

704-0001-79 September 1999 **Autobend 6 Parts List & Wiring Diagram Revision A**

SAFETY PRECAUTIONS

Service Personnel: Always be alert and practice all necessary safety rules and precautions when servicing this equipment. As part of this, always observe the following safety precautions.

- **Always** disconnect the power source before attempting maintenance or service on the machine.
- Always turn the main disconnect switch to the OFF position before removing, or working on, any circuit boards, switches, fuses, cables, or components within the Power and/or control cabinets.
- Whenever working in an area away from the disconnect switch, **post a warning** on or near the switch telling others **not** to turn ON the power to the machine.
- If it becomes necessary to make any tests or checks with live circuits, be extremely careful and follow all established safety practices. Remember, the line side of the disconnect switch may be hot even though the switch is in the OFF position.

Important

Always wear the static control wrist strap when working inside the control cabinet and avoid flexing the printed circuit boards (PCBs, also called printed wiring boards or PWBs) when handling, removing, or inserting them. Hairline cracks in the printed circuit etching may result from rough handling. These cracks cause problems that are often intermittent and very hard to find.

Avoid touching the components (devices) installed on a printed circuit board; static electricity may damage them.

PROPRIETARY INFORMATION

Information contained herein is the property of Hurco Companies, Inc. No reproduction or disclosure of this information shall be made by the recipient to any other person or organization without the prior written consent of Hurco Companies, Inc.

GENERAL

for the HURCO

Autobend 6 Control System

This manual is divided into five (5) sections. These sections are separated by a colored divider pages.

All five (5) sections contain "Parts Listings" for use in the identification, requisition, and issuance of electro-mechanical parts for the Autobend 6 Control System. Parts listed in these sections meet specific critical equipment design specification requirements. The use of any non-recommended substitute replacement parts may be the source of added trouble. Do not assume that just because parts look alike they are the same. The majority of parts have special properties known only by the manufacturer. They are the result of particular requirements established by extensive research and testing. There is a continuing program to further improve existing parts. Many of these improvements cannot be detected by visual examination (comparing old and new parts). For these reasons, it is extremely important that only recommended replacement parts be used.

All five (5) sections also contain electro-mechanical assemblies and wiring diagrams that are intended as an aid in isolating a malfunction when it becomes necessary to troubleshoot the machine to find the source of an encountered problem.

NOTICE

Hurco products should be used only for the purpose and in the manner intended by their original design. It is recommended that no modifications be made to this product. Any modifications of this product will void any expressed or implied warranty.

HOW TO ORDER REPLACEMENT PARTS

Hurco maintains a large inventory of service spare parts. Our Parts Order Processing personnel are thoroughly trained to handle all requests for replacement parts and can also answer your questions concerning the status of an existing order and shipping information, etc.

Orders for parts may be placed by telephone (voice line 1-800-638-1849, fax line 1-317-328-2812) or by mail with a purchase order to:

Hurco Manufacturing Company
Parts Order Processing
One Technology Way
P.O. Box 68180
Indianapolis, IN 46268-0180

We need the following explicit information in order to process your parts order. Please have this information at hand if making a phone order.

- 1. Hurco Autobend Control serial number. This number is located on the general information and warning label attached to the power cabinet door near the disconnect switch.
- 2. Your company name and complete address, including the postal zip code.
- 3. Name and telephone number of the person ordering the parts (include area code and extension).
- 4. COMPLETE shipping address (include the name and department of the person to receive the part). Also provide any special shipping instructions, including the desired mode of shipment (e.g., Air Express, UPS Blue, Standard UPS, etc.). Parts will be shipped prepaid and billed via invoice.
- 5. Your company's purchase order number, even if the machine is under warranty.
- 6. Complete address to which invoices are to be mailed.
- 7. Give the Hurco part number, part name (description), and quantity. Also state where you got this number (maintenance manual, parts list manual, off the old part).

SPECIAL NOTES ON RETURNING PARTS

When you return a part to Hurco, please fill out the Return Authorization Tag sent to you, and ship the part to Hurco in the original container if possible.

All defective parts replaced under warranty agreement **must be returned** to Hurco within thirty (30) days.

PARTS LIST and WIRING DIAGRAMS

This parts list is for use as an aid in the identification, requisition and issuance of part for the Hurco Autobend Controls. Use only the part numbers specified within this manual for replacement parts. To locate a part number: 1) Identify the assembly that contains the component part from the Contents list below; 2) Refer to the page that illustrates the assembly breakdown; 3) Locate the component part and its item number on the illustration then refer to the item number within the part listing to determine its description and the Hurco part number.

List of Drawings

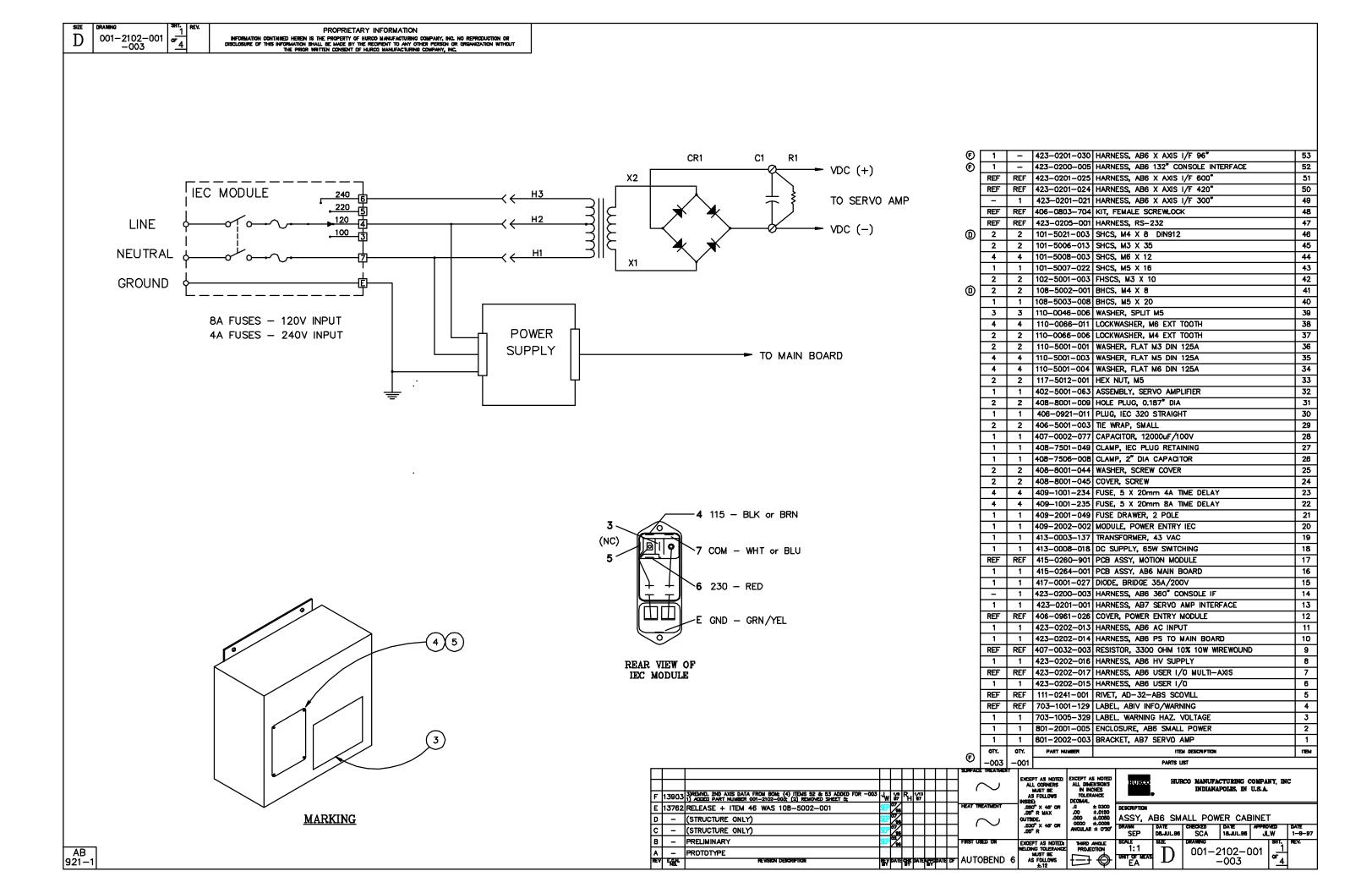
Description	on	Drawing Number	# of Pages	
Power Ca	binet			
	Ass'y., AB6 Small Power Cabinet	001-2102-001/003	5	
	Ass'y., AB6 Large Power Cabinet	001-2102-002	3	
	Ass'y., AB6 Small Power Cabinet X1/Y1	001-2102-004	1	
	Ass'y., AB6 Large Power Cabinet X1/X2/Y1	001-2102-005	1	
	Ass'y., Servo Amplifier	402-5001-053/063	3 1	
	Transformer, 43 VAC	413-0003-137	1	
	Harness, AB6 Console Interface	423-0200-003/005	5 1	
	Harness, AB7 Servo Amp IF	423-0201-001	1	
	Harness, Servo Amp Power IF	423-0201-002	1	
	Harness, AB6 Main Bd. IF	423-0201-028	1	
	Harness, AB6 AC Input	423-0202-013	1	
	Harness, AB6 PS to Main Bd.	423-0202-014	1	
	Harness, AB6 User I/O	423-0202-015/017	7 1	
	Harness, AB6 HV Supply	423-0202-016	1	
	Harness, AB7 Relay I/O	423-0203-001	1	
	Harness, RS-232	423-0205-001	1	
Console				
	Ass'y., AB6 Console	001-2103-001	1	
	Ass'y., AB6 Front Panel	001-2104-001	1	
	Panel, AB6 Membrane Switch	405-3001-027	2	

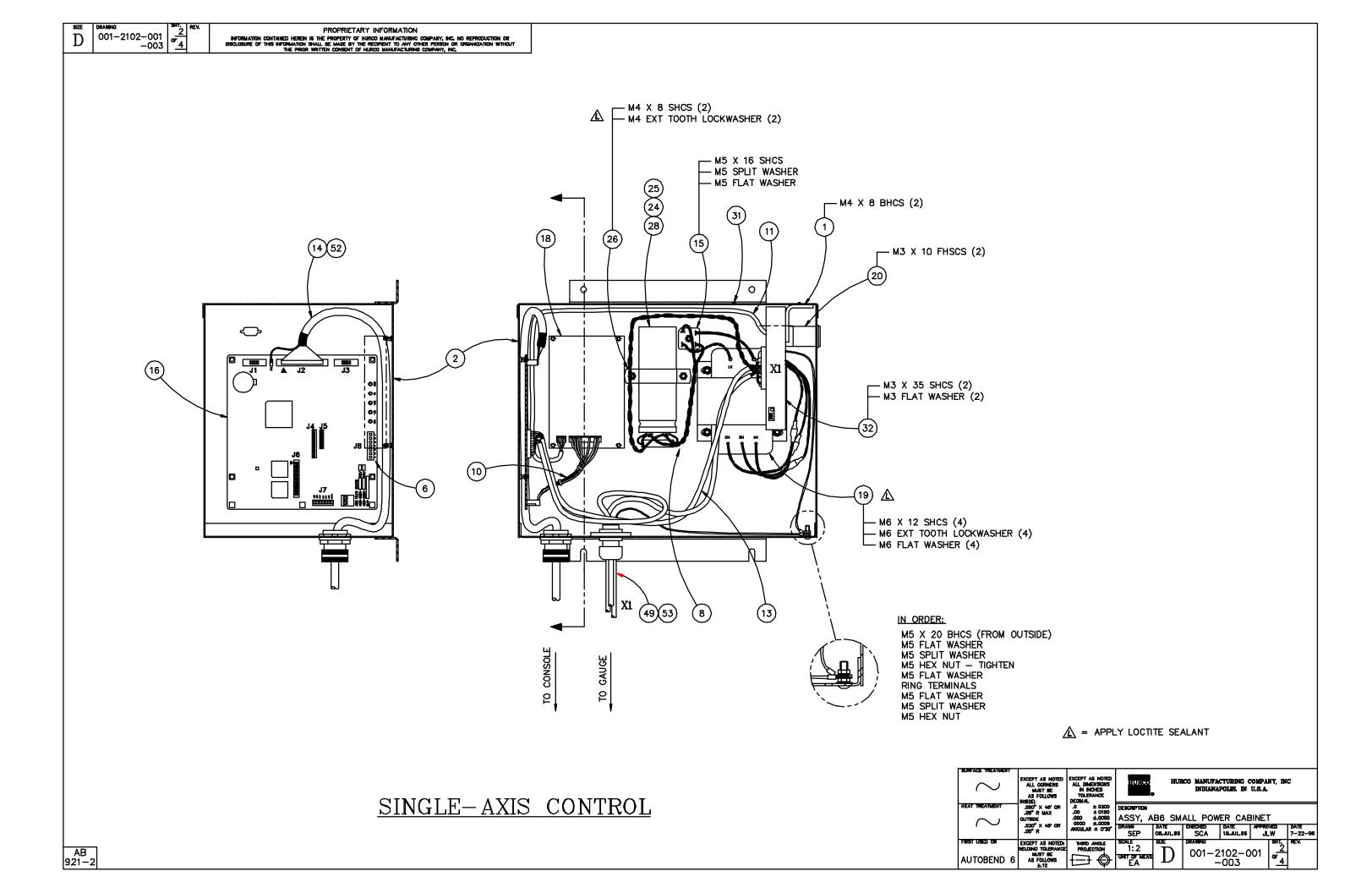
<u>Descri</u>	<u>ption</u>	Drawing Number #	of Pages				
Backgauge							
	Ass'y., Backgauge, S6/S8	001-2003-009	2				
	Ass'y., Backgauge, S7	001-2003-002	2				
	Ass'y., Backgauge, LP11-54	001-2010-004	2				
	Ass'y., Backgauge, LP11	001-2010-005	2				
	Ass'y., Backgauge, LP11-12	001-2010-006	2				
	Ass'y., Backgauge, LP21	001-2010-007	1				
	Ass'y., Backgauge, LP21 Rear Cover Kit	001-2010-008 thru 012					
	Harness, X Axis IF	423-0201-005/006/007/029 1 423-0201-021/024/025/030 1					
	Harness, X Axis Interface 300"/420"/600"						
	Harness, AB7 Internal GaugeS6/S7/S8	423-0204-001	1				
Y-Axis							
	Ass'y., MTE EC728 w/R9000 Enc.	001-1409-003	1				
	Ass'y., MTE	001-1909-007	1				
	Ass'y., Scale - Standard 14"	001-2004-001	1				
	Ass'y., Scale - Standard 20"	001-2004-002	1				
	Ass'y., Scale - Standard 30"	001-2004-003	1				
	Ass'y., Scale - Standard 14"						
	Cin. Bed Ref. Opt.	001-2004-004	1				
	Ass'y., Promecam 400 Drive	001-2006-001	1				
	Ass'y., Promecam Drive	001-2006-002	1				
	Ass'y., Amada Drive	001-2006-003	1				
	Ass'y., Adira-QHA	001-2006-004	2				
	Ass'y., Adira Drive (Pre-QHA)	001-2006-005	1				
	Ass'y., Komatsu PHS	001-2006-006	1				
	Ass'y., Guifil-PE	001-2006-008/009	1				
	Ass'y., Hurco Press Brake Y-Axis	001-2006-011	2				

