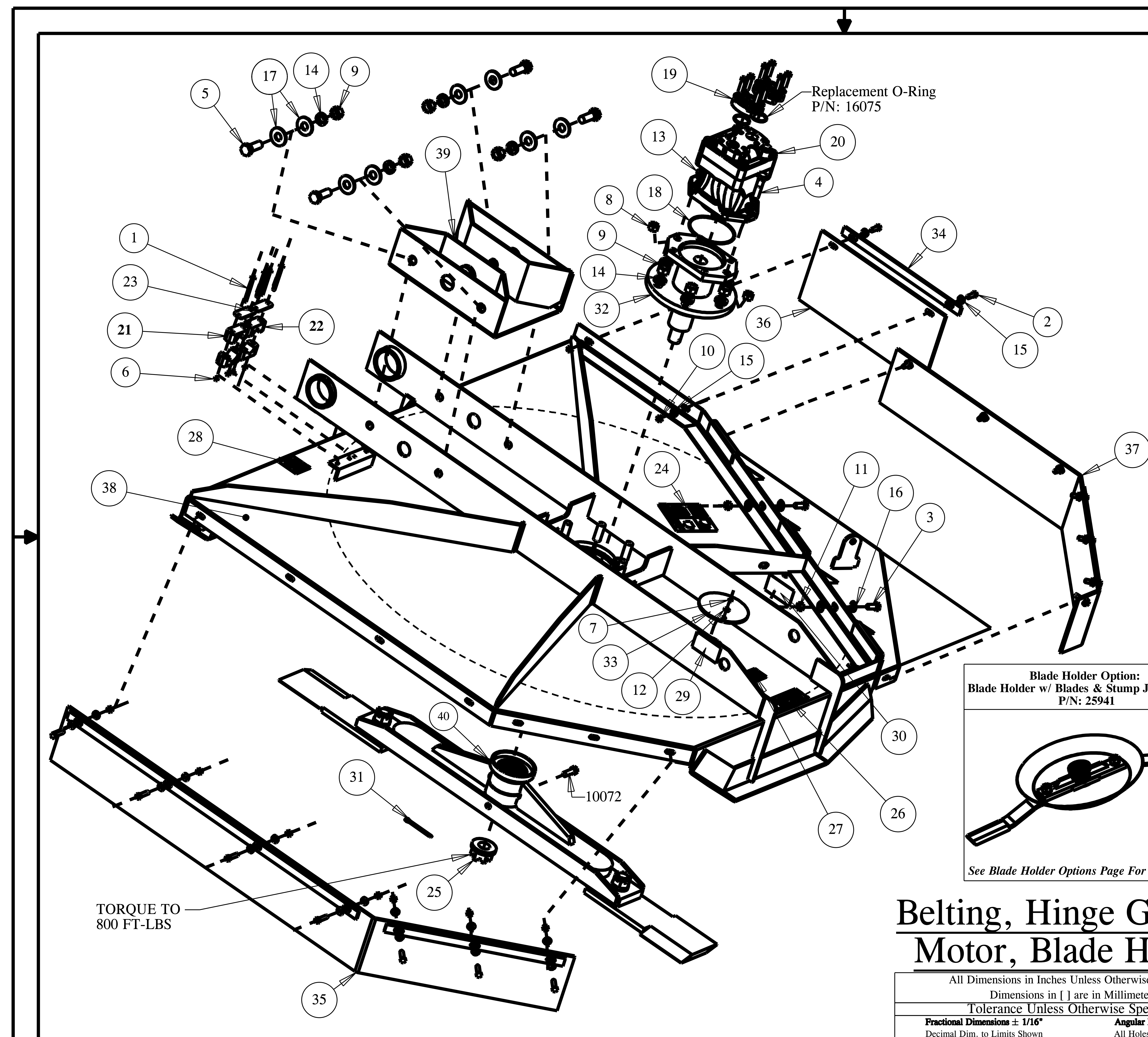


TORQUE TO  
800 FT-LBS

## Belting, Hinge Gate & Motor, Blade Holder

All Dimensions in Inches Unless Otherwise Specified  
Dimensions in [ ] are in Millimeters  
Tolerance Unless Otherwise Specified  
Fractional Dimensions ± 1/16"  
Decimal Dim. to Limits Shown

MODELED BY	T.B.B.	3/11/14	HARDEE BY EVH MFG. CO. LORIS S.C.	
DRAWN BY	C.K.N.	3/23/10	DESCRIPTION	SHEET 8 of 10
MATERIAL	R.M.N. N/A		LR50160 COMPLETE	
Manufactured By:	EVH Mfg. Co., LLC	DO NOT SCALE	B DWG. NO.	25695

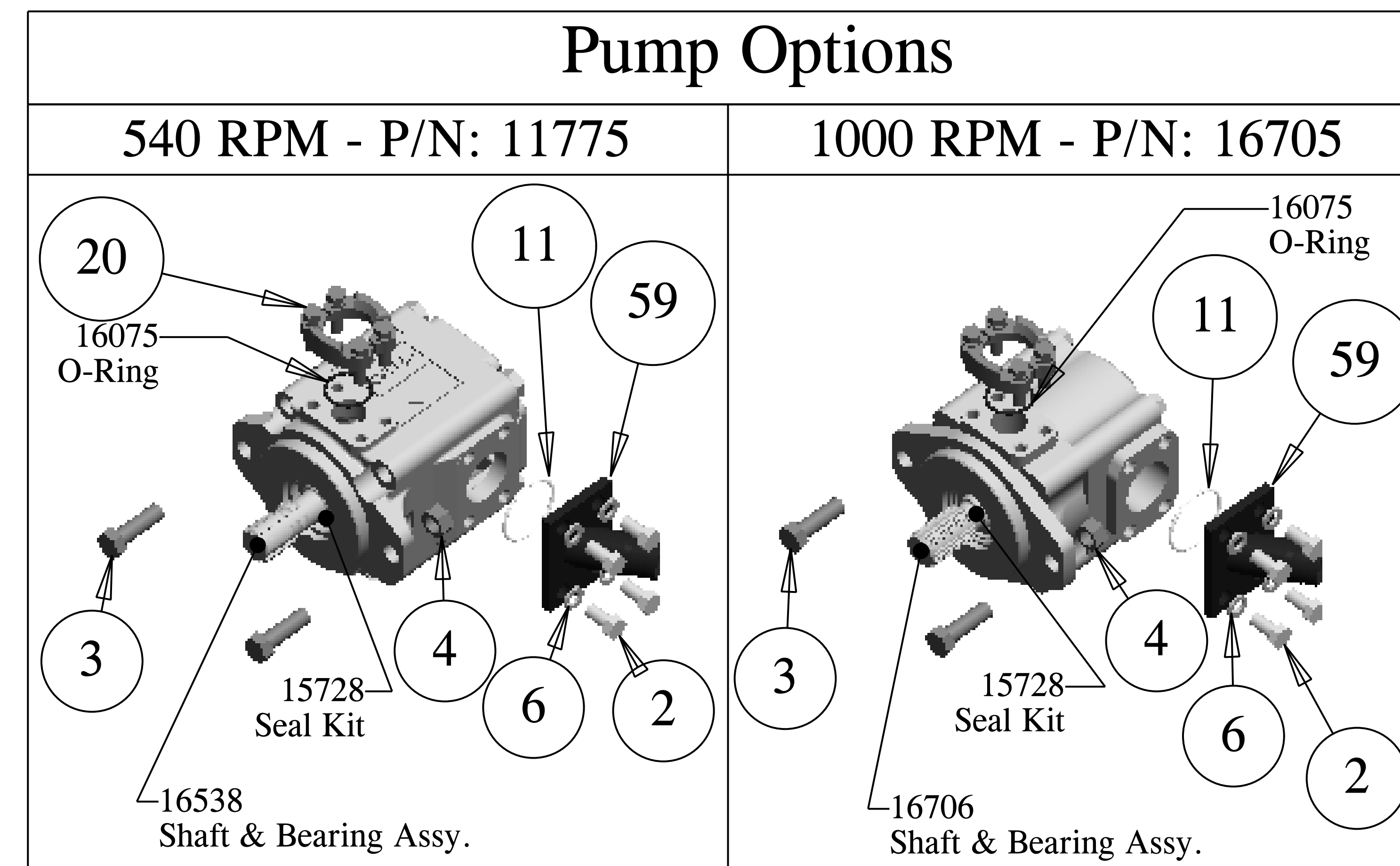


# Hydraulic Schematic For LR50160

DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705	T.B.B.	12/14/16	1672	
	Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	1/16/17	1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	

