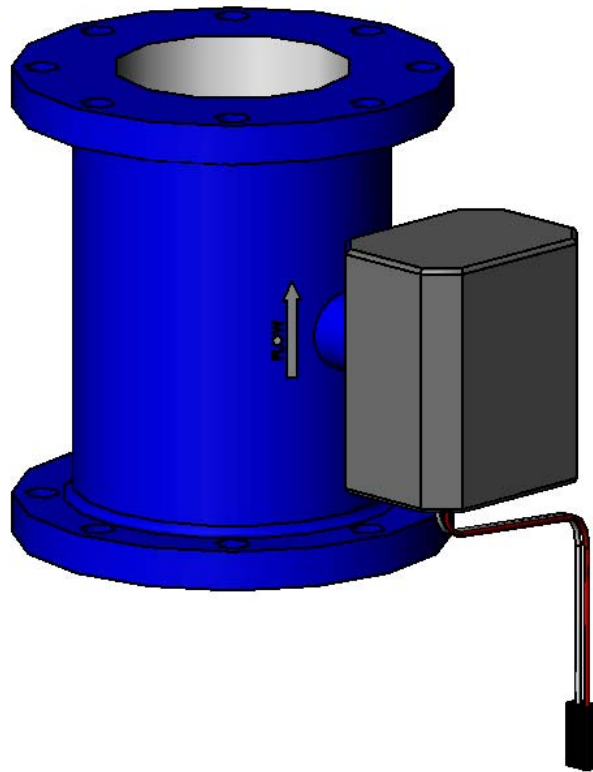




# LIQUID MANURE FLOW METER



# OPERATION AND MAINTENANCE MANUAL

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877 1st. AVE. NW Sioux Center, IA. 51250 Iowa 1-712-722-1488

[www.siouxautomation.com](http://www.siouxautomation.com)

4/27/05

\$15

LM300000

**TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.**



**THIS SYMBOL MEANS**

- ATTENTION!**
- BECOME ALERT!**
- YOUR SAFETY IS INVOLVED!**

**SIGNAL WORDS:**

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate Signal word for each has been selected using the following guidelines:

**DANGER:** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations typically for machine components that cannot be guarded for functional purposes.

**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

**CAUTION:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Sioux Automation Center, Inc., 877 1<sup>st</sup> Avenue N.W., Sioux Center, IA, 51250. (Telephone) 712-722-3711, (Fax) 712-722-3706.



## **SAFETY ALERT SYMBOL**

- THE SAFETY ALERT SYMBOL IS USED TO PINPOINT CHARACTERISTICS WHICH IF NOT PROPERLY FOLLOWED CAN CREATE A SAFETY HAZARD.
- WHEN YOU SEE THIS SYMBOL IN THIS MANUAL OR ON THE UNIT ITSELF, YOU ARE REMINDED TO:

**BE ALERT!  
YOUR PERSONAL SAFETY IS INVOLVED!**

# SAFETY FIRST



## FARM AND INDUSTRIAL EQUIPMENT INSTITUTE SAFETY ALERT SYMBOL.

This symbol is used preceding all **CAUTION** (a general safety reminder), **WARNING** (denotes a potential hazard), and **DANGER** (denotes a potential injury) notices!

Most farm accidents, like industrial, home, and highway accidents are caused by the failure of some individuals to observe simple and fundamental safety rules or precautions. For this reason, farm accidents, just as other types of accidents, can be prevented by recognising the causes of accidents and doing something about them before an accident occurs.

Regardless of the care used in the design and construction of farm equipment, there are many points that cannot be completely safeguarded without interfering with accessibility and efficient operation.

### **A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT**

The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is "**NEVER ATTEMPT TO CLEAN, OIL, OR ADJUST A MACHINE WHILE IN MOTION**".