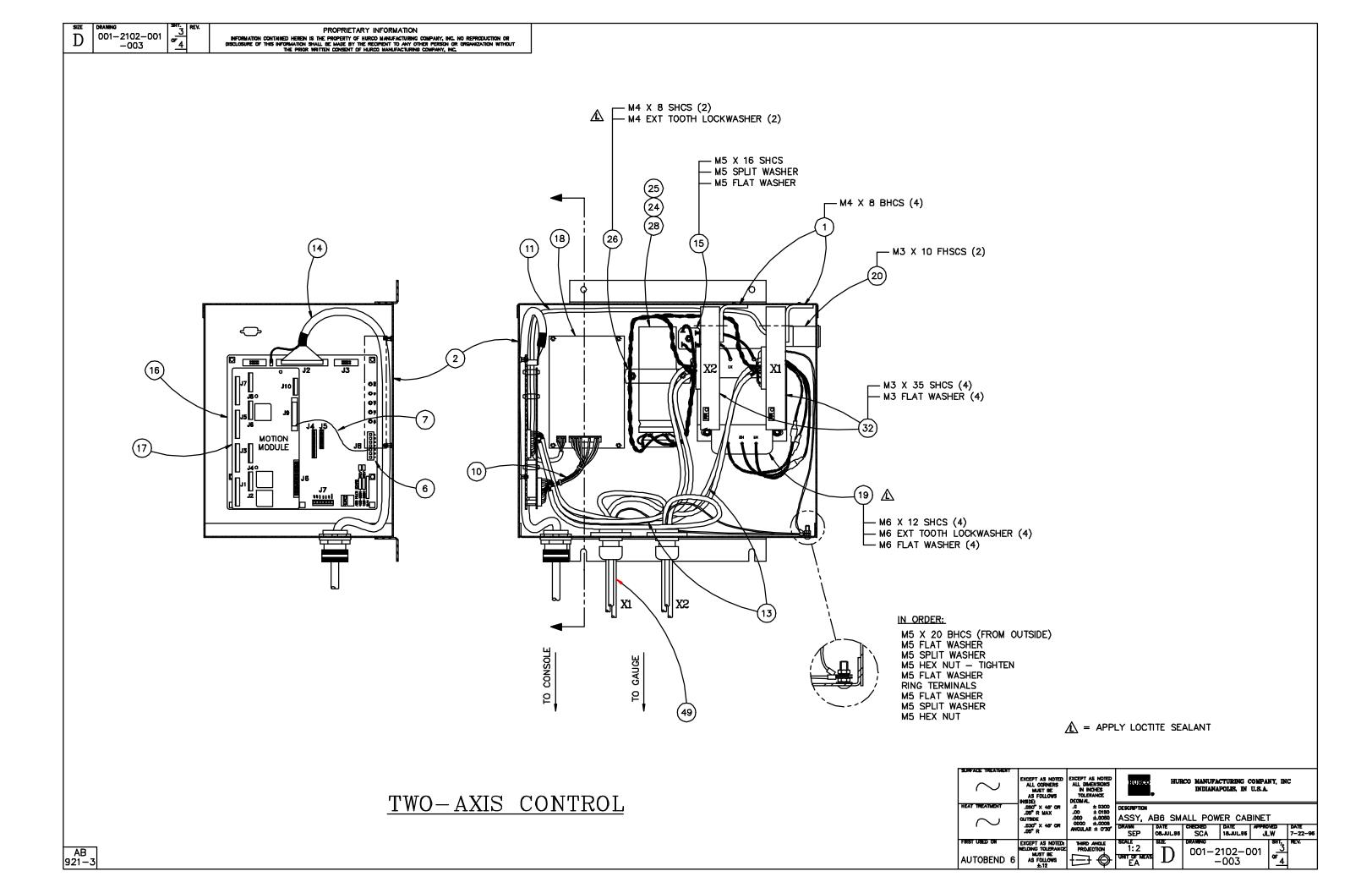
Description	Drawing Number	# of Pages		
Y-Axis (continued)				
Harness, AB7 Y Axis IF	423-0201-011/012			
Harness, AB7 MStop I/F	423-0201-013/014			
Harness, Y Axis Adapter	423-0201-027	1		
Miscellaneous				
LP Vertical Supports	001-1034-003/00	4 1		
Stock Support	001-1146-001	1		
Ass'y., Pivot Finger Adjustable	001-1425-004	1		
Ass'y., Vertical Support	001-1452-001 thr	ru 004 1		
Ass'y., Gauge Block/Screw	001-1479-999	1		
Ass'y., Vertical Support	001-1486-001 thr	ru 006 1		
Ass'y., Retract at Pinchpoint	001-1529-003	1		
Gauge Bar, S6, S7, R-Axis	801-0910-001 thr	ru 025 1		
Gauge Bar, S8	801-0910-026 thr	ru 039 1		
Ass'y., Adjustable Leg	901-0022-004	1		