Item	Part Number	Qty.	Description
1	10031	8	Hex Bolt 3/8 x 1 gr.5 plated
2	10071	8	Hex Bolt 1/2 x 1 gr.5 plated
3	10092	4	Hex Bolt 5/8 x 2 gr.5 plated
4	10166	4	Lock Nut 5/8"-11 plated
5	10175	4	3/8"-16 Locknut (Gr.5 Plated)
6	10184	8	Lockwasher 1/2 plated
7	10202	12	3/8" Flatwasher (Plated)
8	10336	1	Gear Oil [85W-140] - (Not Shown)
9	10368	1	1-1/4" Gate Valve
10	10373	1	Hydraulic Oil
11	10387	2	O-ring
12	10501	1	FLOW EZY BREATHER
13	10582	1	PRESSURE HOSE 3/8" X 55" W/6-F-JIC
14	10583	1	3/8" SAE 100 R1 X 125" W/6-F-JIC
15	10584	1	PRESSURE HOSE 3/8" X 210" W/6-F-JIC
16	10585	2	PRESSURE HOSE 3/8" X 83" W/6-F-JIC
17	10587	1	PRESSURE HOSE 3/4" X 106" W/12-M-JIC
18	10646	1	Grease
19	10866	1	1" X 106" Pressure Hose
20	10872	2	Pressure Flange SET
21	11675	1	Return Filter Assembly
22	11775	1	Hydraulic 540RPM Pump
23	13535	4	STAINLESS STEEL CLAMP, 1-1/2" TO 1-3/4"
24	13563	1	1-1/4"-M-NPT X 1-1/2" Metal Hose Barb
25	13697	1	1-1/4" NPT Female Threaded Elbow
26	13758	1	20-M-NPT X 16-F-NPT Reducer
27	13778	1	1-1/4" X 3-1/2" Long NPT Nipple
28	13902	8	STRAIGHT, 6-M-JIC X 8-M-ORB
29	13905	8	6-M-JIC X 8-M-NPT 90 Deg. Elbow
30	13974	1	16-M-JIC X 16-M-NPT 90 Deg. Elbow
31	15242	1	Hydraulic Vane Motor
32	15326	1	Pressure Hose 3/8" X 17" Lg. W/ 6-F-JIC Both Ends
33	15339	1	PRESSURE HOSE 3/8" X 32" W/6-F-JIC
34	15910	46	HOSE SLEEVE
35	16065	1	CONTROL VALVE & Joy Stick Kit
36	16067	1	PUMP - VALVE HOSE
37	16068	1	HOSE ASSY. VALVE TO TANK
38	16070	8	3/8" - 90DEG. SWIVEL NUT
39	16071	1	PRESSURE HOSE 3/8" X 192" W/6-F-JIC
40	16077	3	Straight Fitting - 1"
41	16084	2	Swivel Nut Run Tee - 37 Deg. Flare
42	16086	1	Reducer 37 Deg. Flare (16-12 TRTXN-S)
43	16191	2	16-M-JIC X 16-M-NPT 90 Deg. Elbow
44	16278	1	Joystick Assembly (Not Shown)
45	16353	2	16 M-JIC - 12 MORB Elbow
46	16354	1	Fitting, 16-M-ORB/16-F-JIC0
47	16379	1	HYDRAULIC HOSE, 1" - OIL
48	16390	1	HYD. HOSE, 1" 5 PSI RELIEF - OIL FILTER

49	16392	1	PRESSURE HOSE 3/4" X 143" LG
50	16393	1	PRESSURE HOSE 1" X 153" LG
51	16404	1	CHECK VALVE- INLINE 5 PSI
52	16431	1	WIRING HARNESS, Oil Cooler
53	16617	1	OIL COOLER
54	16618	1	TEMPERATURE SWITCH
55	16705	1	Hydraulic 1000RPM Pump
56	16747	2	CYLINDER, 3 X 17"
57	16751	1	CYLINDER, 4 X 24 TIE ROD, Long Rod, LR"
58	16845	1	Cylinder, 4" X 24" With 2.0" Rod
59	22833	2	Fluid Connector
60	23335	1	Weldment, Oil Tank
61	25798	1	Hose, Suction (1-1/2" x 36")



### [Pump BOM Quantity Notes]

- 10071 - 4 Per Motor**
- 10092 - 2 Per Motor**
- 10166 - 2 Per Motor**
- 10184 - 4 Per Motor**
- 10387 - 1 Per Motor**
- 22833 - 1 Per Motor**

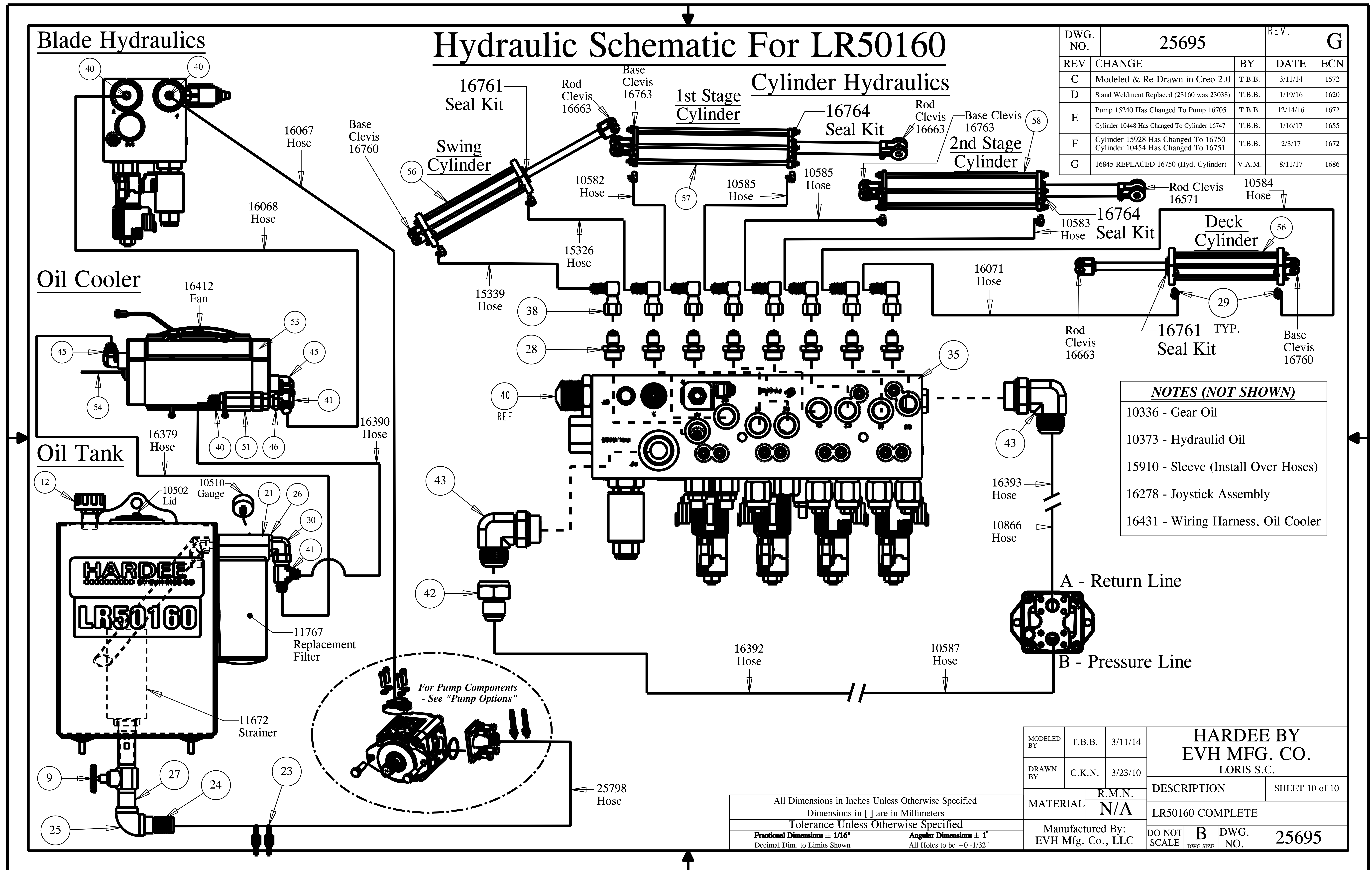
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 Angular Dimensions ± 1°  
 All Holes to be +0 -1/32"