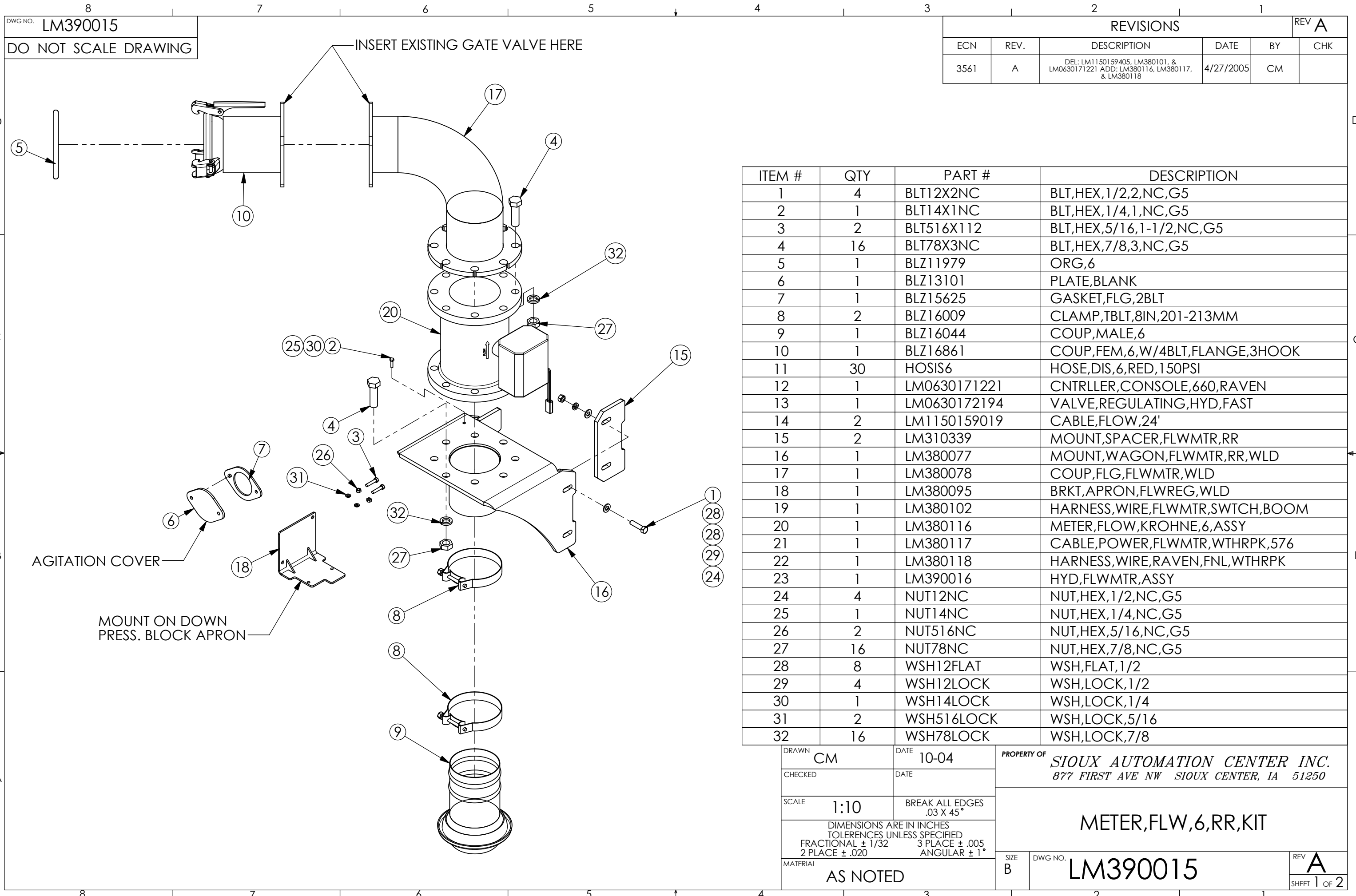
NATIONAL SAFETY COUNCIL

**BEFORE ATTEMPTING TO OPERATE YOUR NEW MACHINE, BE SURE TO READ THIS OWNERS MANUAL AND FAMILIARIZE YOURSELF WITH THE MACHINE!! OBSERVE THE FOLLOWING PRECAUTIONS FOR SAFE OPERATIONS OF THIS MACHINE!!**

#### **SAFETY TIPS:**

1. Keep Hands, Feet, and Clothing away from PTO Shaft!
2. DO NOT Climb on or enter Machine while in operation.
3. DO NOT Make High Speed Maneuvers with the machine.
4. Disengage PTO and remove Keys before servicing.
5. Keep ALL Shields in place.
6. DO NOT allow riders on outside of vehicle.
7. DO NOT attempt to clean, oil or adjust machine while in motion.
8. DO NOT exceed rated PTO RPM speed.





DWG NO. LM390015  
DO NOT SCALE DRAWING

REVISIONS					REV
ECN	REV.	DESCRIPTION	DATE	BY	CHK
3561	A	DEL: LM1150159405, LM380101, & LM0630171221 ADD: LM380116, LM380117, & LM380118	4/27/2005	CM	