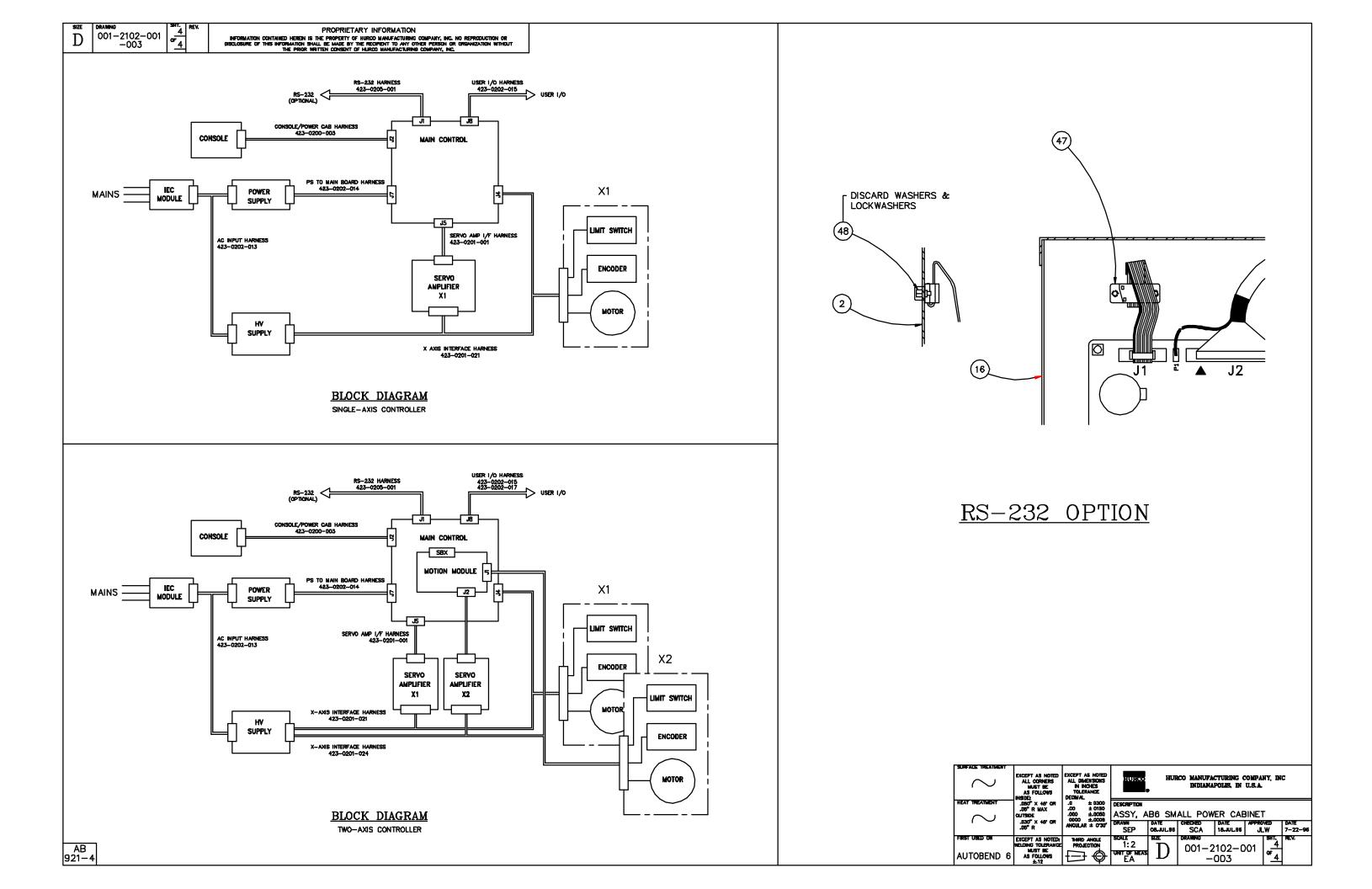
Power Cabinet

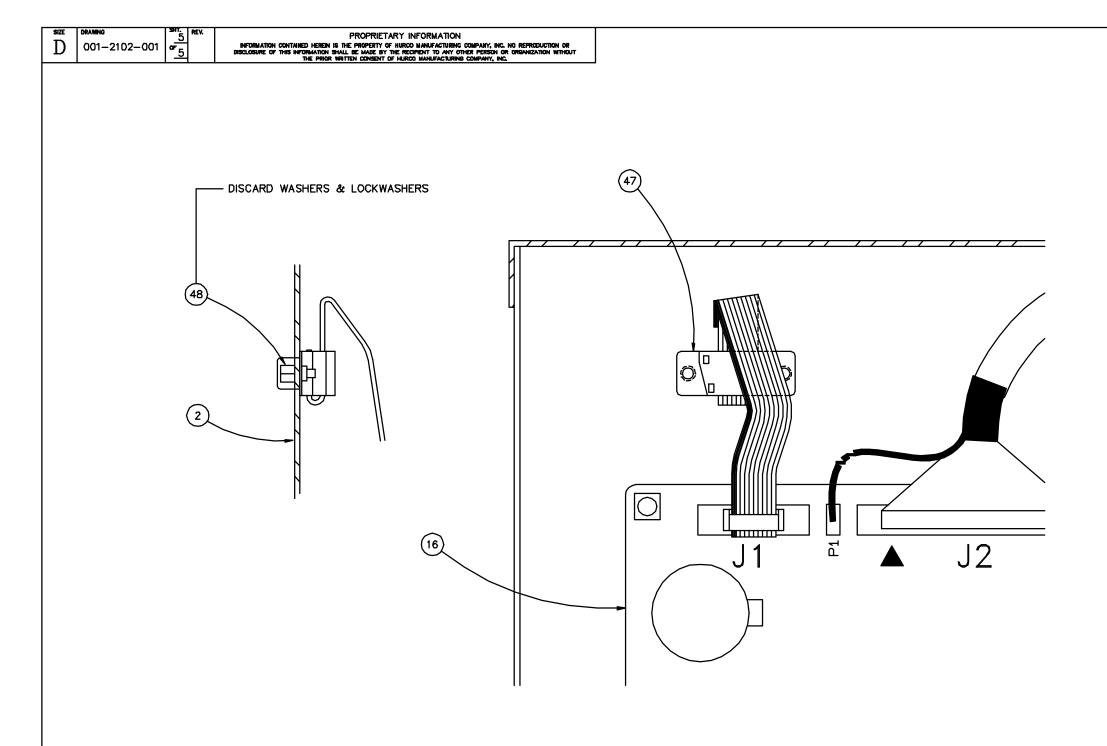
Power Cabinet





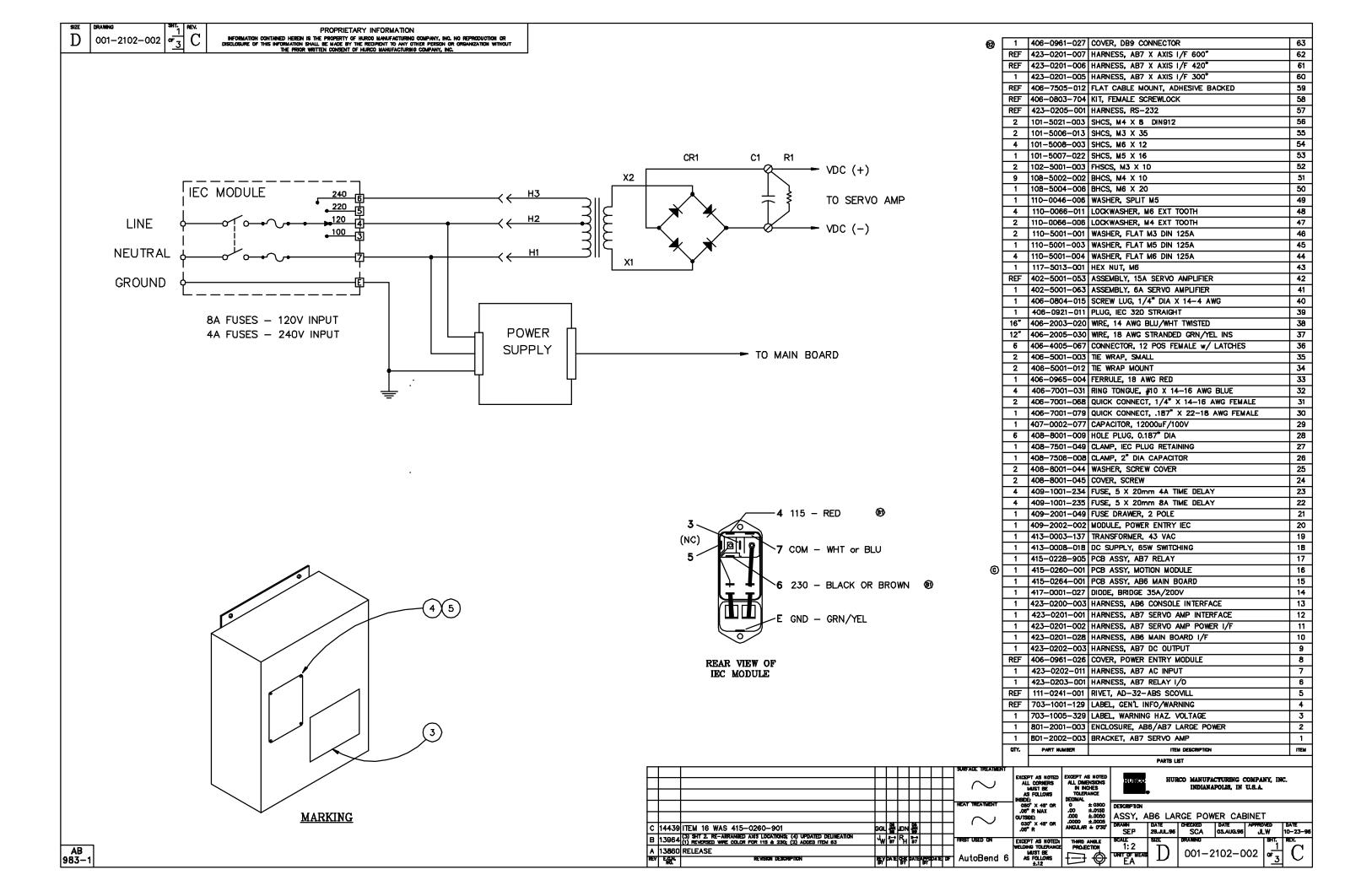


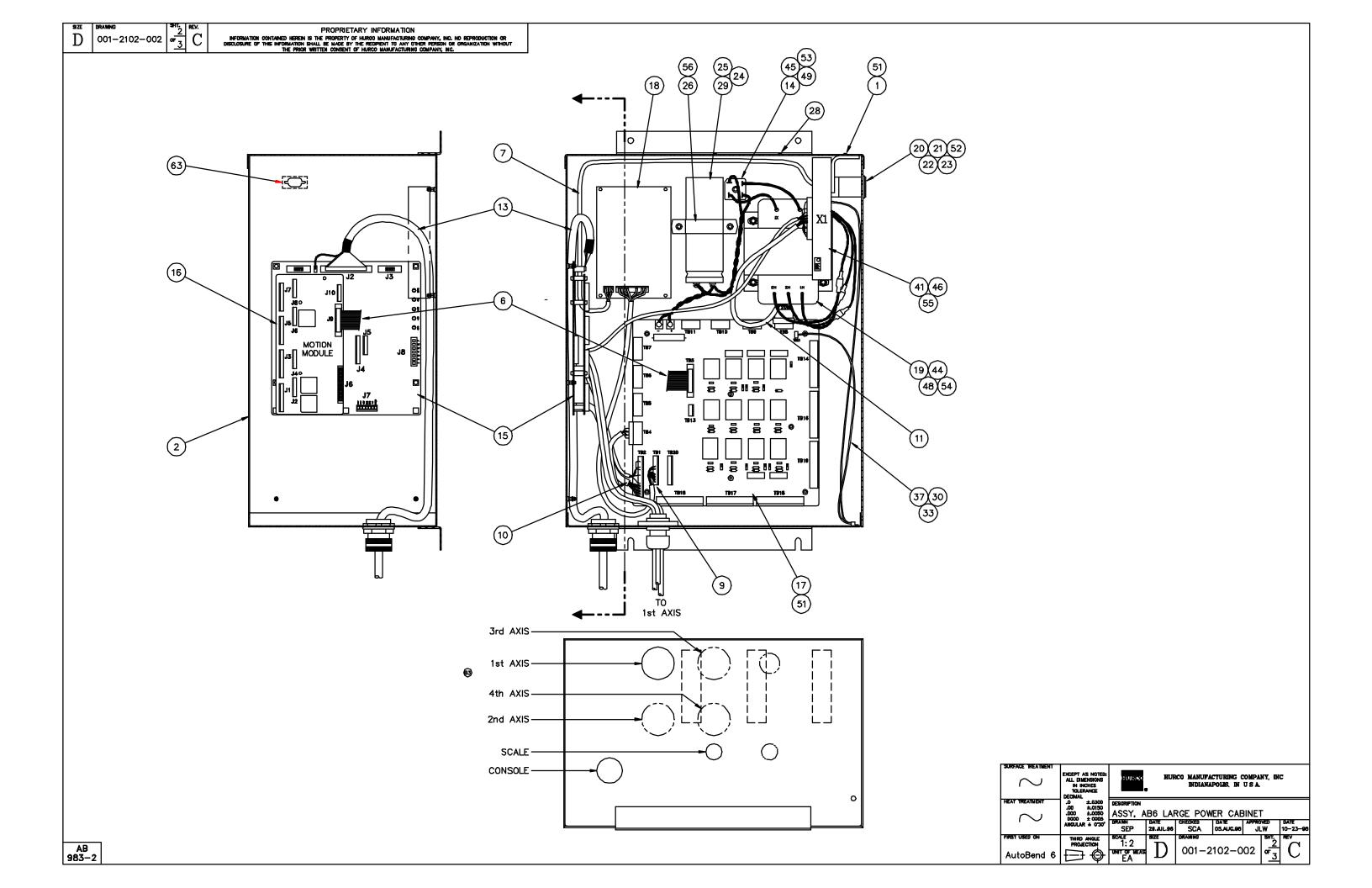


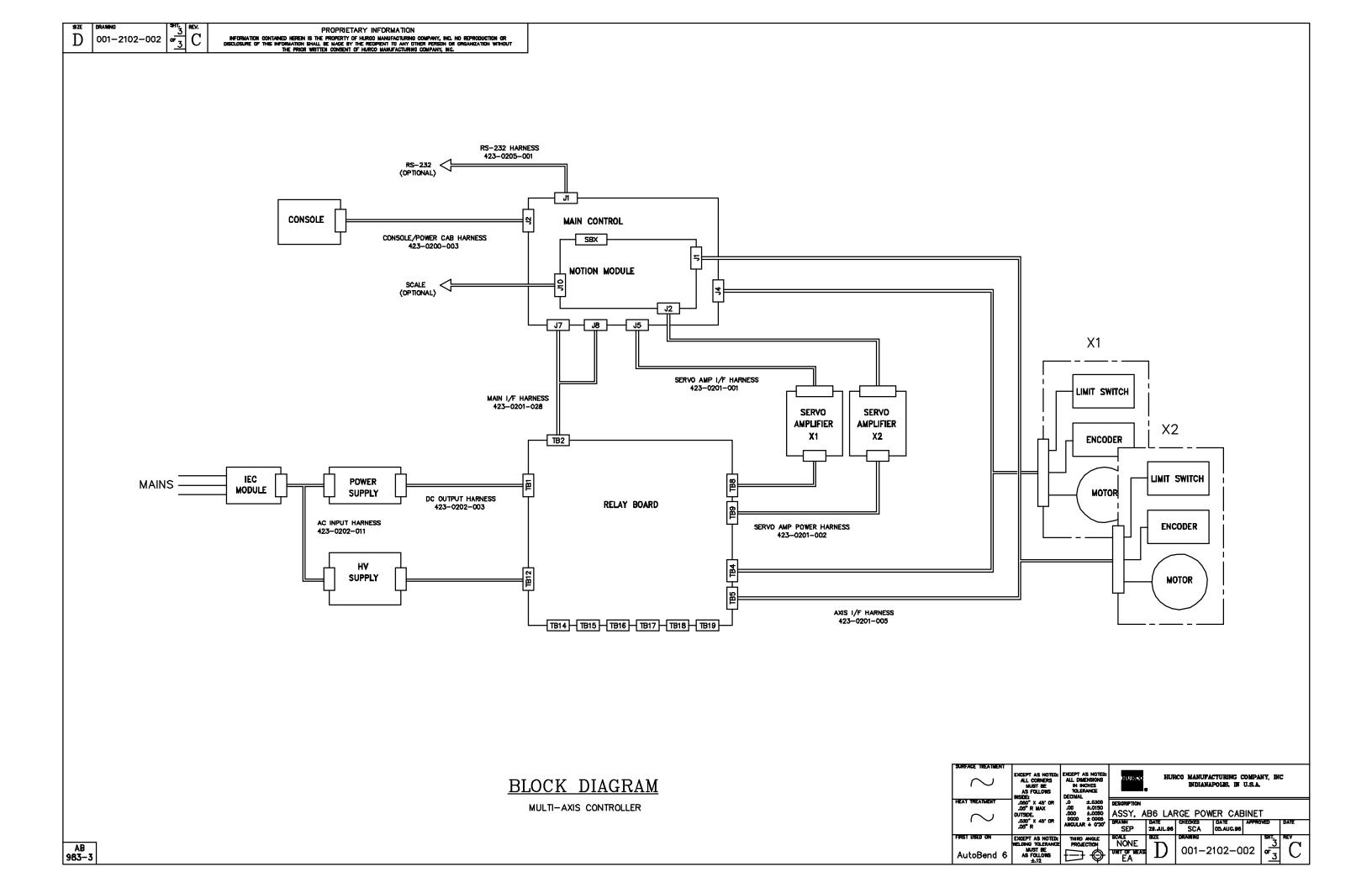


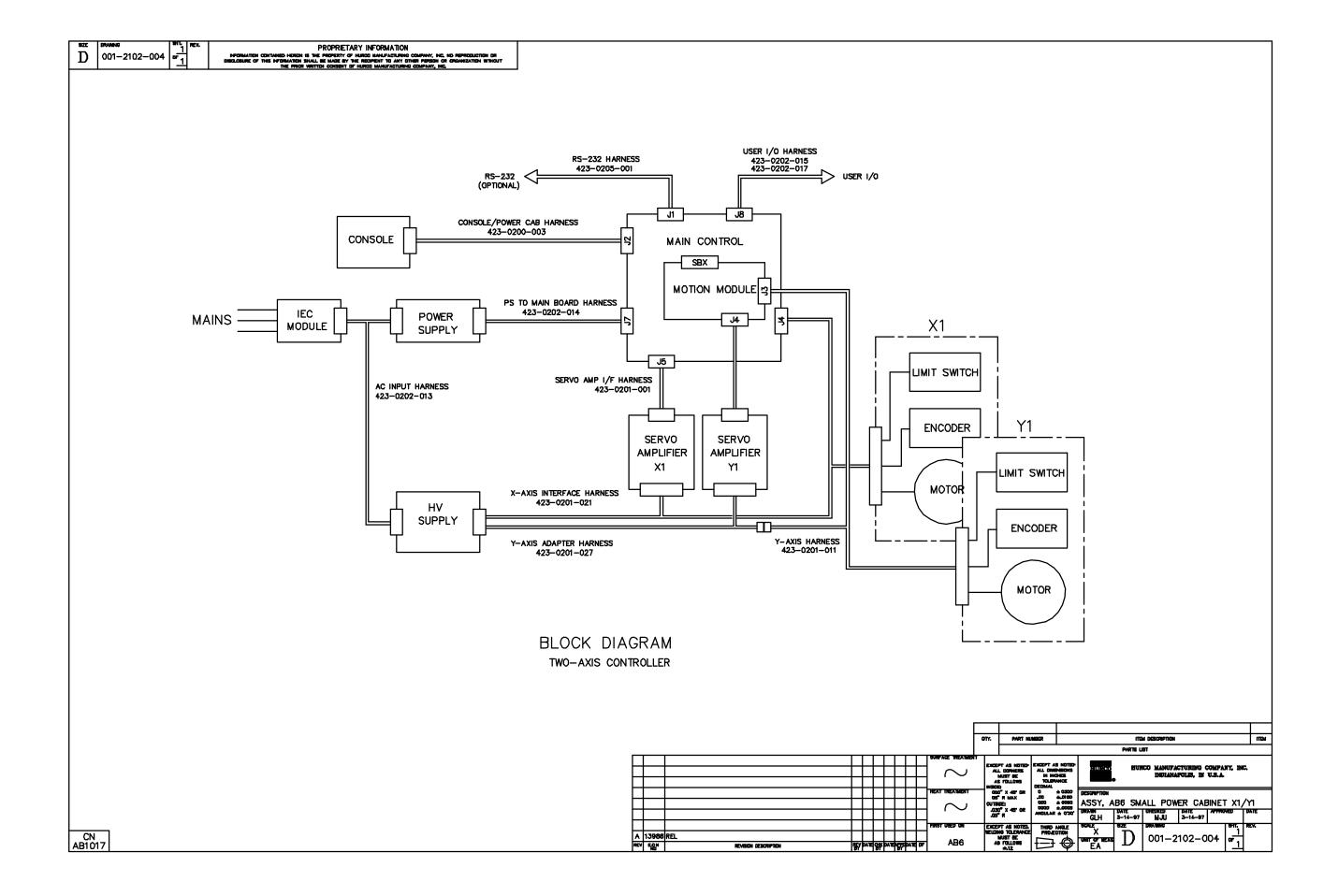
RS-232 OPTION

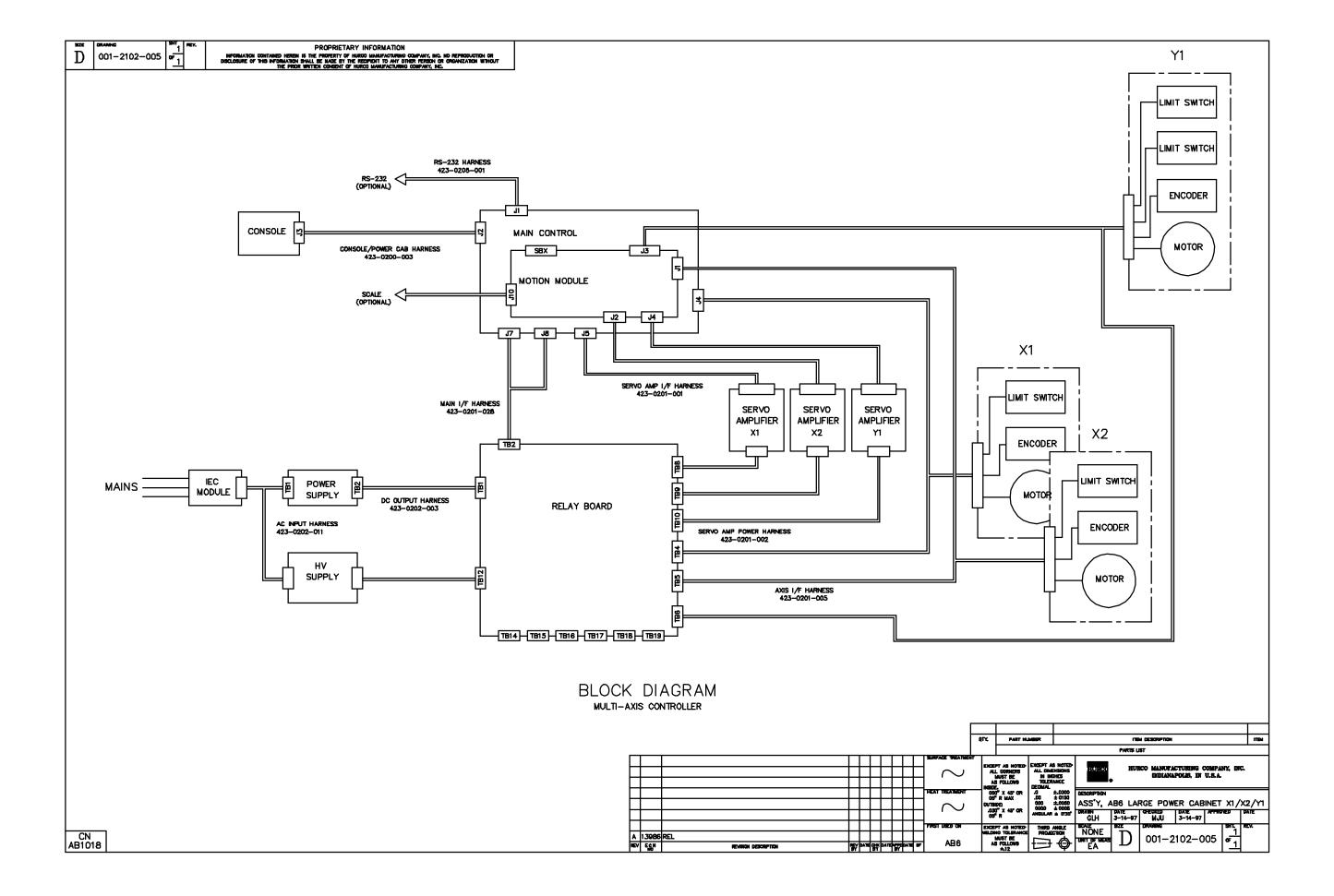
SUIFACE TREATMENT	EXCEPT AS NOTED ALL CORNERS MUST BE AS FOLLOWS INSIDE:	EXCEPT AS NOTED ALL DIMENSIONS IN INCHES TOLERANCE DECIMAL	1(0)(660	HUE	CO MANUFA INDIANA	CTURING (INC
HEAT TREATMENT	.050" X 46" OR .05" R MAX OUTSIDE	.0 ± 0300 .00 ± 0150 .000 ±.0050	DESCRIPTION ASSY, AB6 SMALL POWER CABINET					
1 0	.030" X 46" OR .05" R	ANGULAR ± 0'30'	DRAWN SEP	DATE OS.JUL.96	CHECKED	DATE	APPROVED	DATE
FIRST USED ON	EXCEPT AS NOTED: WELDING TOLERANCE	THIRD ANGLE PROJECTION	SCALE 2:1	SIZE	DRAWING		SH	1. REV.
AUTOBEND 6	MUST BE AS FOLLOWS ±.12		UNIT OF MEAS	$\mid \mathcal{D} \mid$	001–2	2102-(001 of	5