MODELED BY	T.B.B.	3/11/14	<b>HARDEE BY EVH MFG. CO. LORIS S.C.</b>	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N. N/A	DESCRIPTION		SHEET 9 of 10
Manufactured By: EVH Mfg. Co., LLC		LR50160 COMPLETE		DO NOT SCALE
		B DWG. NO.	25695	

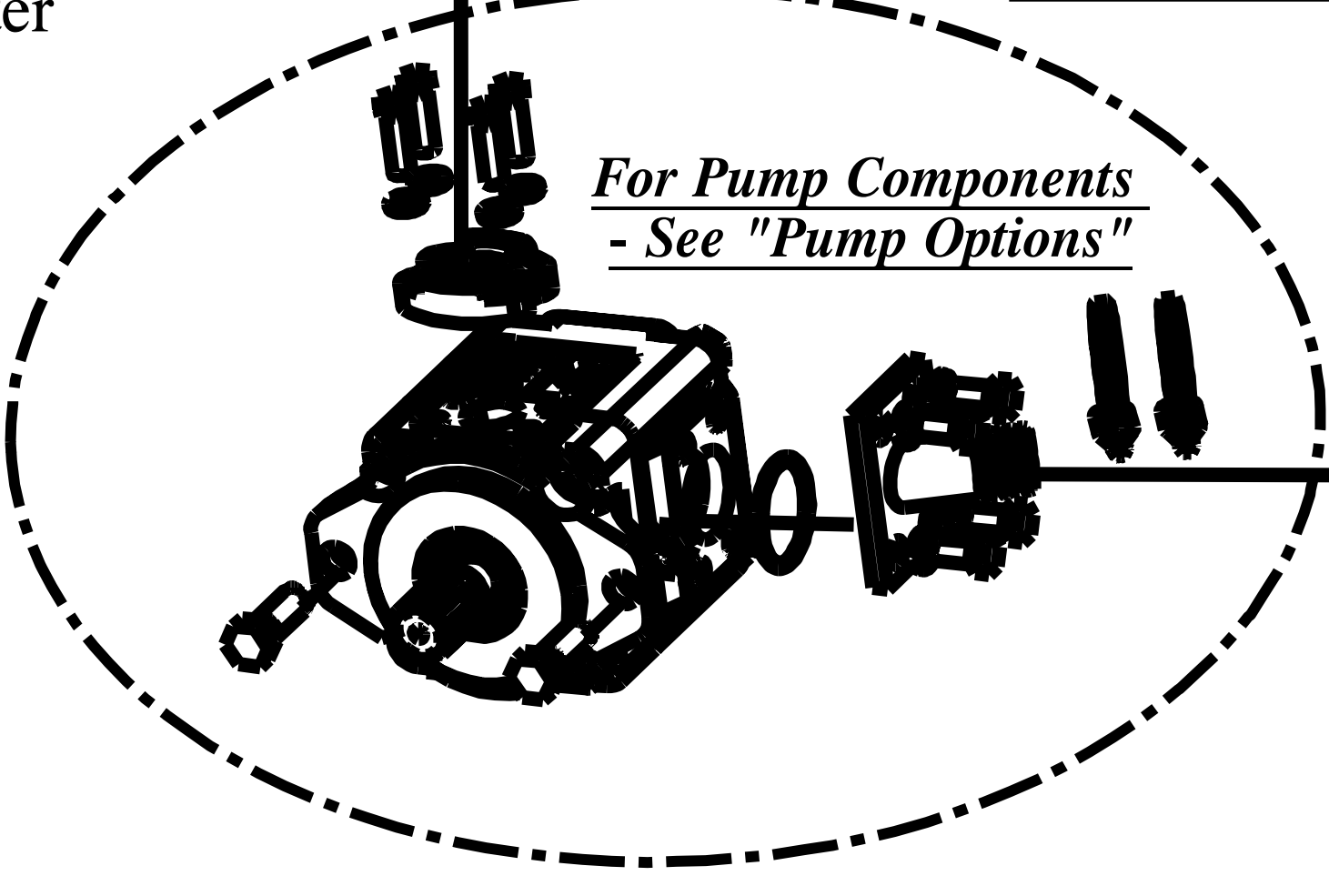


# Hydraulic Schematic For LR50160

DWG. NO.	25695			REV.	G
REV	CHANGE	BY	DATE	ECN	
C	Modeled & Re-Drawn in Creo 2.0	T.B.B.	3/11/14	1572	
D	Stand Weldment Replaced (23160 was 23038)	T.B.B.	1/19/16	1620	
E	Pump 15240 Has Changed To Pump 16705 Cylinder 10448 Has Changed To Cylinder 16747	T.B.B.	12/14/16 1/16/17	1672 1655	
F	Cylinder 15928 Has Changed To 16750 Cylinder 10454 Has Changed To 16751	T.B.B.	2/3/17	1672	
G	16845 REPLACED 16750 (Hyd. Cylinder)	V.A.M.	8/11/17	1686	



- NOTES (NOT SHOWN)**
- 10336 - Gear Oil
  - 10373 - Hydraulic Oil
  - 15910 - Sleeve (Install Over Hoses)
  - 16278 - Joystick Assembly
  - 16431 - Wiring Harness, Oil Cooler

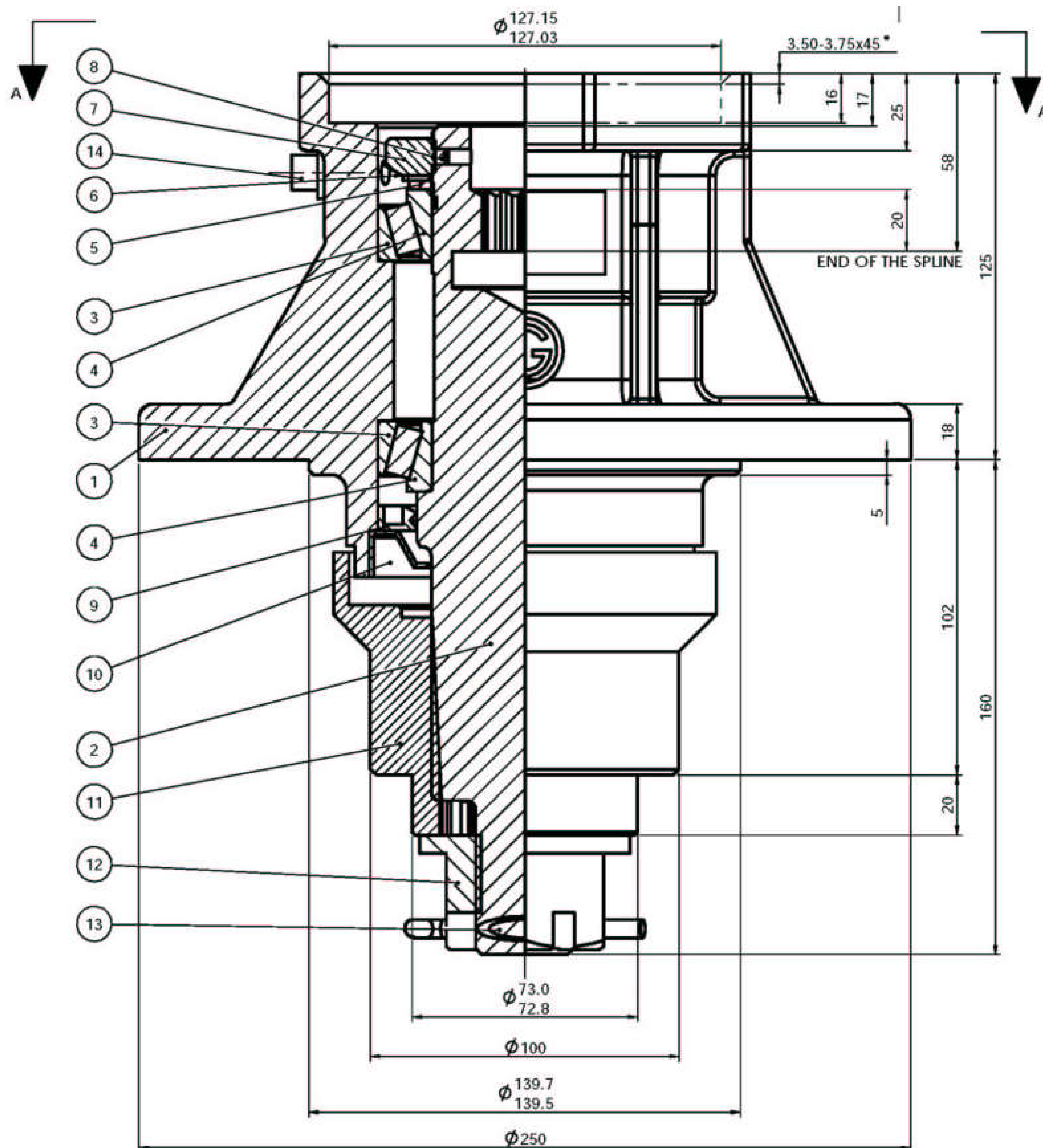


All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions  $\pm 1/16"$   
 Decimal Dim. to Limits Shown  
 Angular Dimensions  $\pm 1^\circ$   
 All Holes to be  $+0 -1/32"$