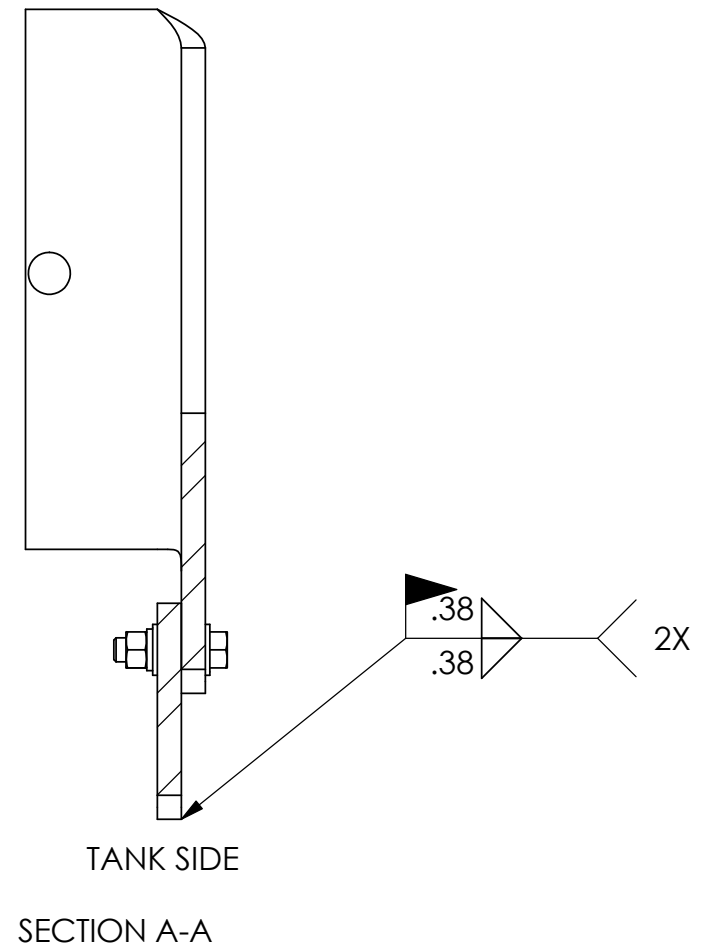
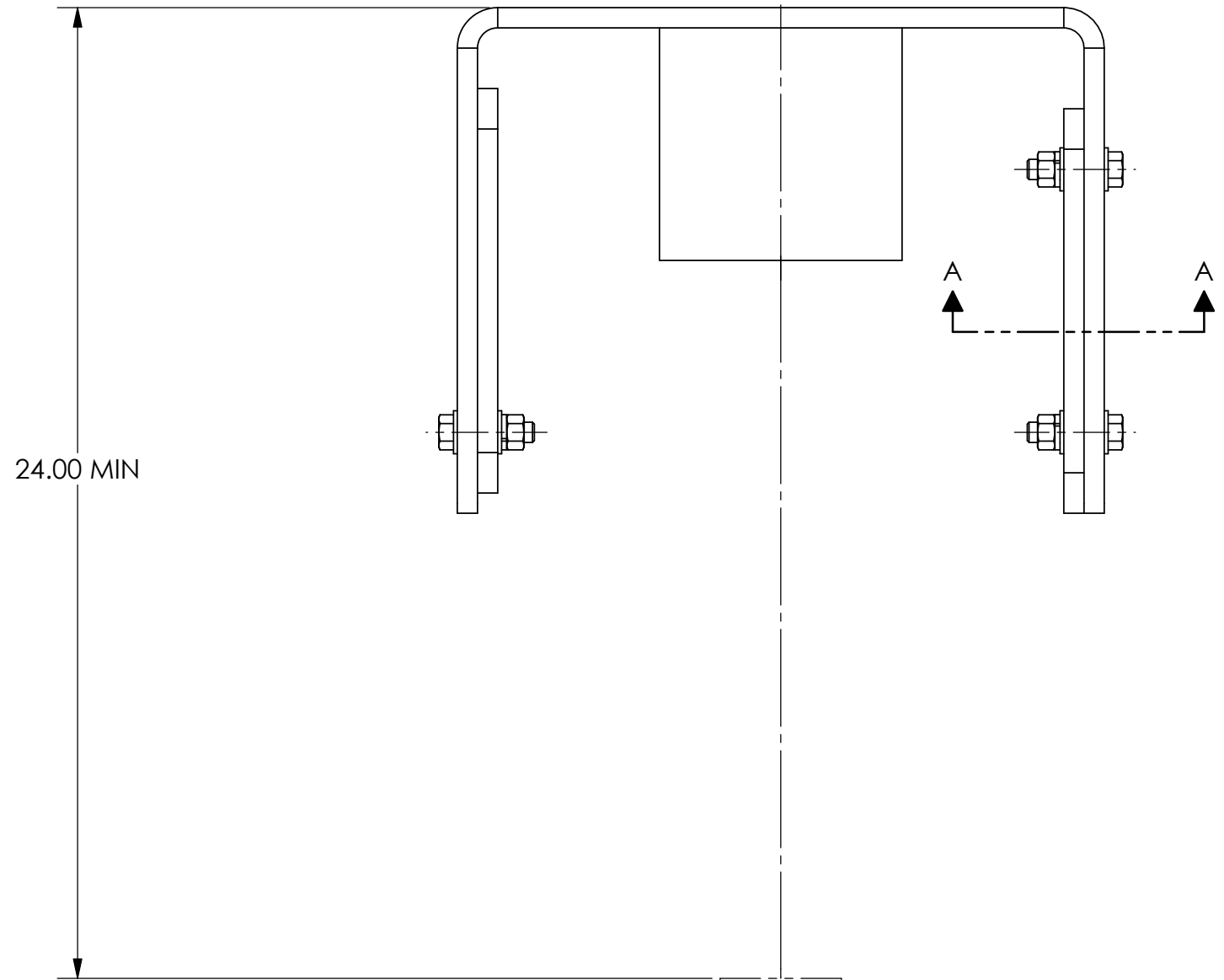
ITEM #	QTY	PART #	DESCRIPTION
1	4	BLT12X2NC	BLT,HEX,1/2,2,NC,G5
2	1	BLT14X1NC	BLT,HEX,1/4,1,NC,G5
3	2	BLT516X112	BLT,HEX,5/16,1-1/2,NC,G5
4	16	BLT78X3NC	BLT,HEX,7/8,3,NC,G5
5	1	BLZ11979	ORG,6
6	1	BLZ13101	PLATE,BLANK
7	1	BLZ15625	GASKET,FLG,2BLT
8	2	BLZ16009	CLAMP,TBLT,8IN,201-213MM
9	1	BLZ16044	COUP,MALE,6
10	1	BLZ16861	COUP,FEM,6,W/4BLT,FLANGE,3HOOK
11	30	HOSIS6	HOSE,DIS,6,RED,150PSI
12	1	LM0630171221	CNTRLR,CONSOLE,660,RAVEN
13	1	LM0630172194	VALVE,REGULATING,HYD,FAST
14	2	LM1150159019	CABLE,FLOW,24'
15	2	LM310339	MOUNT,SPACER,FLWMTR,RR
16	1	LM380077	MOUNT,WAGON,FLWMTR,RR,WLD
17	1	LM380078	COUP,FLG,FLWMTR,WLD
18	1	LM380095	BRKT,APRON,FLWREG,WLD
19	1	LM380102	HARNES,WIRE,FLWMTR,SWTCH,BOOM
20	1	LM380116	METER,FLOW,KROHNE,6,ASSY
21	1	LM380117	CABLE,POWER,FLWMTR,WTHRPK,576
22	1	LM380118	HARNES,WIRE,RAVEN,FNL,WTHRPK
23	1	LM390016	HYD,FLWMTR,ASSY
24	4	NUT12NC	NUT,HEX,1/2,NC,G5
25	1	NUT14NC	NUT,HEX,1/4,NC,G5
26	2	NUT516NC	NUT,HEX,5/16,NC,G5
27	16	NUT78NC	NUT,HEX,7/8,NC,G5
28	8	WSH12FLAT	WSH,FLAT,1/2
29	4	WSH12LOCK	WSH,LOCK,1/2
30	1	WSH14LOCK	WSH,LOCK,1/4
31	2	WSH516LOCK	WSH,LOCK,5/16
32	16	WSH78LOCK	WSH,LOCK,7/8

DRAWN	CM	DATE	10-04
CHECKED		DATE	
SCALE	1:10	BREAK ALL EDGES	.03 X 45°
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°			
MATERIAL	AS NOTED		