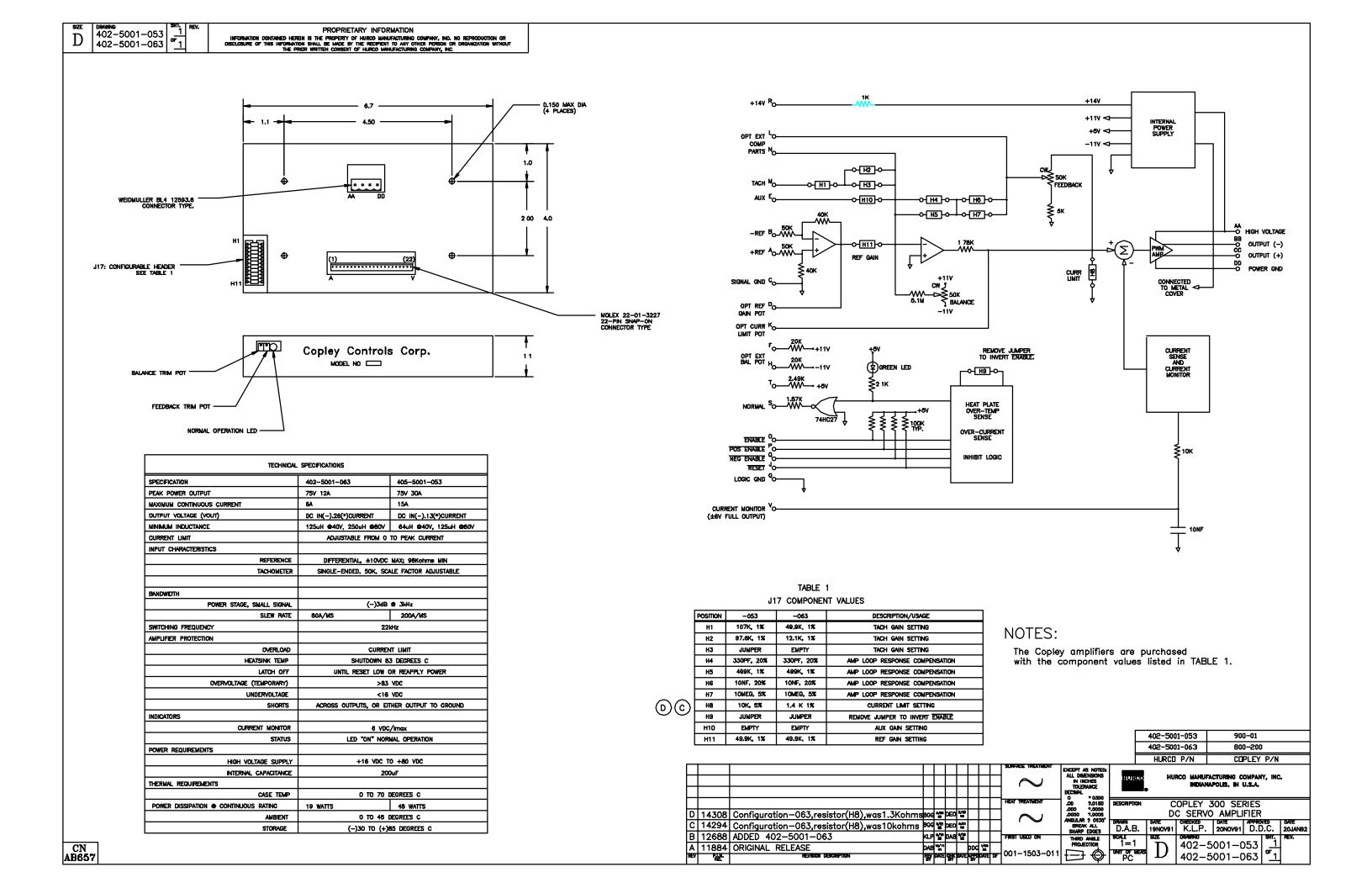


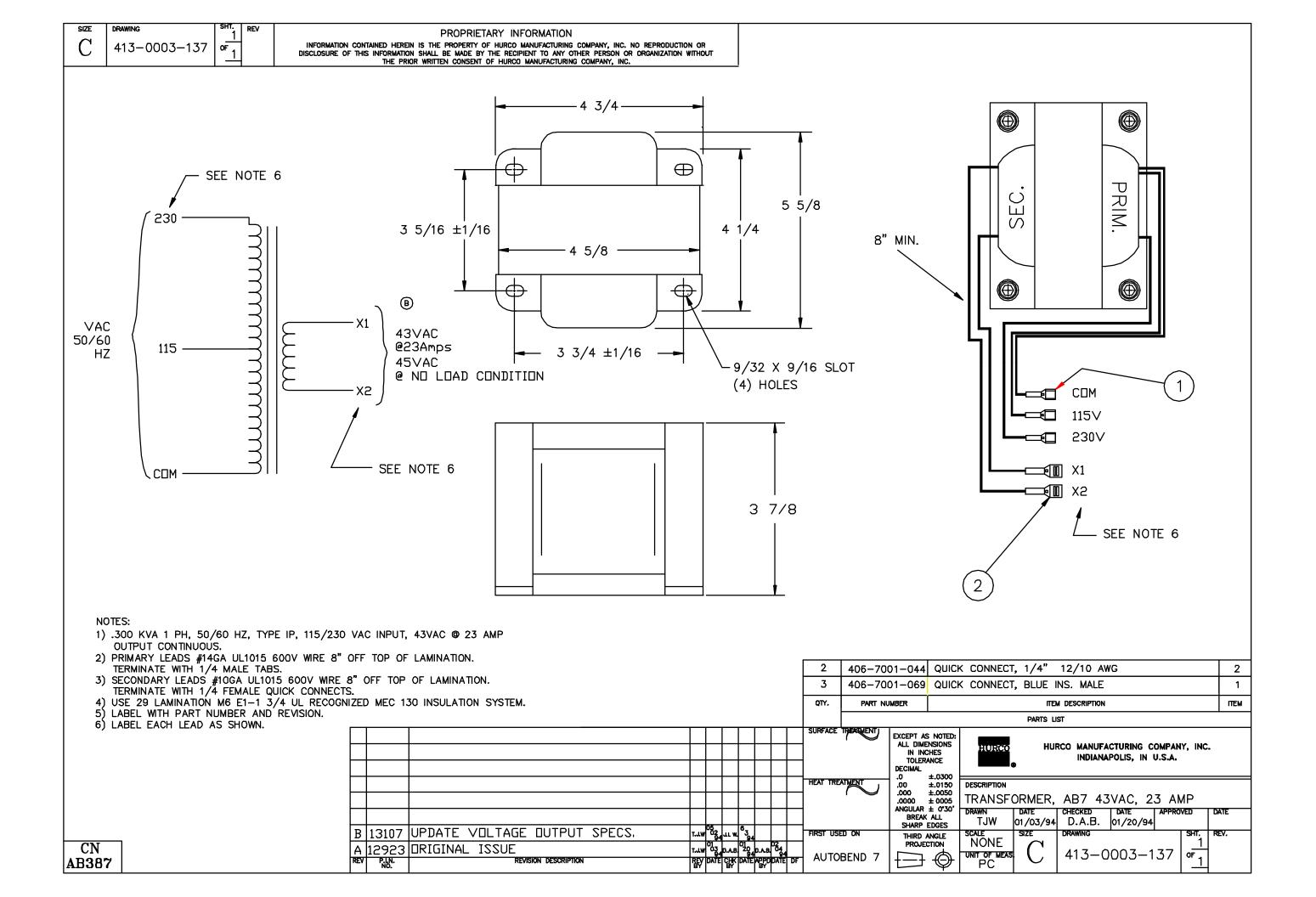


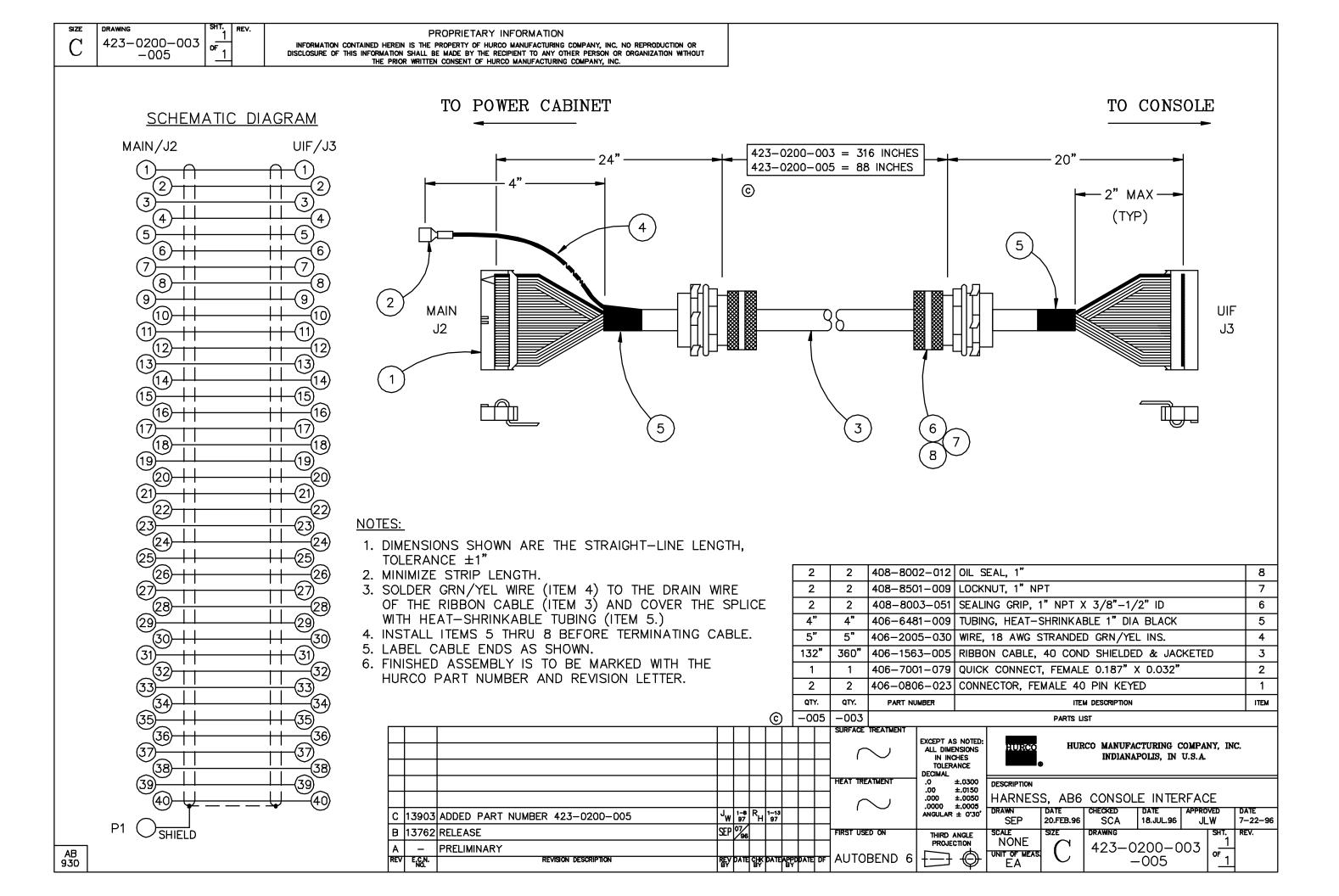


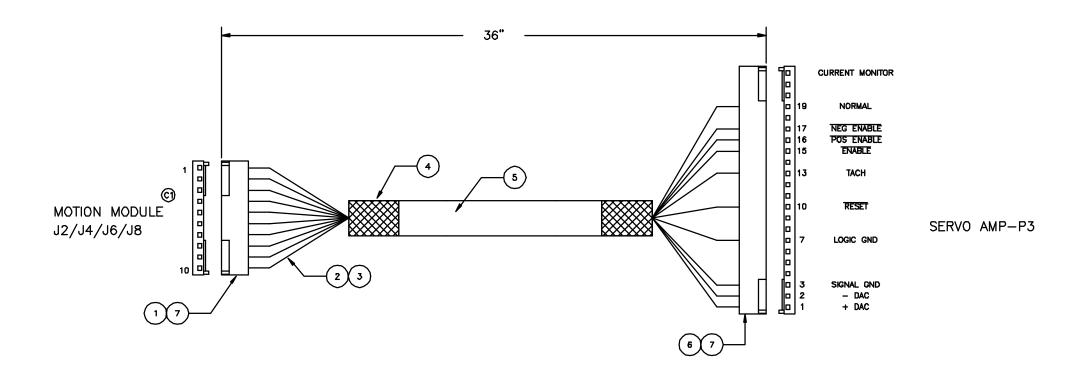






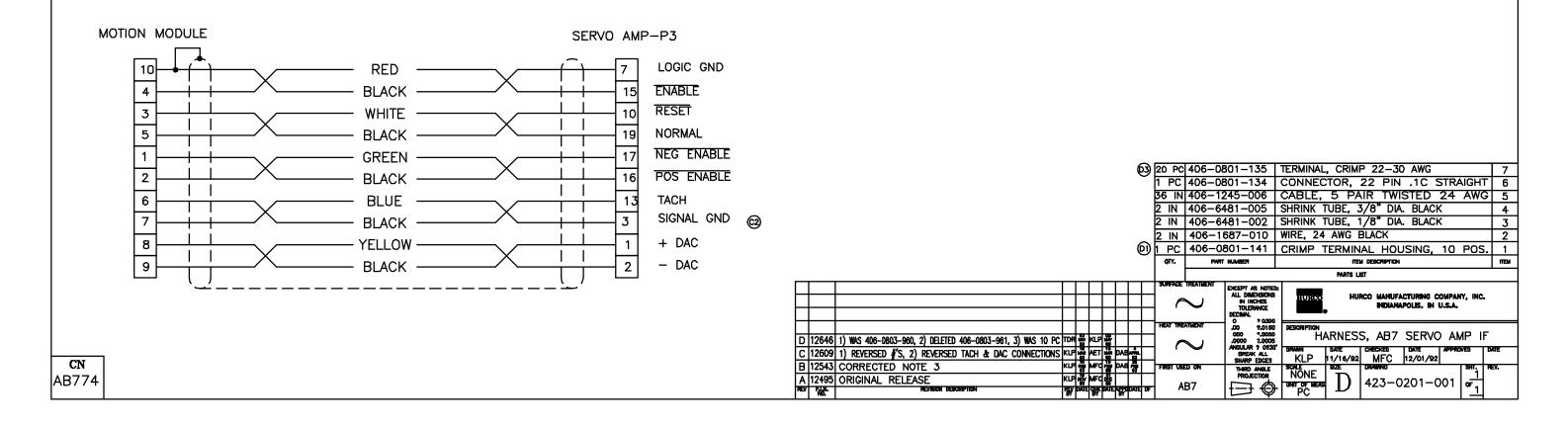


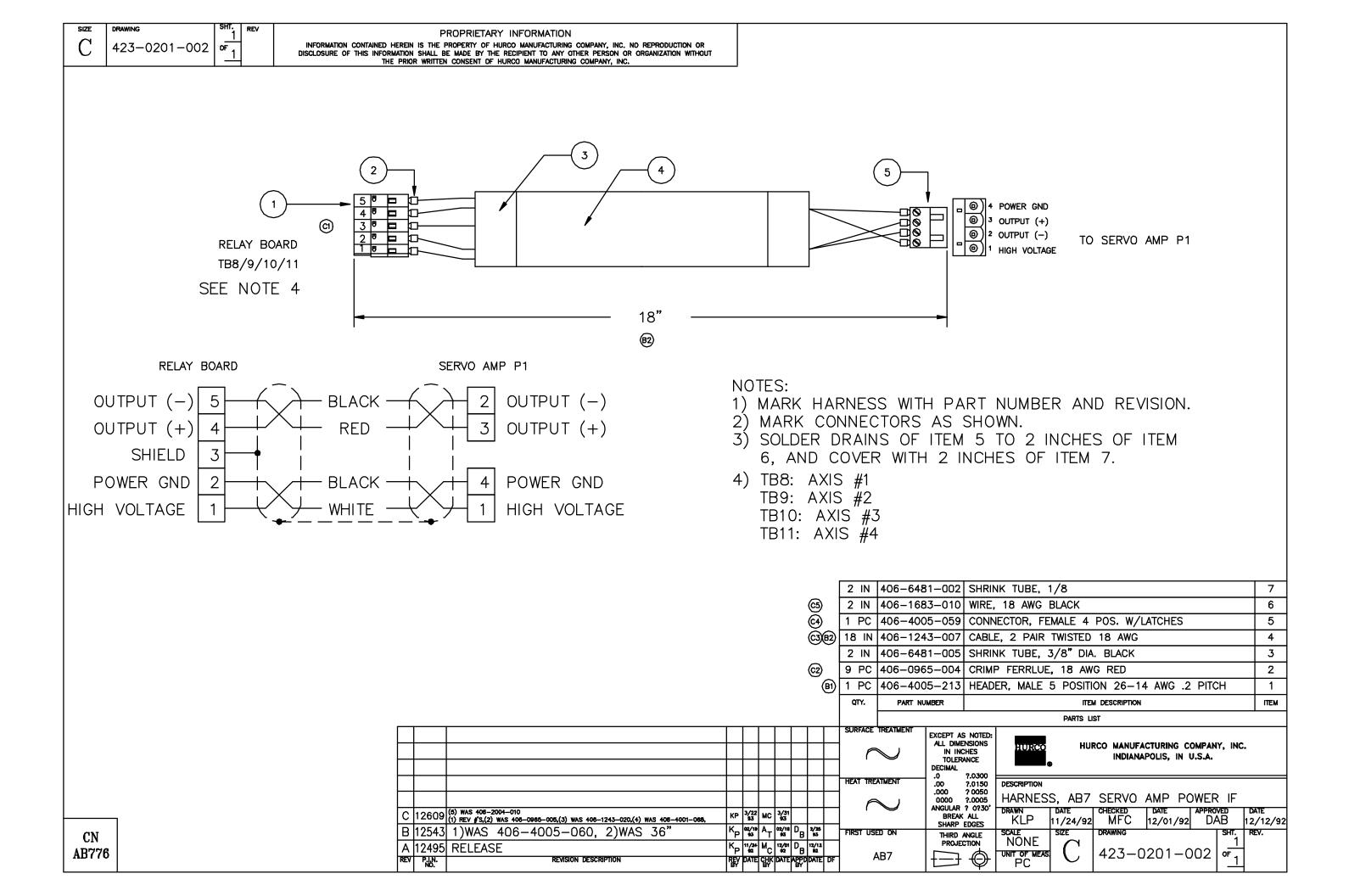


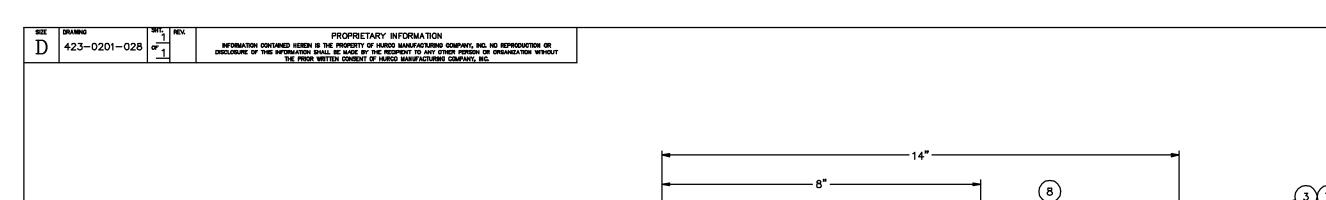


NOTES:

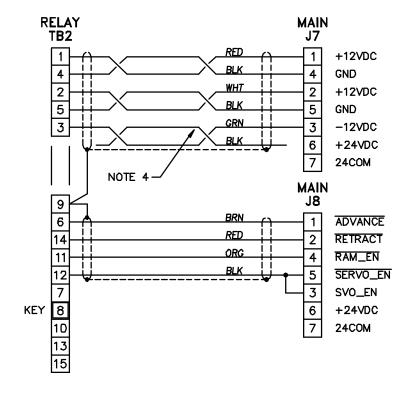
- 1. MARK HARNESS WITH PART NUMBER AND REVISION.
- 2. MARK CONNECTORS AS SHOWN.
- 3. SOLDER DRAIN OF ITEM 5 TO THE BLACK WIRE OF THE RED/BLACK PAIR. COVER WITH ITEM 3.

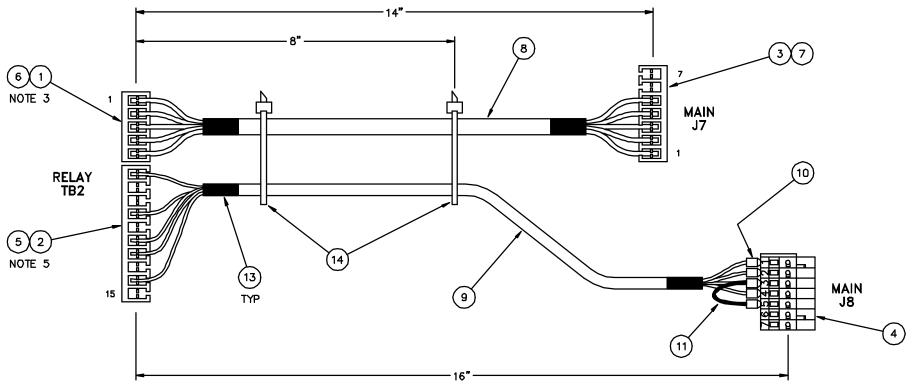






SCHEMATIC DIAGRAM

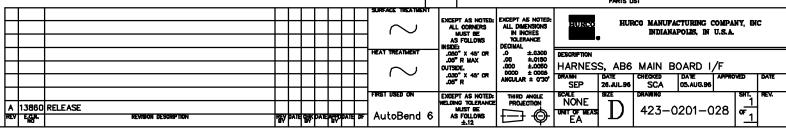




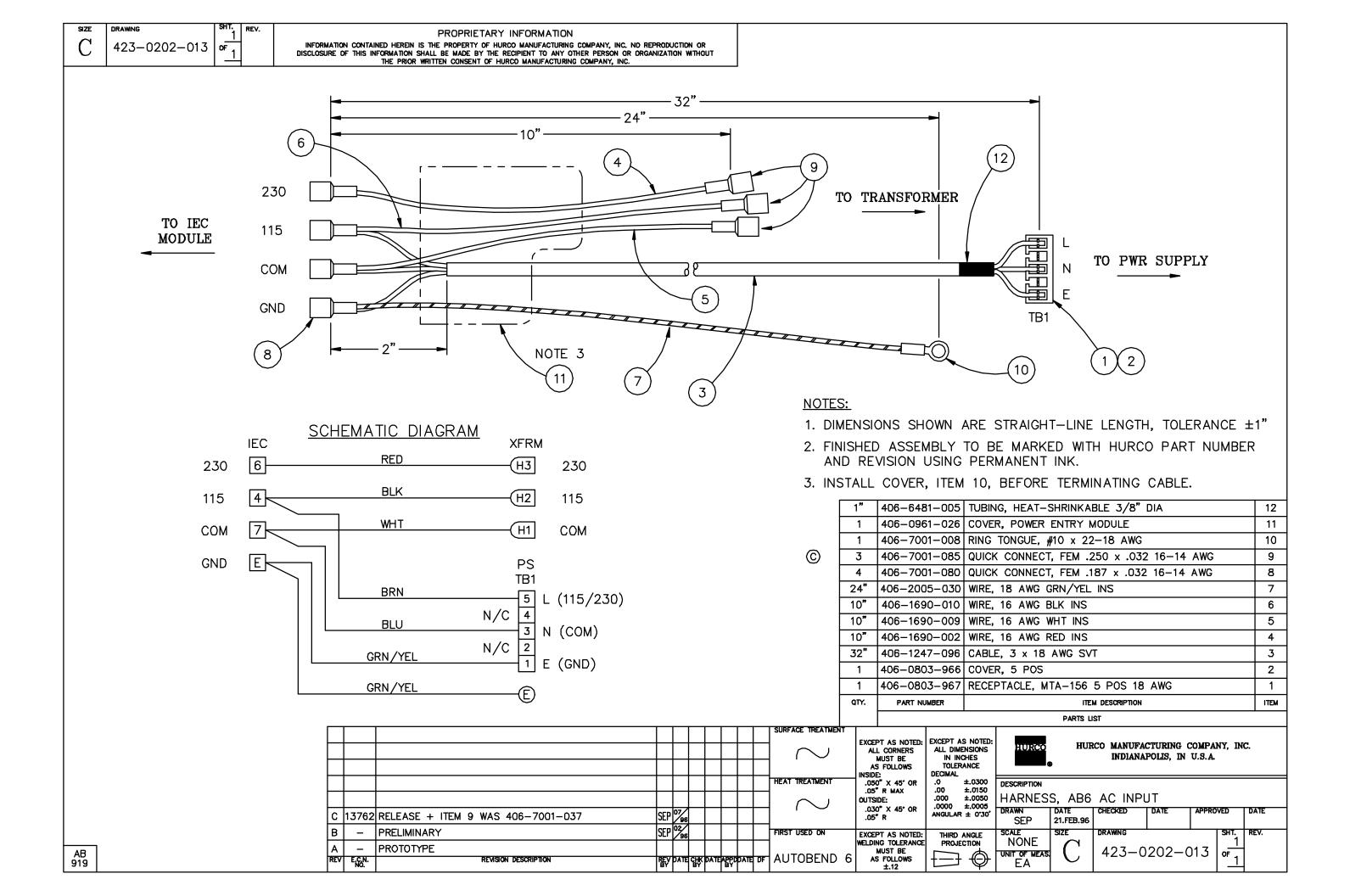
NOTES:

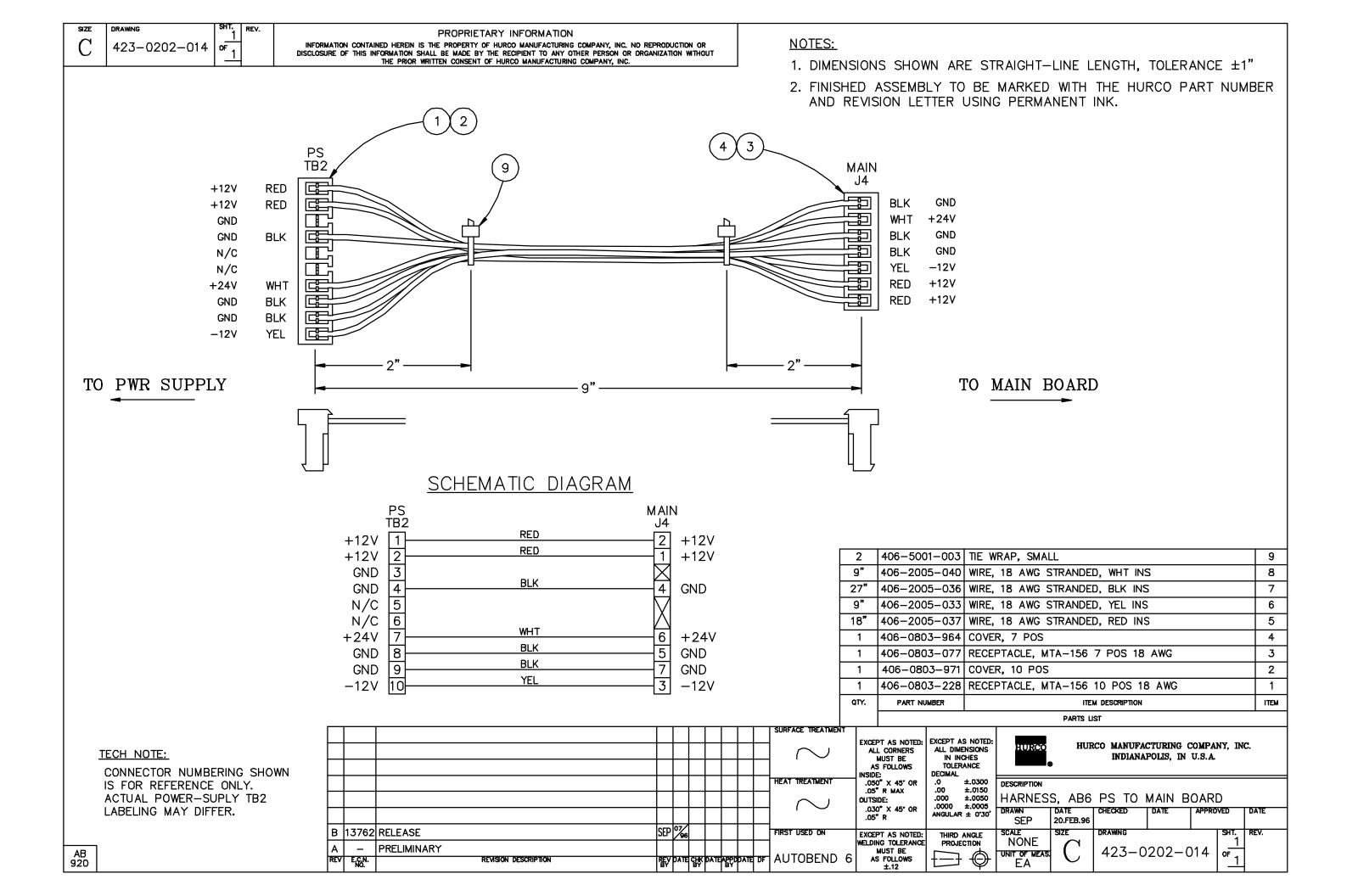
- 1. DIMENSIONS SHOWN ARE STRAIGHT-LINE LENGTH, TOLERANCE $\pm 1/2$ ".
- 2. FINISHED ASSEMBLY TO BE MARKED WITH THE HURCO PART NUMBER AND REVISION LETTER.
- 3. ASSEMBLE THE 10 POS AND 5 POS CONNECTORS USING ONE 15 POS COVER.
- 4. THE UNUSED WIRE OF THE GREEN/BLACK PAIR MAY BE FOLDED BACK INTO THE HEAT-SHRINK.
- 5. TERMINATE THE SHIELDS BY SOLDERING A SHORT LENGTH OF WIRE TO THE DRAIN WIRES AND COVER THE SPLICE WITH HEAT-SHRINKABLE TUBING (ITEM 12.)

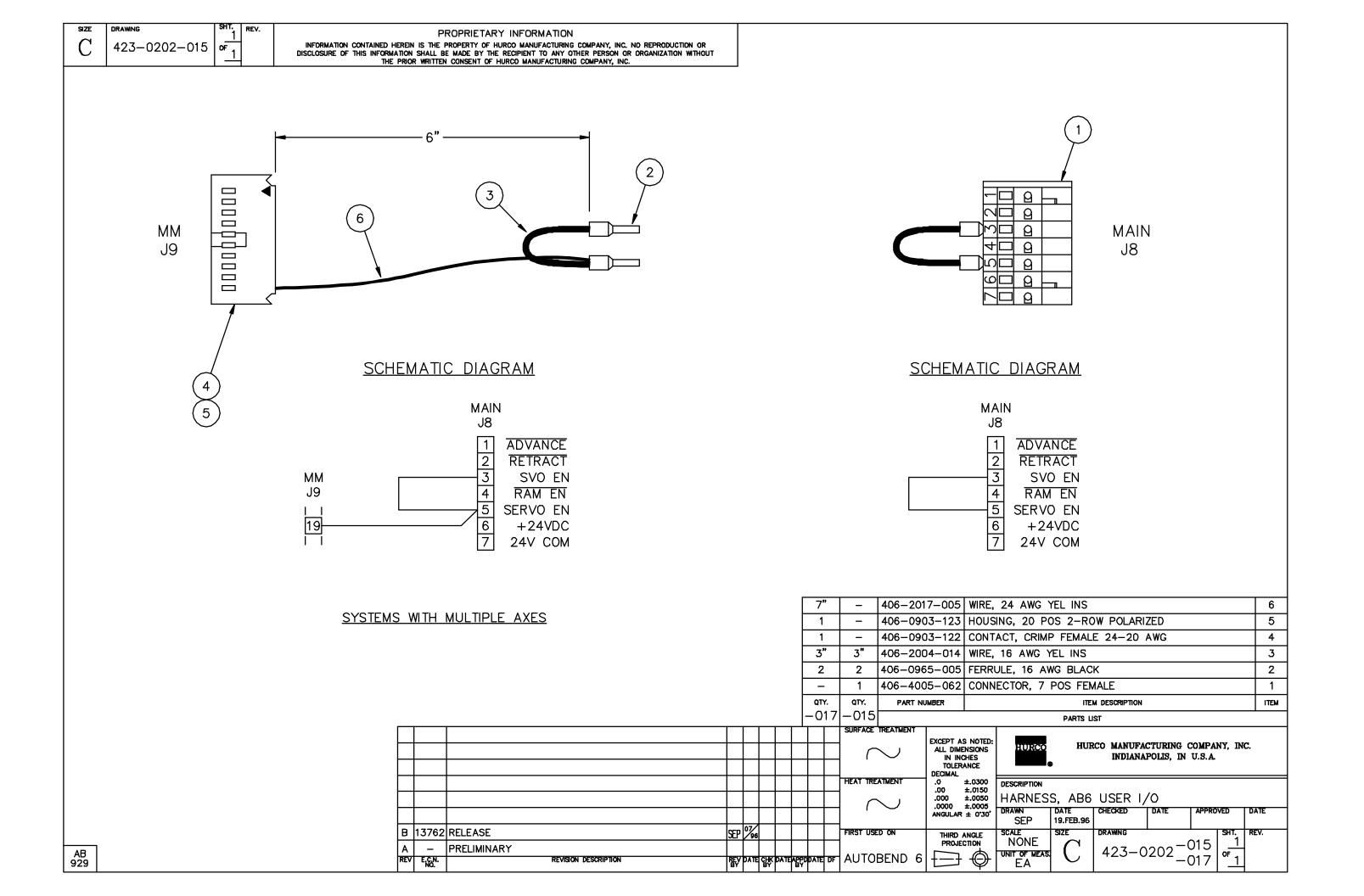
2	406-5001-003	TIE-WRAP, SMALL	14			
4"	406-6481-005	HEAT-SHRINKABLE TUBING, 3/8" DIA	13			
1"	406-6481-002	HEAT-SHRINKABLE TUBING, 1/8" DIA	12			
4"	406-2017-002	WIRE, 24 AWG STRANDED BLK INS	11			
5	406-0965-014	FERRULE, 24 AWG	10			
16"	406-1243-018	CABLE, 4 COND 24 AWG SHIELDED	9			
14"	406-1244-007	CABLE, 3 PAIR 18 AWG SHIELDED	8			
1	406-0803-964	COVER, MTA-156 7 POS	7			
1	406-0803-946	COVER, MTA-156 15 POS	6			
1	406-0803-086	KEYING PLUG, MTA-156	5			
1	406-4005-062	CONNECTOR, 7 POS FEMALE	4			
1	406-0803-077	CONNECTOR, 7 POS MTA-156 18 AWG	3			
1	406-0803-935	CONNECTOR, 10 POS MTA-156 24 AWG	2			
1	406-0803-225	CONNECTOR, 5 POS MTA-156 18 AWG	1			
aty.	PART NUMBER	ITEM DESCRIPTION	пем			
	PARTS LIST					