MODELED BY	T.B.B.	3/11/14	HARDEE BY EVH MFG. CO. LORIS S.C.	
DRAWN BY	C.K.N.	3/23/10		
MATERIAL	R.M.N.	N/A	DESCRIPTION	SHEET 10 of 10
Manufactured By: EVH Mfg. Co., LLC			LR50160 COMPLETE	
DO NOT SCALE	B DWG SIZE	DWG. NO.	25695	

# Hydraulic Motor Housing

## EVH P/N 16579

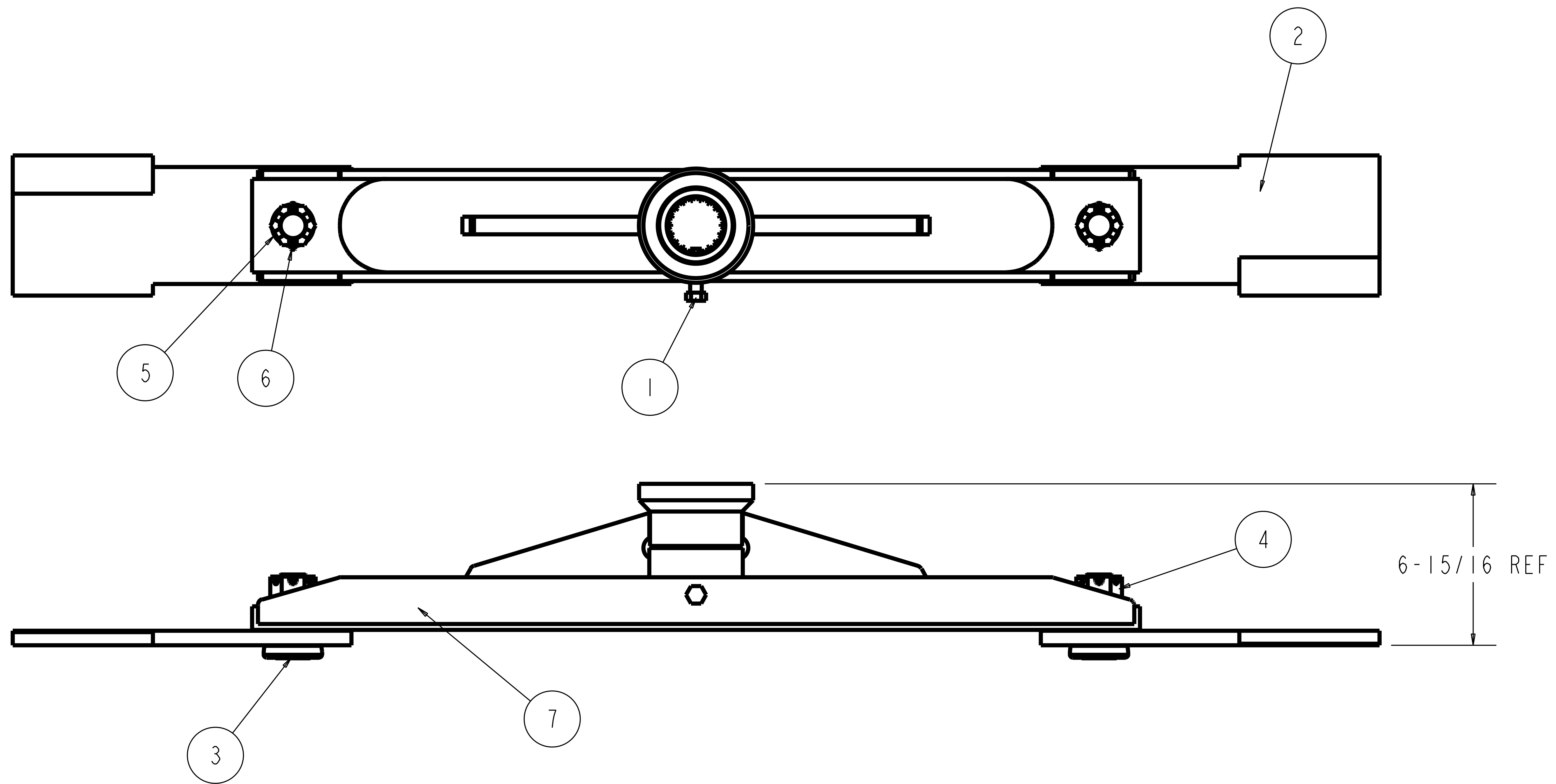


<u>Key #</u>	<u>Part No.</u>	<u>Description</u>	<u>Key #</u>	<u>Part No.</u>	<u>Description</u>
1	N/A	Housing	8	16480	Set Screw
2	N/A	Shaft	9	16491	Lip Seal-Output
3	15952	Cup	10	16488	Seal Protector
4	15953	Bearing	11	16580	Blade Hub
5	16492	Washer w/tang	12	15481	Nut, Hex Slotted
6	15965	Lockwasher	13	15968	Cotter Pin
7	15966	Locknut	14	15784	Plug, Pipe



Item	Part Number	Qty.	Description
1	10072	1	Hex Bolt 1/2 x 1 1/2 gr.5 plated
2	15436	2	BLADE, 5/8" X 5" X 1/4-1/2" FLAT BLADE
3	15437	2	Blade Bolt for 5/8" Thick Blades
4	16515	2	HEX NUT, Slotted, 1-1/8"-12
5	16516	2	LOCK WASHER, 1-1/8", High Collar, Plain
6	16517	2	SPRING PIN, 3/16 X 2", Plain
7	25842	1	BLADE HOLDER WELDMENT LR50160

DWG. NO.	25841			REV.	A
REV	CHANGE	BY	DATE	ECN	
IR	INITIAL RELEASE	C.K.N.	8/27/10	---	
A	UPDATED 25842	C.K.N.	2/20/12	1475	