PROPERTY OF **SIoux AUTOMATION CENTER INC.**  
877 FIRST AVE NW SIOUX CENTER, IA 51250

METER,FLW,6,RR,KIT

SIZE B DWG NO. **LM390015** REV **A**  
SHEET 1 OF 2

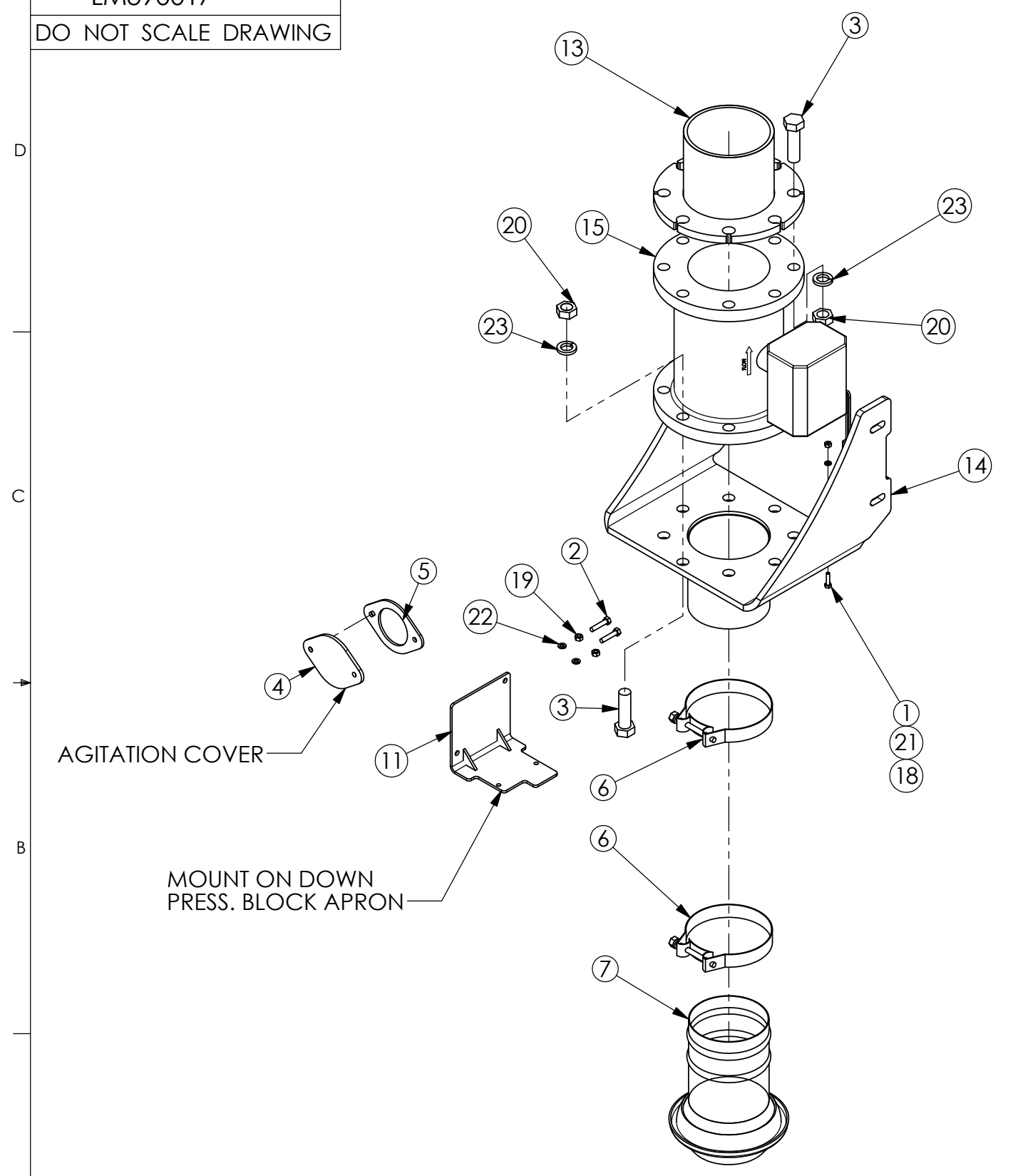


- NOTES:  
 1. USE SPACERS (LM310339) FOR WAGON WITH REAR LIGHT BARS (NOT REQUIRED FOR EVERY APPLICATION)  
 2. PLACE FLOW METER INLINE WITH PUMP OUTPUT AS MUCH AS POSSIBLE

DRAWN	CM	DATE	10-04	PROPERTY OF <i>SIoux AUTOMATION CENTER INC.</i> 877 FIRST AVE NW SIOUX CENTER, IA 51250
CHECKED		DATE		
SCALE	1:4	BREAK ALL EDGES .03 X 45°		<b>METER,FLW,6,RR,KIT</b>
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32      3 PLACE ± .005 2 PLACE ± .020      ANGULAR ± 1°				
MATERIAL	AS NOTED			
SIZE	B	DWG NO.	LM390015	REV A
				SHEET 2 OF 2

DWG NO. LM390017  
DO NOT SCALE DRAWING

REVISIONS					REV A
ECN	REV.	DESCRIPTION	DATE	BY	CHK
3561	A	DEL: LM0630171991 & LM1150159019 ADD: LM380116 & LM380118	4/27/2005	CM	