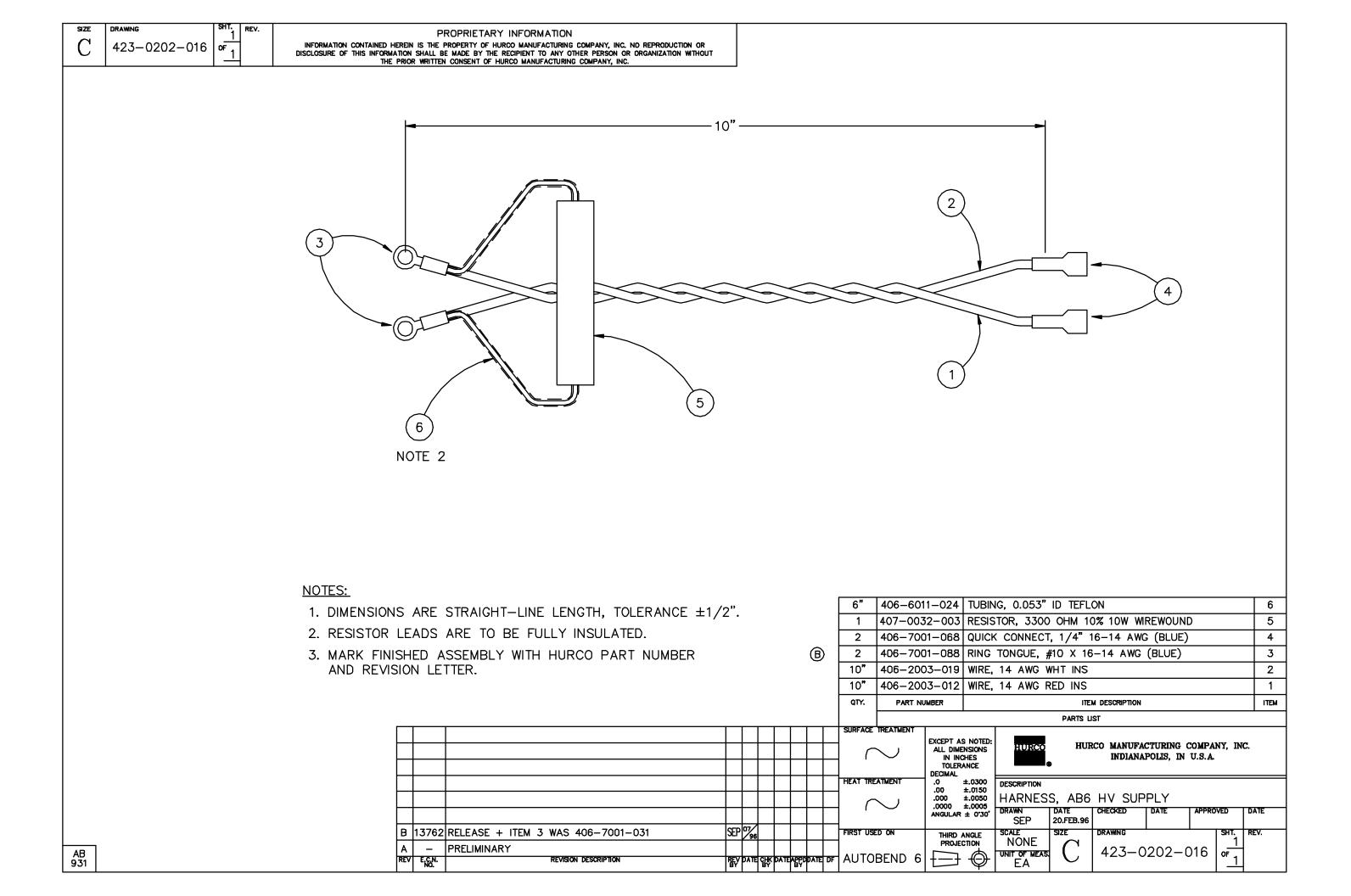


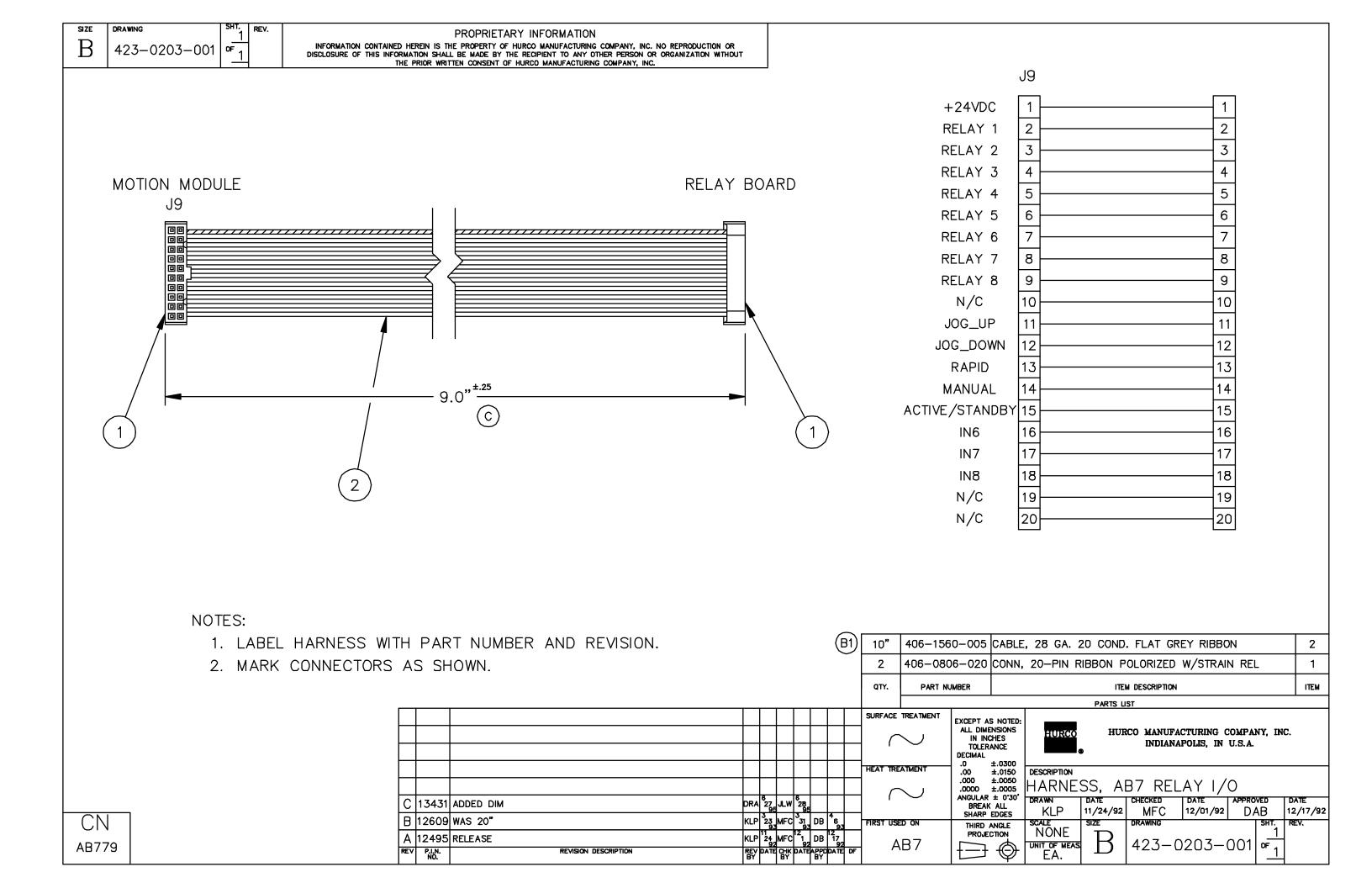
AB 982

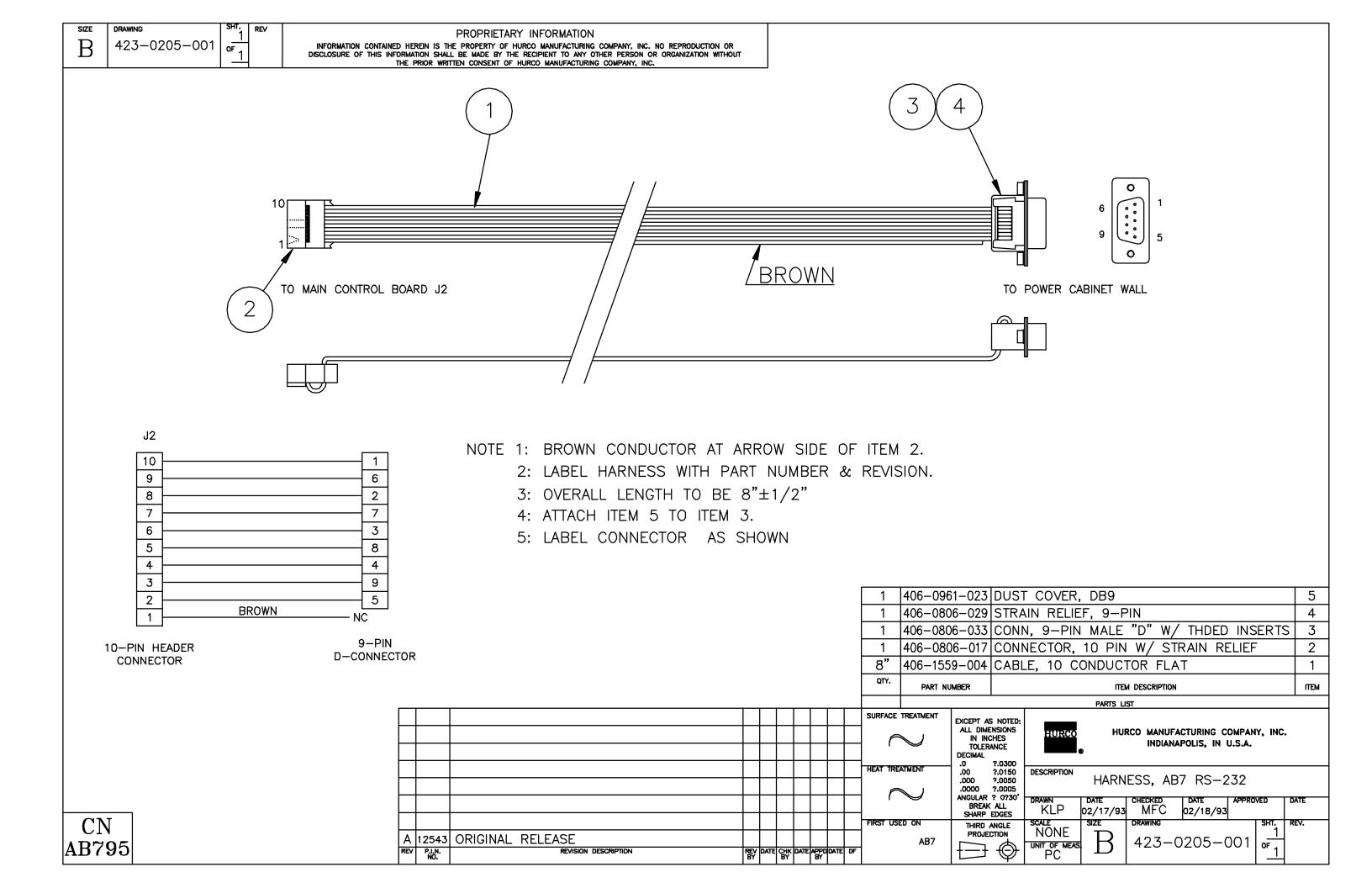






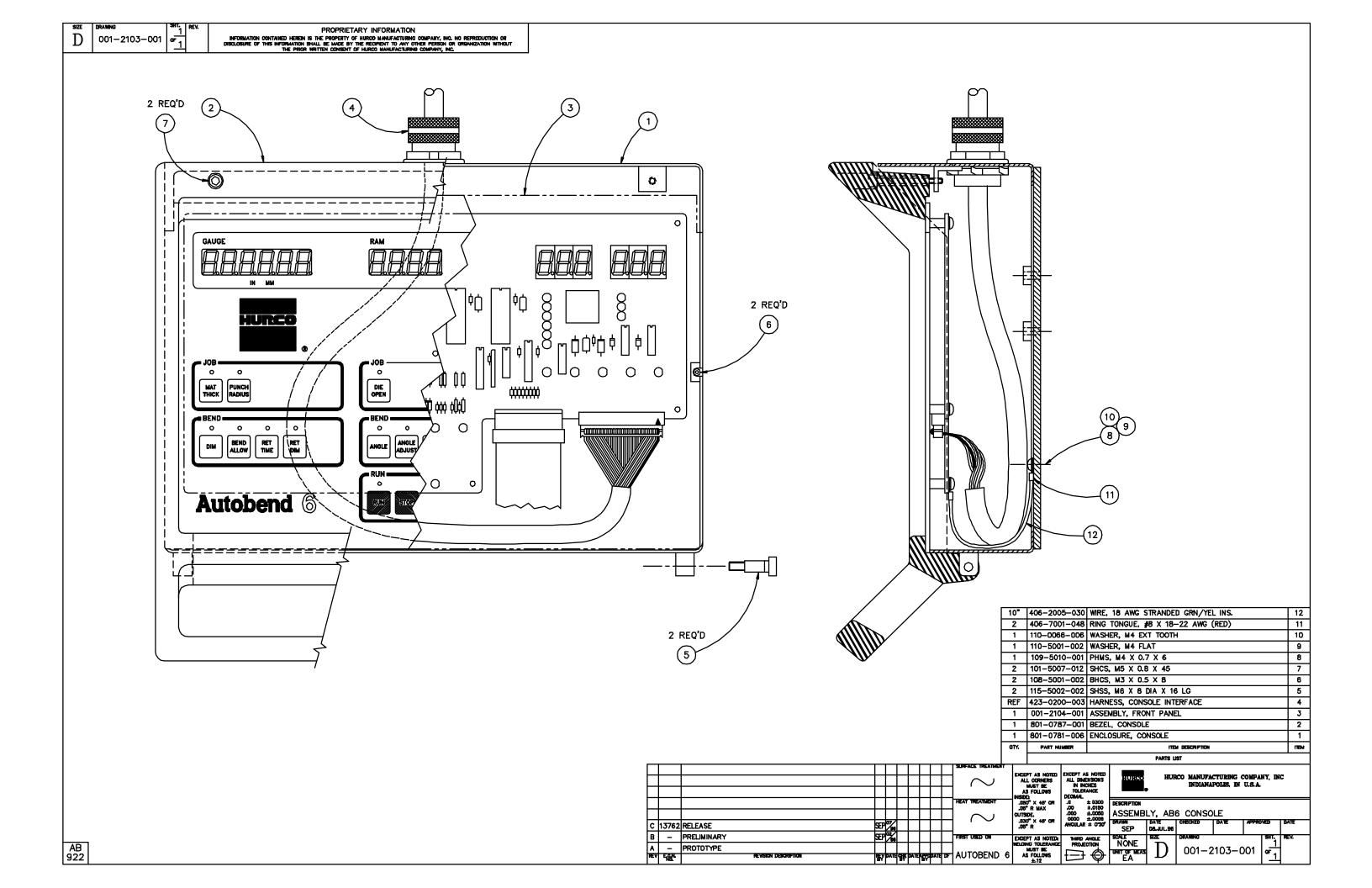


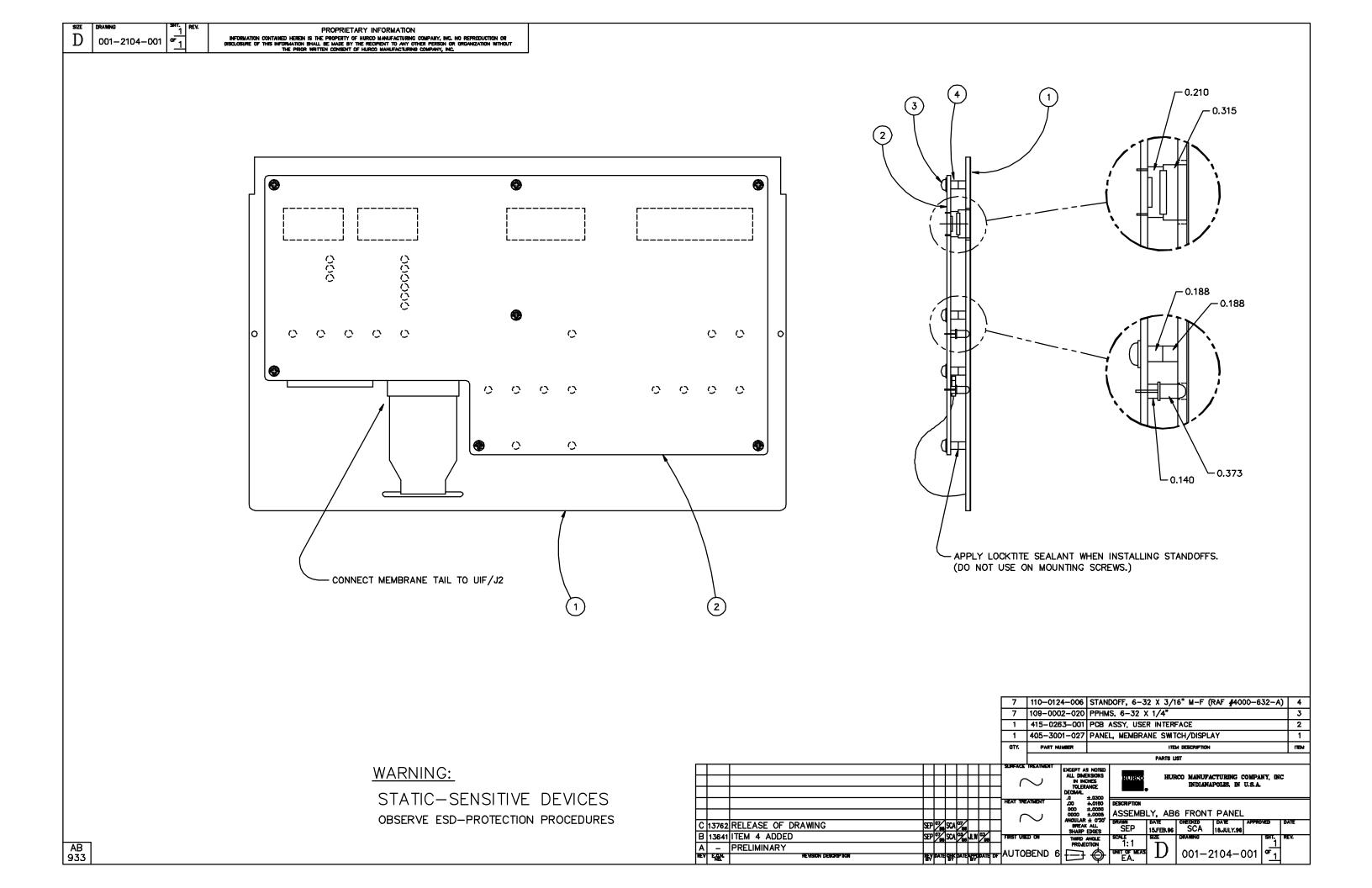