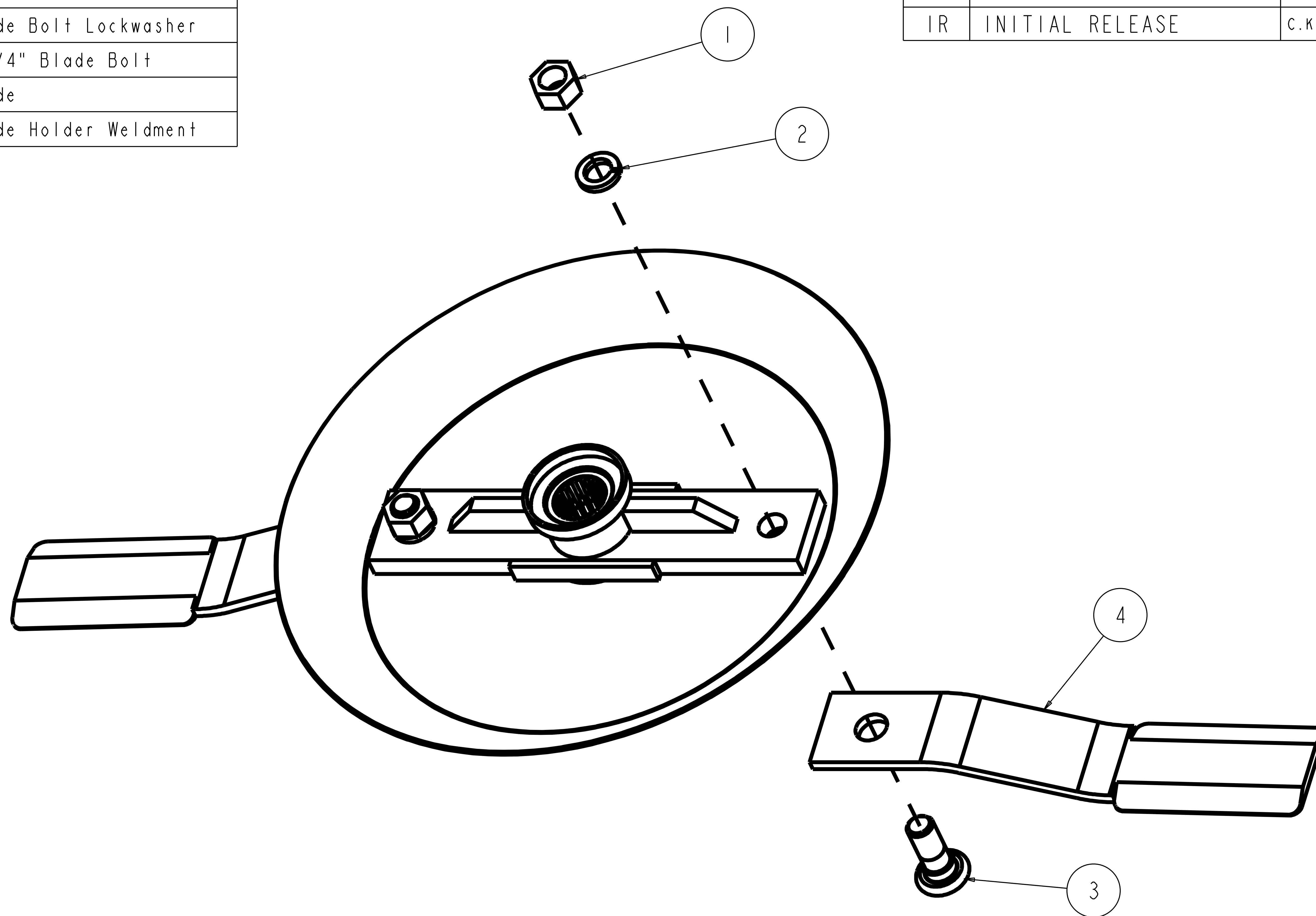


MODELED BY	C.K.N.	8/27/10	<b>HARDEE BY EVH MFG. CO.</b> LORIS S.C.		
DRAWN BY	C.K.N.	8/27/10			
MATERIAL	R.M.N. N/A		DESCRIPTION	SHEET 1 of 1	
Manufactured By: EVH Mfg. Co., LLC			BLADE HOLDER WITH BLADES, LR50160	DO NOT SCALE	DWG. NO. 25841

All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16" Angular Dimensions ± 1°  
 Decimal Dim. to Limits Shown All Holes to be +0 -1/32"

Item	Part Number	Qty.	Description
1	10311	2	Blade Bolt Nut
2	10312	2	Blade Bolt Lockwasher
3	10313	2	1 1/4" Blade Bolt
4	10376	2	Blade
5	25942	1	Blade Holder Weldment

DWG. NO.	25941			REV.	IR
REV	CHANGE	BY	DATE	ECN	
IR	INITIAL RELEASE	C.K.N.	9/18/12	---	



SOLD AS AN OPTION ONLY

SOLD AS AN OPTION ONLY

Notes:

1. For LR50160 with 16579 Housing
2. Blade Tip to Tip = 58-1/2"

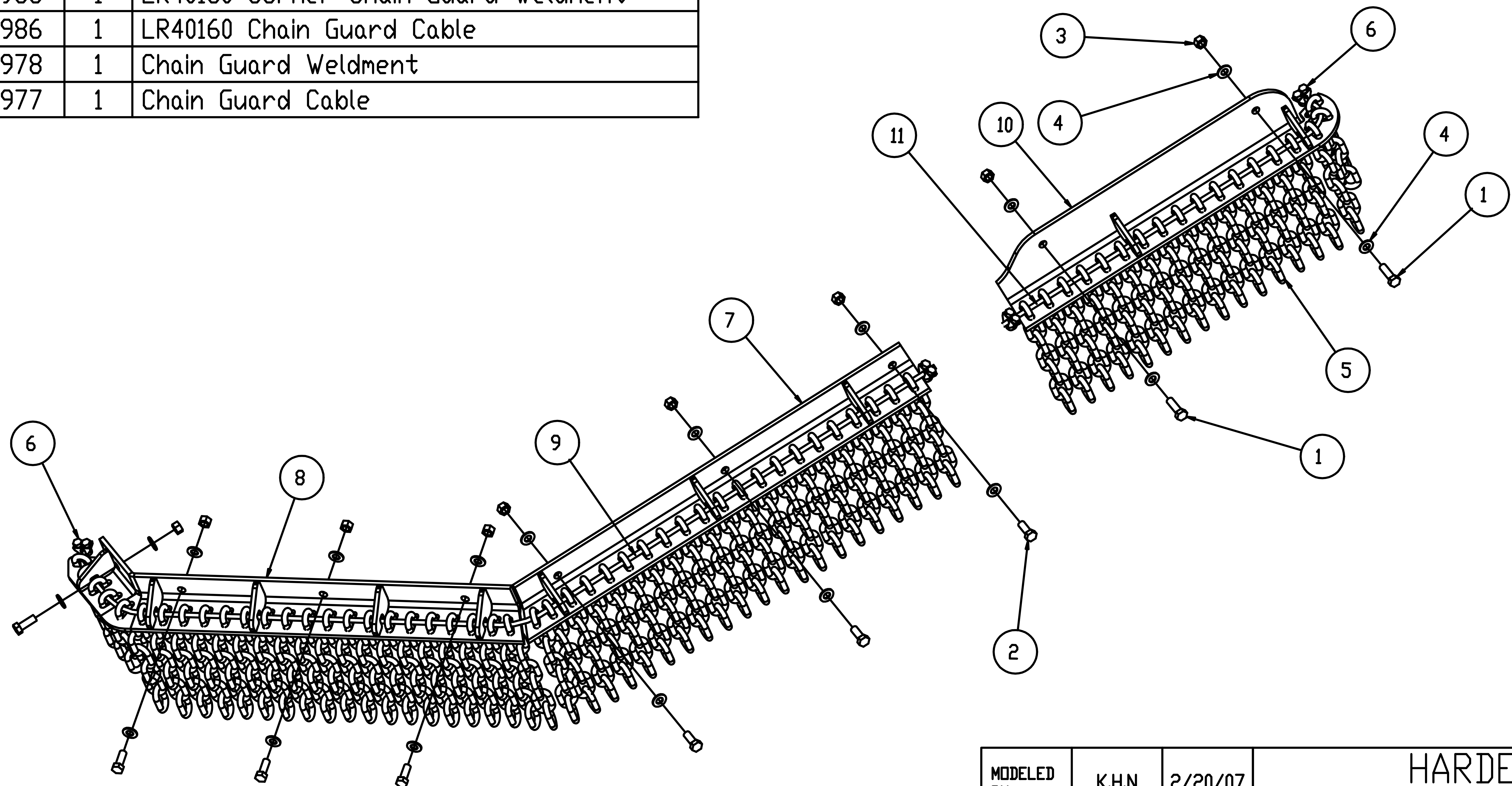
All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16" Angular Dimensions ± 1°  
 Decimal Dim. to Limits Shown All Holes to be +0 -1/32"

MODELED BY	C.K.N.	9/18/12	<b>HARDEE BY EVH MFG. CO.</b> LORIS S.C.	
DRAWN BY	C.K.N.	9/18/12		
MATERIAL	R.M.N. N/A		DESCRIPTION	SHEET 1 of 1
Manufactured By: EVH Mfg. Co., LLC			Blade Holder w/ Blades	
DO NOT SCALE	A DWG SIZE	DWG. NO.	25941	