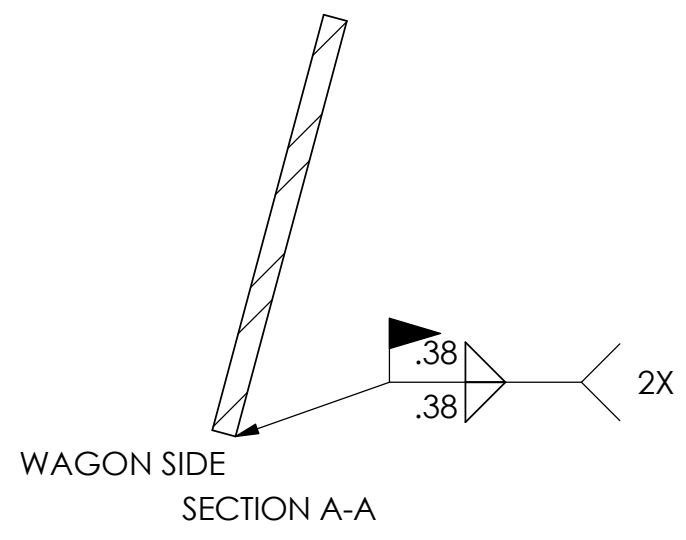
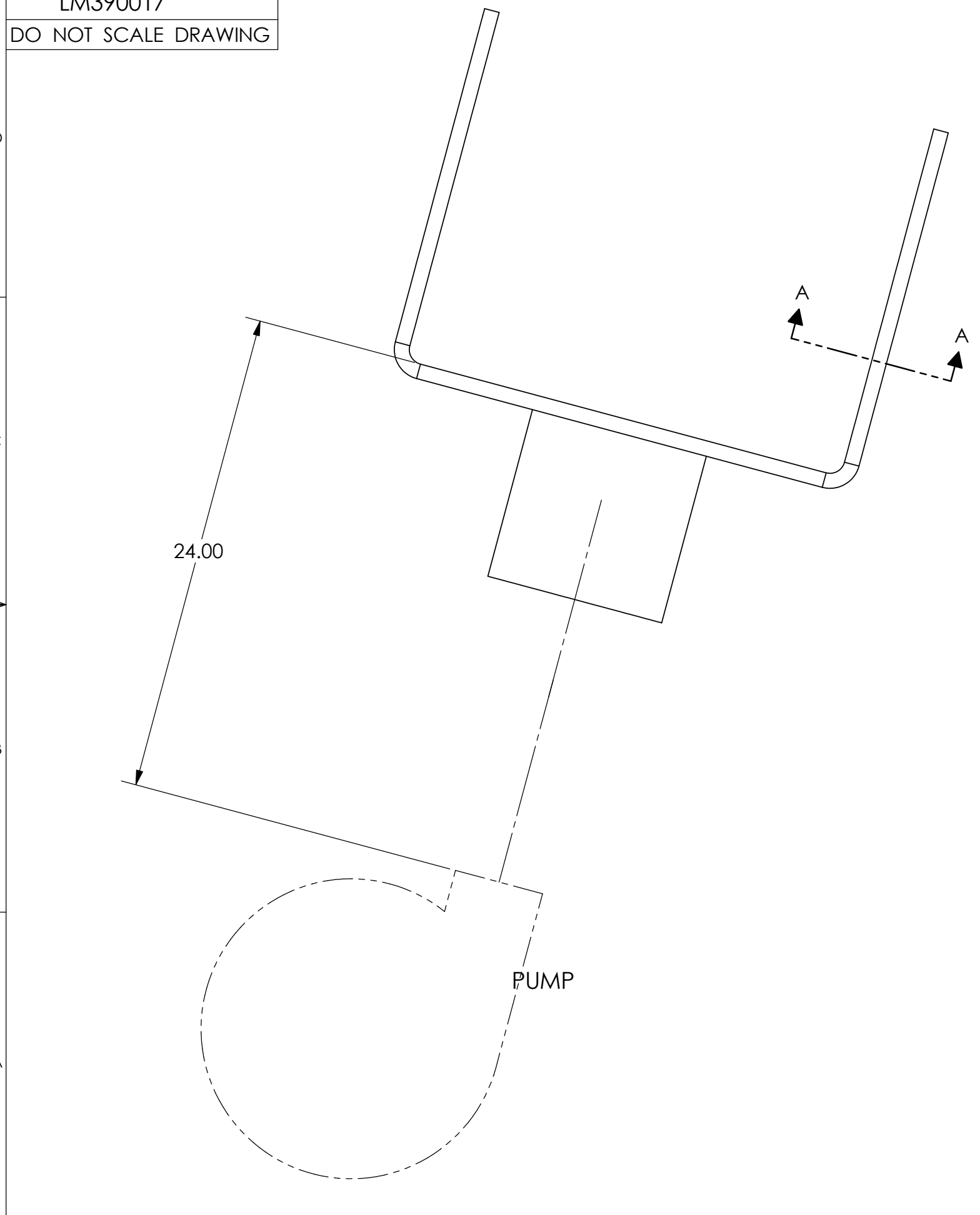
ITEM #	QTY	PART #	DESCRIPTION
1	1	BLT14X1NC	BLT,HEX,1/4,1,NC,G5
2	2	BLT516X112	BLT,HEX,5/16,1-1/2,NC,G5
3	16	BLT78X3NC	BLT,HEX,7/8,3,NC,G5
4	1	BLZ13101	PLATE,BLANK
5	1	BLZ15625	GASKET,FLG,2BLT
6	2	BLZ16009	CLAMP,TBLT,8IN,201-213MM
7	1	BLZ16044	COUP,MALE,6
8	36	HOSIS6	HOSE,DIS,6,RED,150PSI
9	1	LM0630171221	CNTRLR,CONSOLE,660,RAVEN
10	1	LM0630172194	VALVE,REGULATING,HYD,FAST
11	1	LM380095	BRKT,APRON,FLWREG,WLD
12	1	LM380102	HARNES, WIRE,FLWMTR,SWTCH,BOOM
13	1	LM380103	COUP,FLG,FLWMTR,FR,WLD
14	1	LM380104	MOUNT,WAGON,FLWMTR,FR,WLD
15	1	LM380116	METER,FLOW,KROHNE,6,ASSY
16	1	LM380118	HARNES, WIRE,RAVEN,FNL,WTHRPK
17	1	LM390018	HYD,FLWMTR,FR,ASSY
18	1	NUT14NC	NUT,HEX,1/4,NC,G5
19	2	NUT516NC	NUT,HEX,5/16,NC,G5
20	16	NUT78NC	NUT,HEX,7/8,NC,G5
21	1	WSH14LOCK	WSH,LOCK,1/4
22	2	WSH516LOCK	WSH,LOCK,5/16
23	16	WSH78LOCK	WSH,LOCK,7/8

DRAWN	CM	DATE	10-04
CHECKED		DATE	
SCALE	1:10	BREAK ALL EDGES	.03 X 45°
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°			
MATERIAL	AS NOTED		