Item	Part Number	Qty.	Description
1	10029	2	Hex Bolt 3/8 x 1-1/4 gr.5 plated
2	10031	7	Hex Bolt 3/8 x 1 gr.5 plated
3	10175	9	3/8" Locknut (Gr.5 Plated)
4	10202	18	3/8" Flatwasher (Plated)
5	10317	63	5 Link Chain
6	10332	4	Cable Clamp
7	20981	1	LR40160 Straight Chain Guard Weldment
8	20983	1	LR40160 Corner Chain Guard Weldment
9	20986	1	LR40160 Chain Guard Cable
10	20978	1	Chain Guard Weldment
11	20977	1	Chain Guard Cable

DWG. NO.	20980			REV.	B
REV	CHANGE	BY	DATE	ECN	
IR	INITIAL RELEASE	K.H.N	2/20/07	---	
A	DESIGN CHANGE	B.C	9/29/07	1176	
B	CHAIN SLOTS/HOLES ARE NOW SINGLE CUT	T.B.B.	10/8/14	1587	

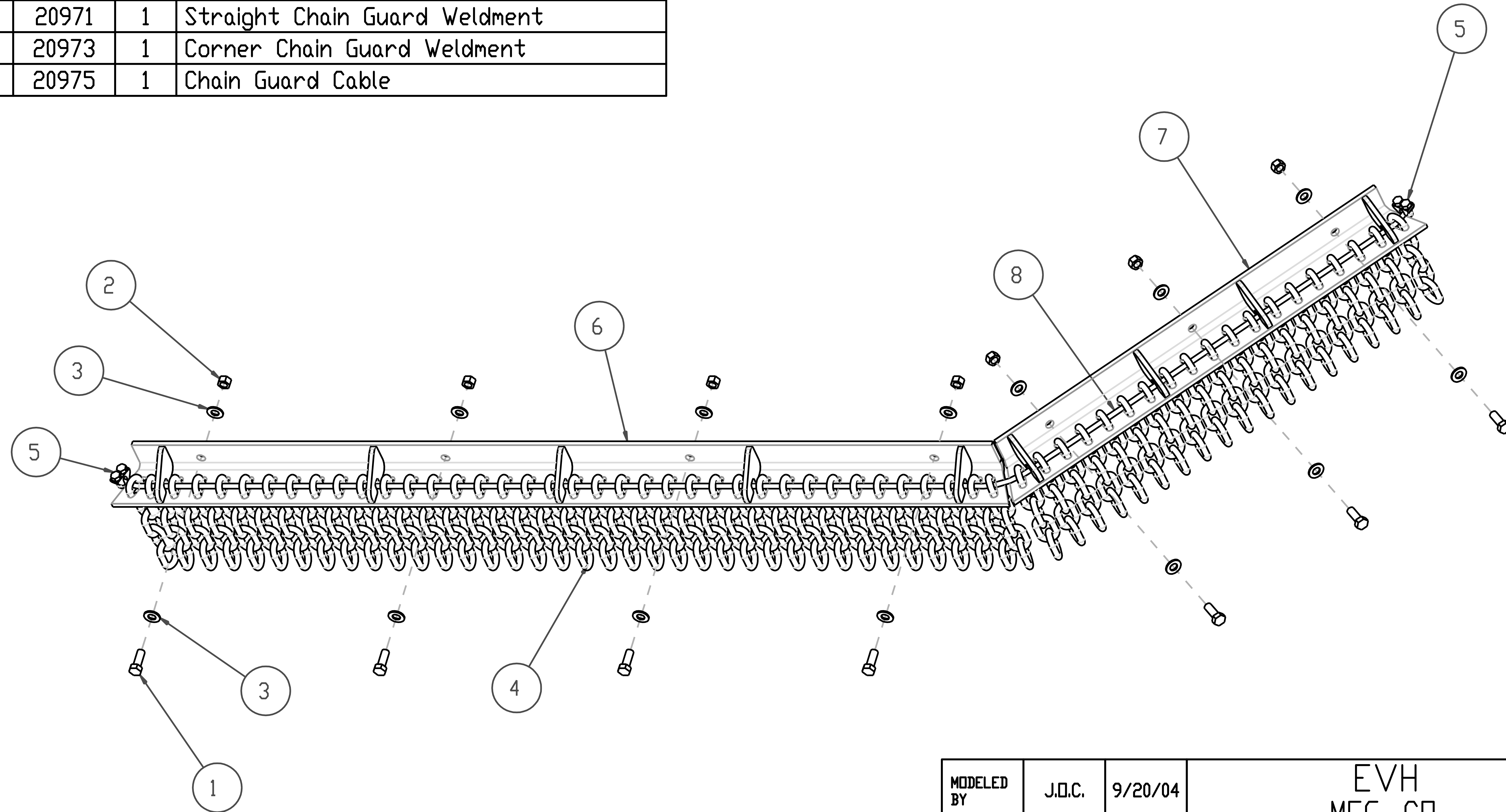


All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16" Angular Dimensions ± 1°  
 Decimal Dim. to Limits Shown All Holes to be +0 -1/32"

MODELED BY	K.H.N	2/20/07	HARDEE EVH MFG CO. LORIS S.C.		
DRAWN BY	B.C	2/20/07			
MATERIAL	R.M.N. N/A		DESCRIPTION	SHEET 1 of 1	
			LR40160 Front Chain Guard Complete		
DO NOT SCALE	A DWG SIZE	DWG. NO.	20980		

Item	Part Number	Qty.	Description
1	10031	7	Hex Bolt 3/8 x 1 gr.5 plated
2	10175	7	3/8" Locknut (Gr.5 Plated)
3	10202	14	3/8" Flatwasher (Plated)
4	10317	57	5 Link Chain
5	10332	2	Cable Clamp
6	20971	1	Straight Chain Guard Weldment
7	20973	1	Corner Chain Guard Weldment
8	20975	1	Chain Guard Cable

DWG. NO.	20976		REV.	A
REV	CHANGE	BY	DATE	ECN
IR	INITIAL RELEASE	J.D.C.	9/20/04	---
A	CHAIN SLOTS/HOLES ARE NOW SINGLE CUT	T.B.B.	10/8/14	1587



All Dimensions in Inches Unless Otherwise Specified  
 Dimensions in [ ] are in Millimeters  
 Tolerance Unless Otherwise Specified  
 Fractional Dimensions ± 1/16" Angular Dimensions ± 1°  
 Decimal Dim. to Limits Shown All Holes to be +0 -1/32"

MODELED BY	J.D.C.	9/20/04	EVH MFG. CO. LORIS S.C.	
DRAWN BY	J.D.C.	9/20/04	DESCRIPTION	SHEET 1 of 1
MATERIAL	R.M.N. N/A		DB4060/LR40160 Rear Chain Guard Complete	
DO NOT SCALE	A DWG. NO.	20976		



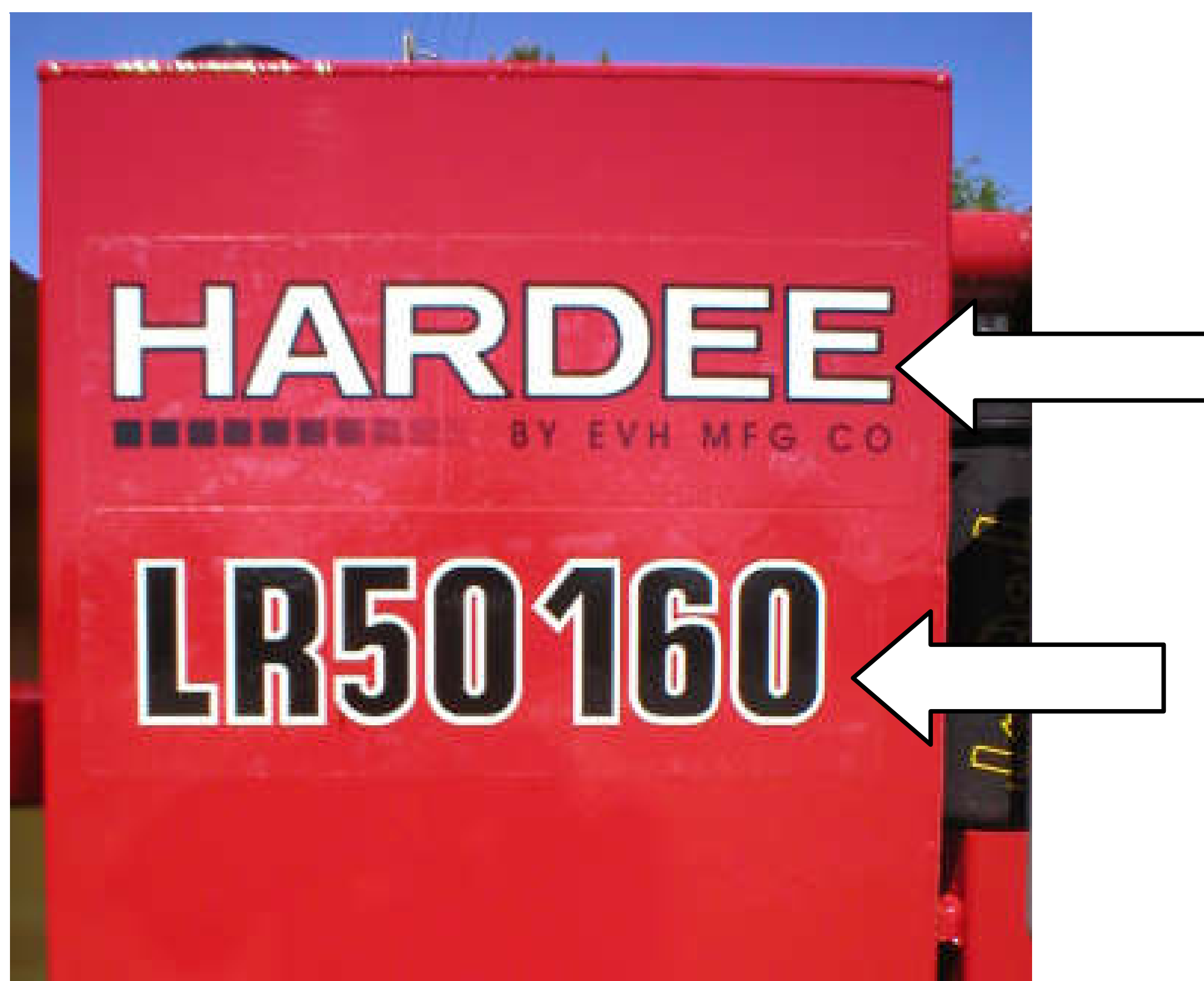
**Logo Decals**

If the original decals applied to your mower at the factory become worn or damaged, you can order replacements by referencing the examples below.

You can order new decals from any local Hardee dealer.

To apply the replacement decals:

- Clean the surface to place the new decal.
- Peel the decal away from the paper backing.
- Press firmly onto the clean surface.
- Squeeze out any air pockets using a straight edge.



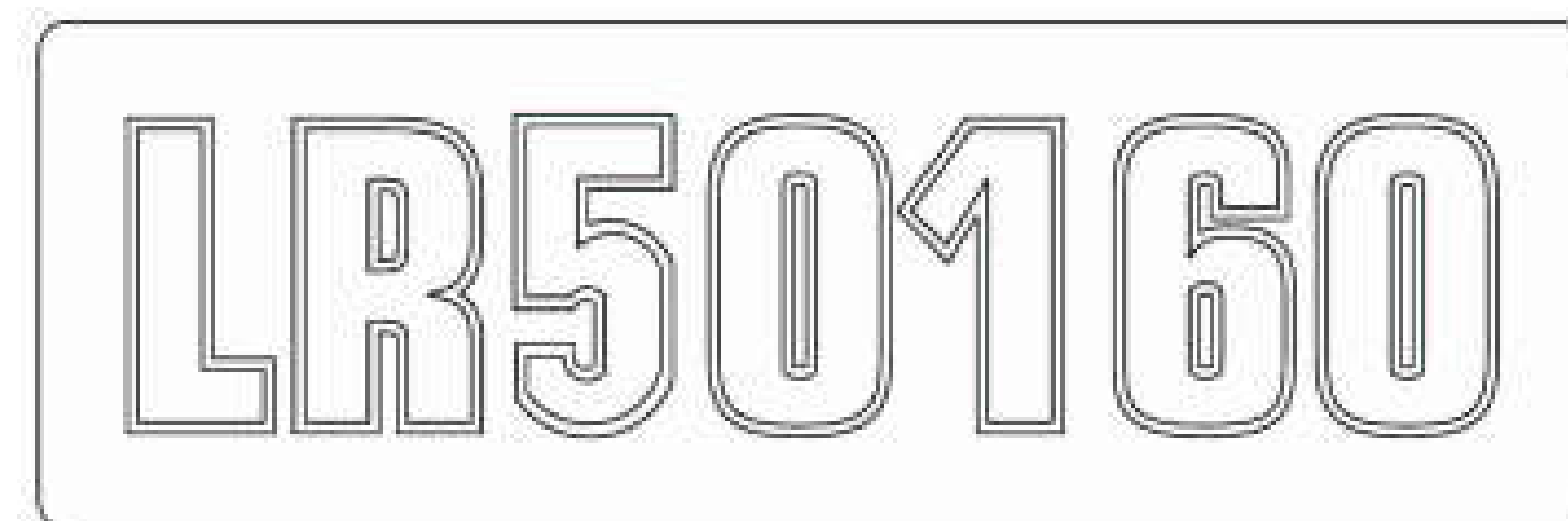
**OIL TANK**



11010 – Logo Decal, 4” x 13 1/2”



**WEIGHT BOX**



16339 – Model Number Decal



11850 – Web Site Decal



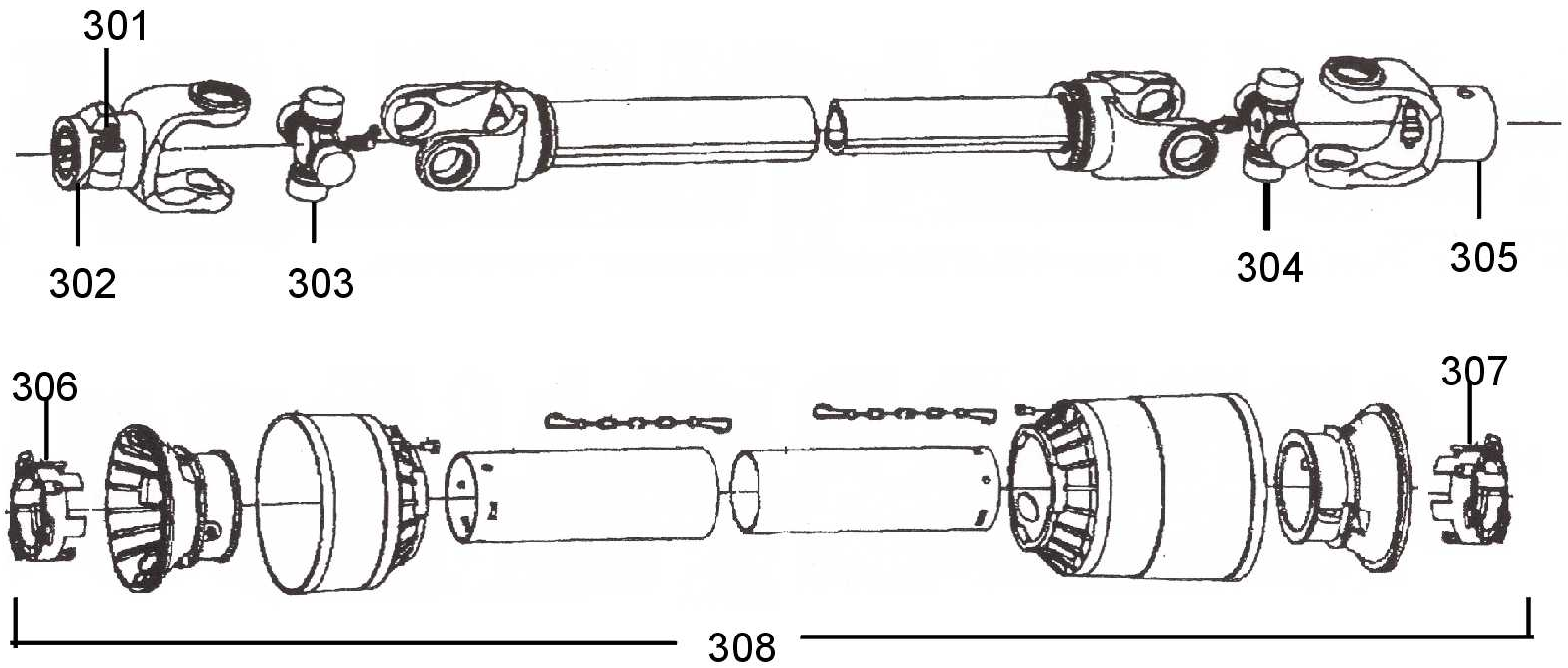
**Hose Guard / 1st Stage Boom**



11032 – logo Decal, 2 ¼ “ x 8 1/8”