PROPERTY OF **SIoux AUTOMATION CENTER INC.**  
877 FIRST AVE NW SIOUX CENTER, IA 51250

METER,FLW,6,FR,KIT

SIZE	B	DWG NO.	LM390017	REV	A
					SHEET 1 OF 2

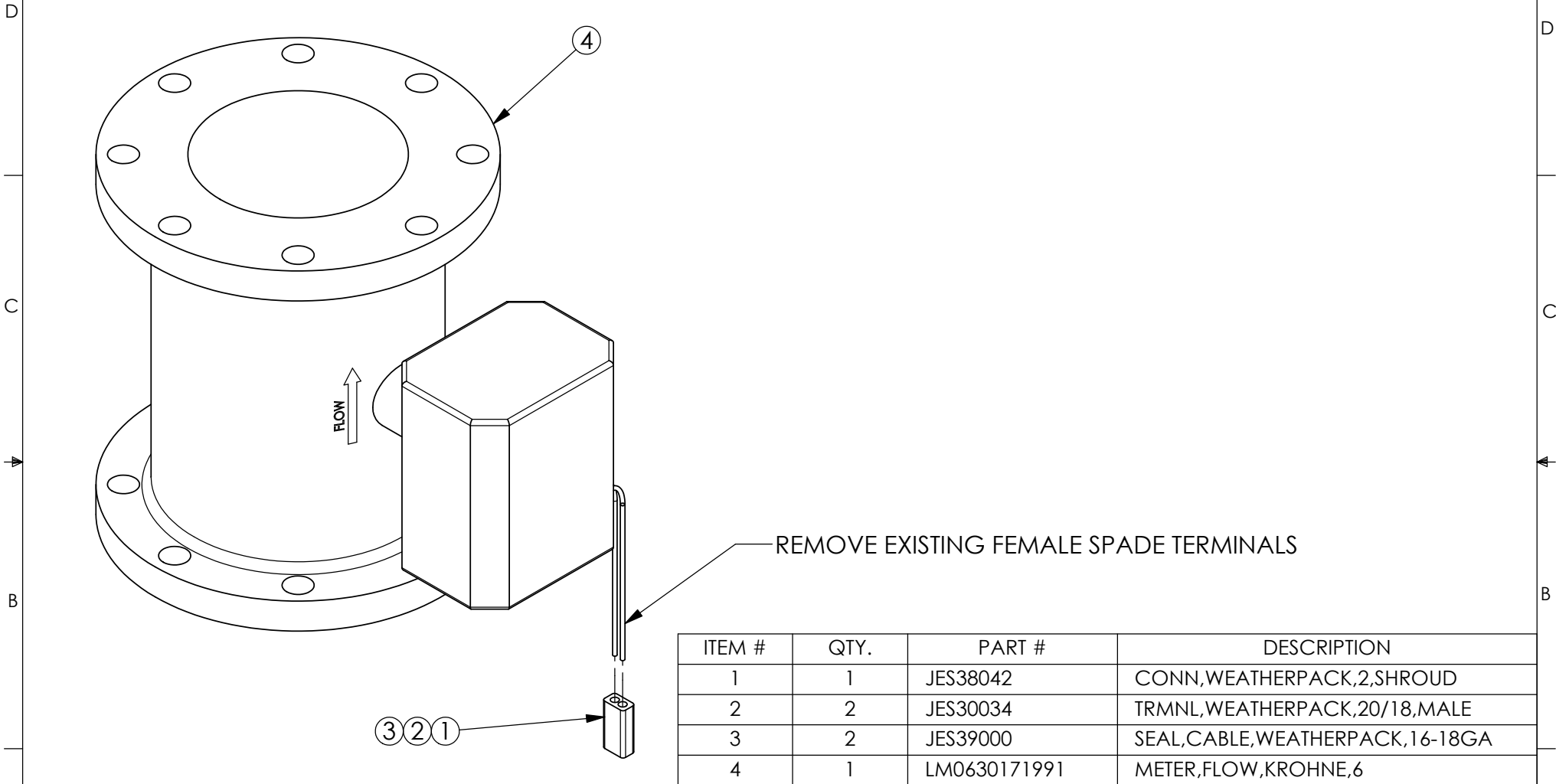


- NOTES:  
 1. PLACE FLOW METER INLINE WITH EXISTING PUMP OUTPUT.  
 (APPROX. 10-15° ANGLE)  
 2. UTILIZE EXISTING ELBOW ON TOP OF TANK.

DRAWN CM	DATE 10-04	PROPERTY OF <b>SIoux AUTOMATION CENTER INC.</b> 877 FIRST AVE NW SIOUX CENTER, IA 51250
CHECKED	DATE	
SCALE 1:4	BREAK ALL EDGES .03 X 45°	<b>METER, FLW, 6, FR, KIT</b>
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32      3 PLACE ± .005 2 PLACE ± .020      ANGULAR ± 1°		
MATERIAL AS NOTED	SIZE B	
DWG NO. LM390017		REV A
		SHEET 2 OF 2

DWG. NO. **LM380116**  
**DO NOT SCALE DRAWING**

REVISIONS					REV
ECN	REV.	DESCRIPTION	DATE	BY	CK



ITEM #	QTY.	PART #	DESCRIPTION
1	1	JES38042	CONN,WEATHERPACK,2,SHROUD
2	2	JES30034	TRMNL,WEATHERPACK,20/18,MALE
3	2	JES39000	SEAL,CABLE,WEATHERPACK,16-18GA
4	1	LM0630171991	METER,FLOW,KROHNE,6

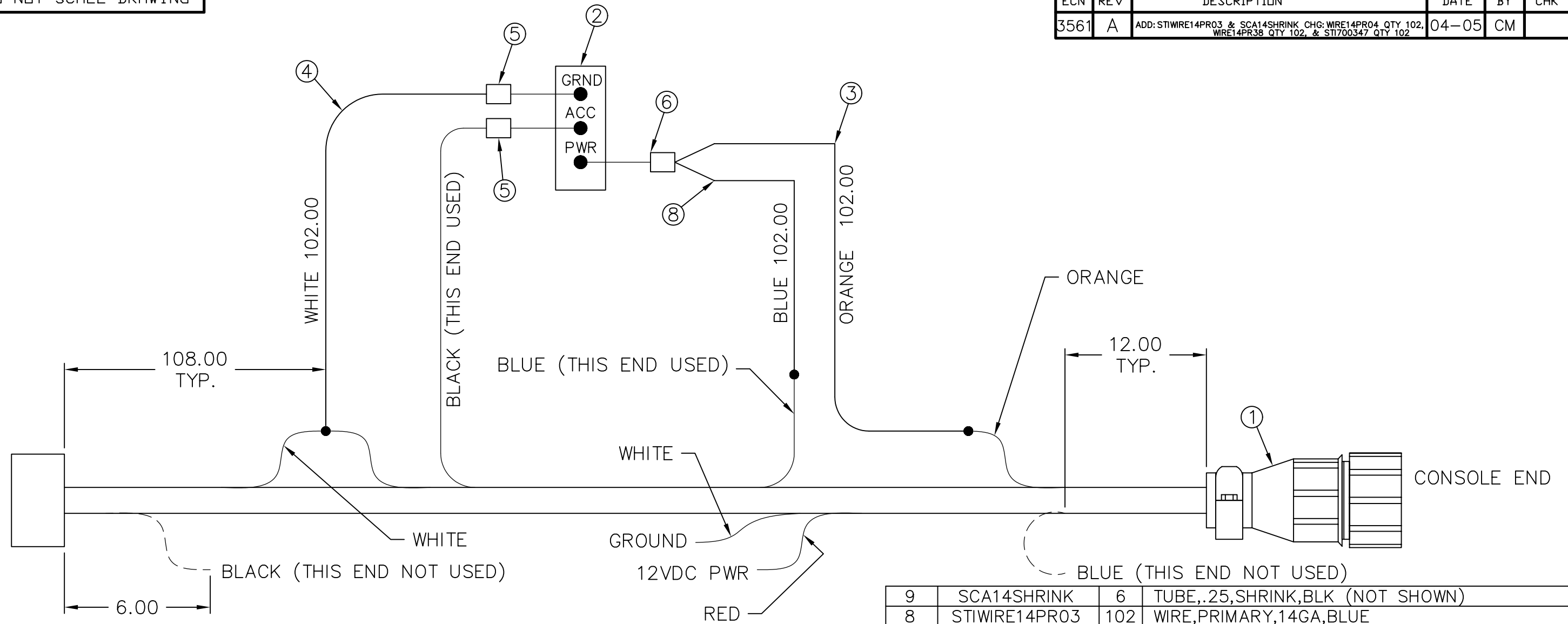
DRAWN BY <b>CM</b>	DATE <b>04-05</b>
CHECKED	DATE
SCALE <b>1:4</b>	BREAK ALL EDGES .03 X 45°
<small>DIMENSIONS ARE IN INCHES  TOLERANCES UNLESS SPECIFIED  FRACTIONAL ± 1/32      3 PLACE ± .005  2 PLACE ± .020      ANGULAR ± 1°</small>	
MATERIAL <b>AS NOTED</b>	