# 10601 Driveshaft

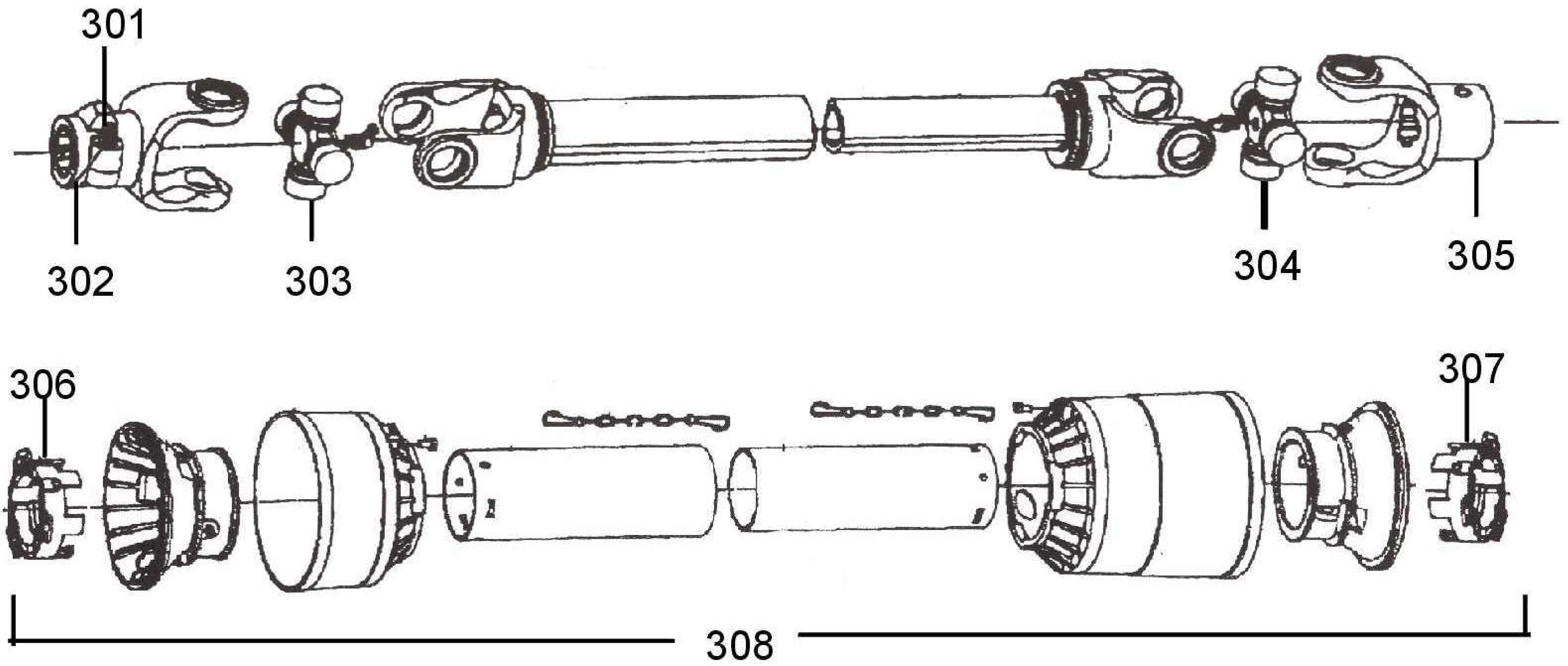


Key #	Part No.	Description	Key #	Part No.	Description
301	15579	Push pin complete	305	11443	Yoke, Imp end
302	11441	Yoke, Tractor end	306	15804	Shield bearing
303	11200	Cross kit	307	15805	Shield bearing
304	11200	Cross kit	308	11448	Shield kit complete



# 11716 Driveshaft

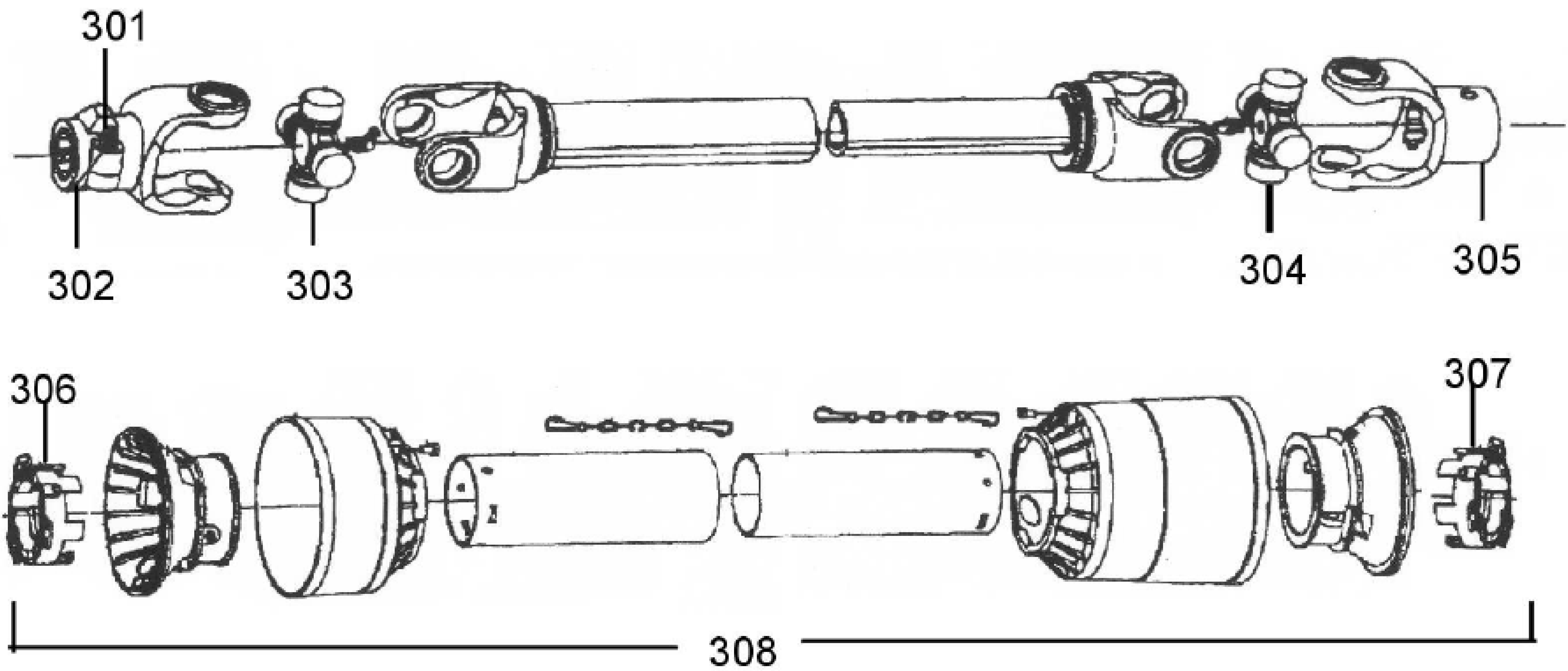
(1 3/4 20spline tractor end & 1 3/8 21spline Imp. end)



Key #	Part No.	Description	Key #	Part No.	Description
301	16857	Push pin complete	305	15807	1 3/8 21 spline yoke w/swell pin cat5
302	11855	1 3/4 20 spline yoke tractor end	306	15809	Shield bearing
303	15629	Cross kit	307	15810	Shield bearing
304	15629	Cross kit	308	15811	Shield kit complete

# 11717 Driveshaft

(1 3/8 - 21 Spline Yoke Both Ends)



Key #	Part #	Description	Key #	Part #	Description
301	15579	Push Pin complete	305	16708	1 3/8 21 yoke w/ swell pin cat 4
302	15900	1 3/8 21 spline yoke tractor end		16765	Swell Pin Kit For 16708
303	11437	Cross Kit	306	15804	Shield bearing
304	11437	Cross Kit	307	15805	Shield Bearing
			308	11448	Shield kit complete