PROPERTY OF: <b>SIoux AUTOMATION CENTER INC</b> 877 FIRST AVE NW SIOUX CENTER, IA 51250	
<b>METER,FLOW,KROHNE,6,ASSY</b>	
SIZE <b>A</b>	DWG. NO. <b>LM380116</b>
REV. <b>-</b>	
SHEET <b>1</b> OF <b>1</b>	

NOTE:  
RED (+) WIRE TERMINAL A  
WHITE (-) WIRE TERMINAL B

DWG. NO. LM380102  
DO NOT SCALE DRAWING

REVISIONS				REV	
ECN	REV	DESCRIPTION	DATE	BY	CHK
3561	A	ADD: STIWIRE14PR03 & SCA14SHRINK, CHG: WIRE14PR04 QTY 102, WIRE14PR38 QTY 102, & STI700347 QTY 102	04-05	CM	

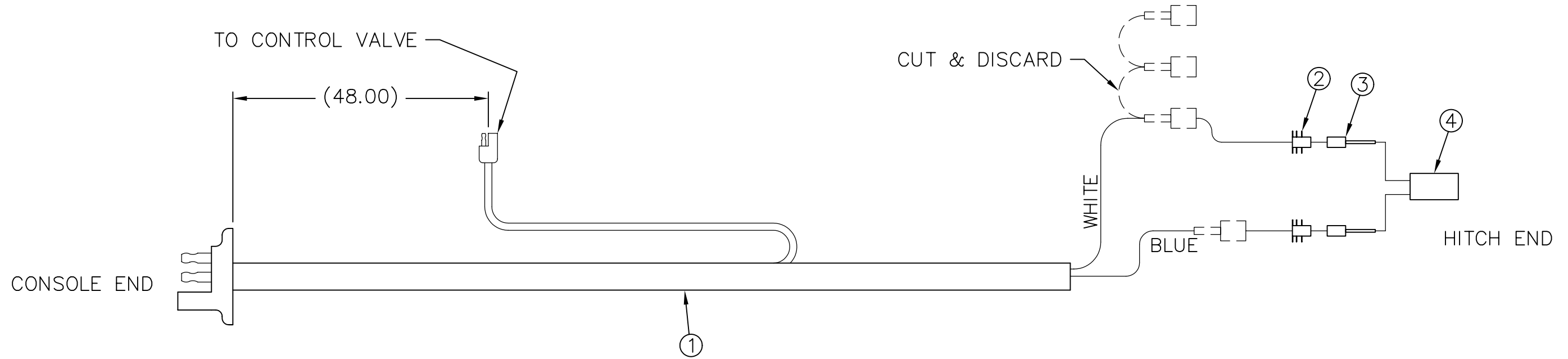


NOTE:

- CUT BLUE WIRE AS SHOWN APPROX. 12.00 FROM CONNECTOR EXTEND AS SHOWN
- PULL ORANGE WIRE OUT OF CABLE & ADD LGTH AS SHOWN
- CONNECT BOTH THE ORANGE AND THE BLUE WIRES TO THE SAME SIDE OF SWITCH AS SHOWN
- PULL BLACK WIRE OUT OF CABLE. CUT OFF SO 6" LEAD REMAINS AND CONNECT TO SWITCH AS SHOWN.
- CONNECT GRND FOR SWITCH INTO WHITE WIRE OF CABLE
- RUN ALL WIRES IN LOOM WHEN COMPLETE
- MOVE EXISTING LOOM TEE TO ACCOMODATE SWITCH LOCATION

ITEM	PART NO.	QTY.	DESCRIPTION
9	SCA14SHRINK	6	TUBE,.25,SHRINK,BLK (NOT SHOWN)
8	STIWIRE14PR03	102	WIRE,PRIMARY,14GA,BLUE
7	STI700347	108	LOOM,WIRE,.38 (NOT SHOWN)
6	JESYELFEMALEI	1	TRMNL,SPADE,FEM,INSUL,YELLOW
5	JES692005	2	TRMNL,SPADE,FEMALE,BLUE
4	STIWIRE14PR38	102	WIRE,PRIMARY,14GA,WHITE
3	STIWIRE14PR04	102	WIRE,PRIMARY,14GA,ORANGE
2	STI700235	1	SWITCH,TOGGLE,ON-OFF,LED
1	LM1150159418	1	CABLE,CONSOLE,PRIMARY,RAVEN,10

DRAWN	CM	DATE	11-04	PROPERTY OF	
CHECKED		DATE		SIoux AUTOMATION CENTER, INC.	
SCALE	1:1	BREAK ALL EDGES .03 X 45°		877 FIRST AVE NW SIOUX CENTER, IOWA 51250	
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°				HARNES, WIRE, FLWMTR, SWTCH, BOOM	
MATERIAL	AS NOTED		SIZE	DWG NO.	REV
			B	LM380102	A



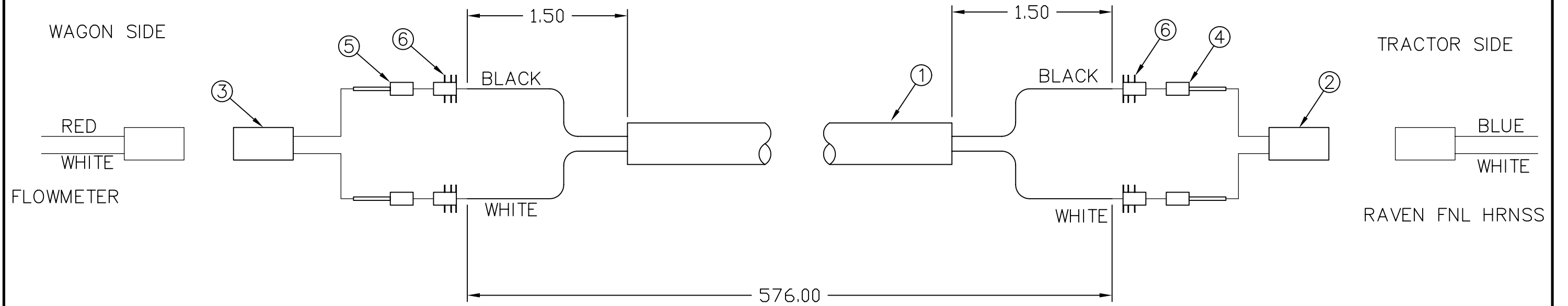
4	JES38043	1	CONN, WEATHERPACK, 2, TOWER
3	JES30035	2	TRMNL, WEATHERPACK, 20/18, FEMALE
2	JES39000	2	SEAL, CABLE, WEATHERPACK, 18/16GA
1	LM1150159418	1	CABLE, CONSOLE, PRIMARY, RAVEN, 10
ITEM	PART NO.	QTY.	DESCRIPTION

DRAWN	CM	DATE	04-05	PROPERTY OF	
CHECKED		DATE		SIOUX AUTOMATION CENTER, INC.	
SCALE	1:1	BREAK ALL EDGES	.03 X 45°	877 FIRST AVE NW SIOUX CENTER, IOWA 51250	
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°				HARNESS, WIRE, RAVEN, FNL, WTHRPK	
MATERIAL	AS NOTED		SIZE	DWG NO.	REV
			B	LM380118	—

NOTE:  
BLUE (+) TERMINAL A  
WHITE (-) TERMINAL B

DWG. NO. LM380117  
DO NOT SCALE DRAWING

REVISIONS				REV	
ECN	REV	DESCRIPTION	DATE	BY	CHK



NOTE:  
BLACK TERMINAL A  
WHITE TERMINAL B

ITEM	PART NO.	QTY.	DESCRIPTION
6	JES39000	4	SEAL,CABLE,WEATHERPACK,18/16GA
5	JES30035	2	TRMNL,WEATHERPACK,20/18,FEMALE
4	JES30034	2	TRMNL,WEATHERPACK,20/18,MALE
3	JES38043	1	CONN,WEATHERPACK,2,TOWER
2	JES38042	1	CONN,WEATHERPACK,2,SHROUD
1	SCACORD182SJ	576	CORD,BULK,18,2,SJ

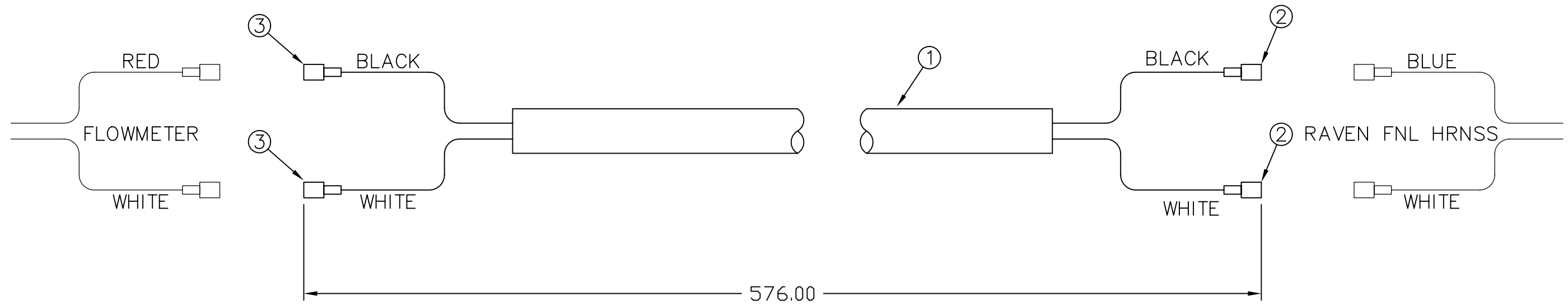
DRAWN CM	DATE 04-05	PROPERTY OF <b>SIoux AUTOMATION CENTER, INC.</b> 877 FIRST AVE NW SIOUX CENTER, IOWA 51250	
CHECKED	DATE	CABLE,POWER, FLWMTR,WTHRPK,576	
SCALE 1:.75	BREAK ALL EDGES .03 X 45°		
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°		SIZE B	DWG NO. LM380117
MATERIAL AS NOTED		REV —	

DWG. NO. LM380101  
DO NOT SCALE DRAWING

REVISIONS					REV
ECN	REV	DESCRIPTION	DATE	BY	CHK
3561	A	INACTIVATE	04-05	CM	

WAGON SIDE

TRACTOR SIDE



SERVICE  
ONLY

ITEM	PART NO.	QTY.	DESCRIPTION
3	JES632005	2	TRMNL, SPADE, MALE, BLUE
2	STI700291	2	TRMNL, PUSHON, STI, ALL
1	SCACORD182SJ	576	CONN, PLUG, AMP, STD, 11-4

DRAWN CM	DATE 11/04	PROPERTY OF <b>SIoux AUTOMATION CENTER, INC.</b> 877 FIRST AVE NW SIOUX CENTER, IOWA 51250
CHECKED	DATE	
SCALE 1: .75	BREAK ALL EDGES .03 X 45°	CABLE, POWER, FLWMTR, 576
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED FRACTIONAL ± 1/32 3 PLACE ± .005 2 PLACE ± .020 ANGULAR ± 1°		
MATERIAL AS NOTED	SIZE B	DWG NO. LM380101
		REV A