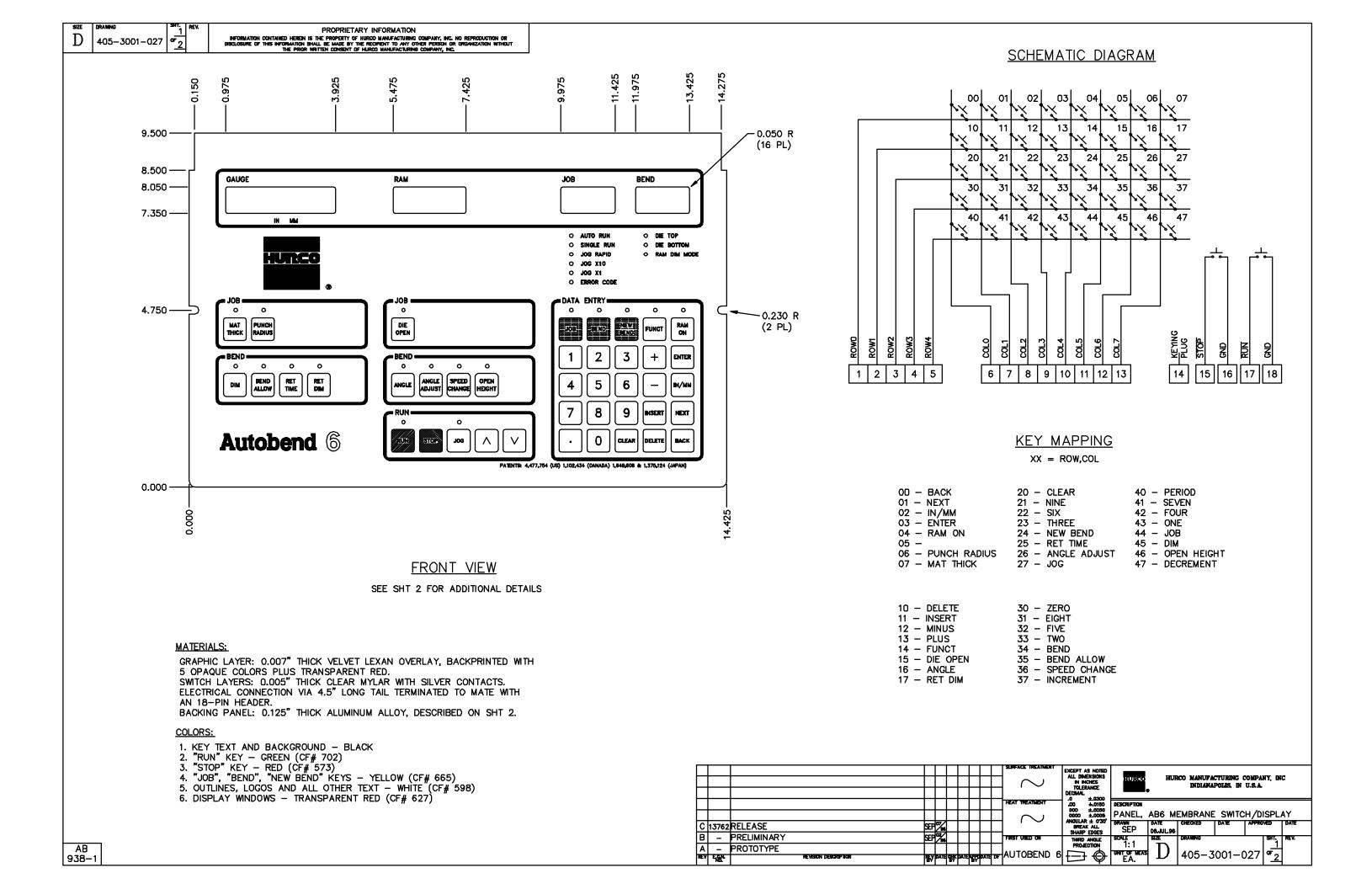


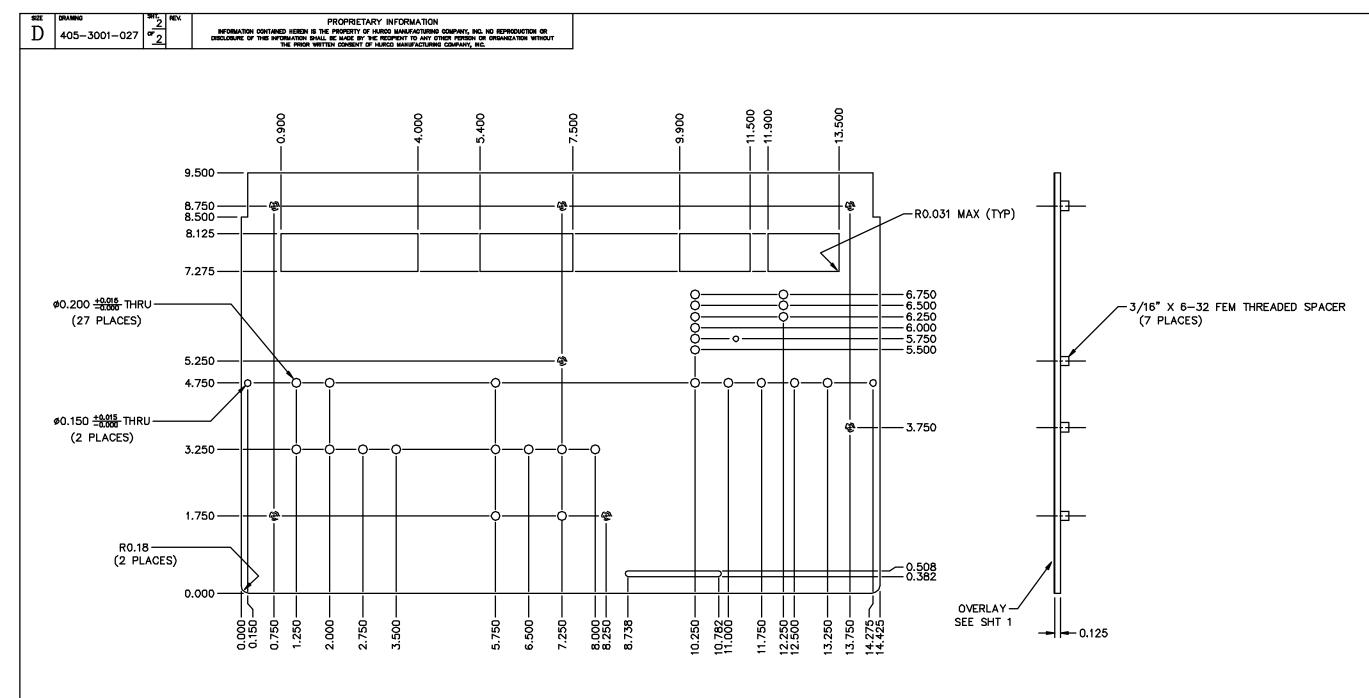
Console

Console







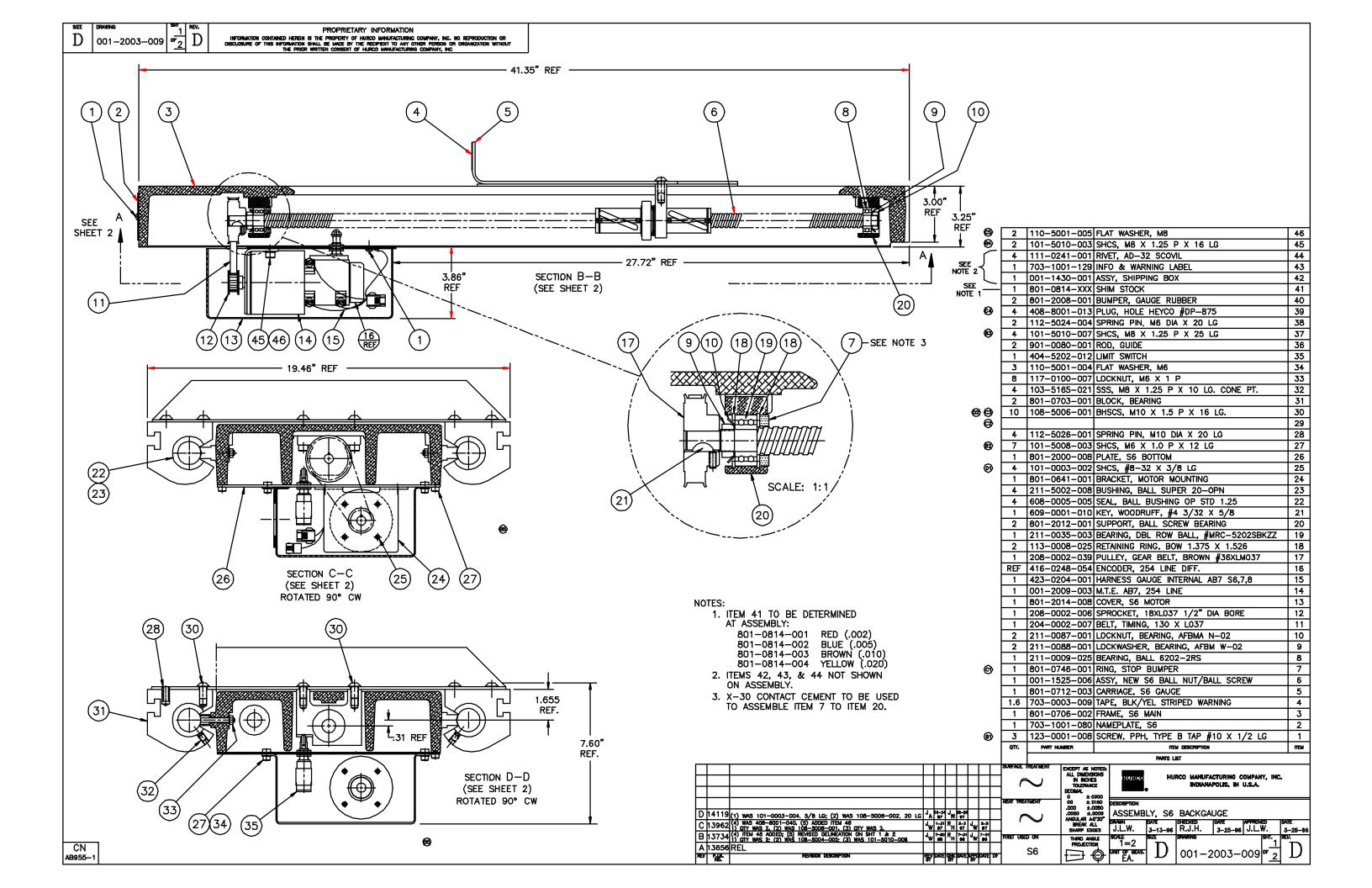


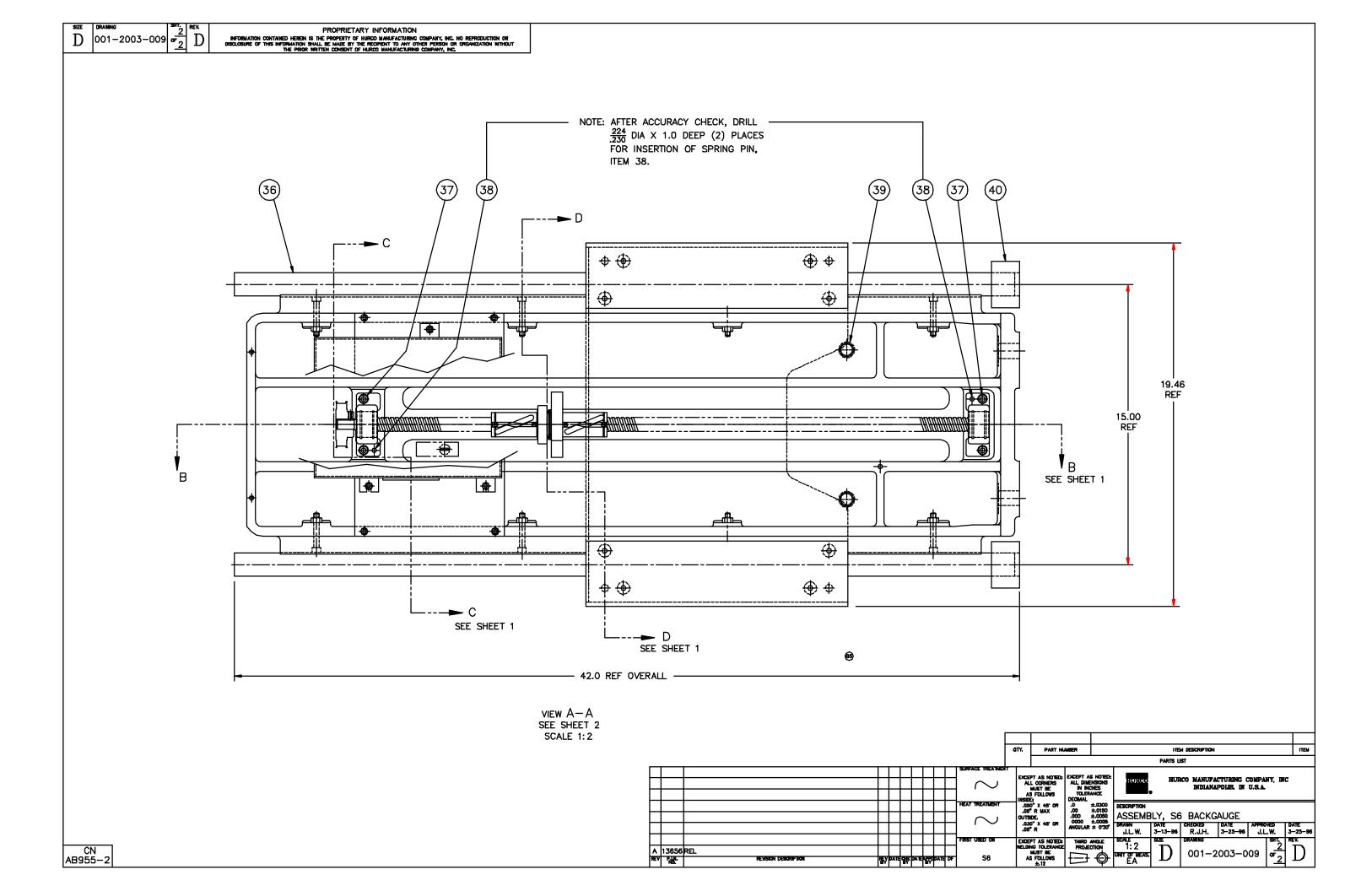
NOTE: INTERIOR LAYERS TO BE DIE CUT TO BACKER-PLATE DIMENSIONS SHOWN.

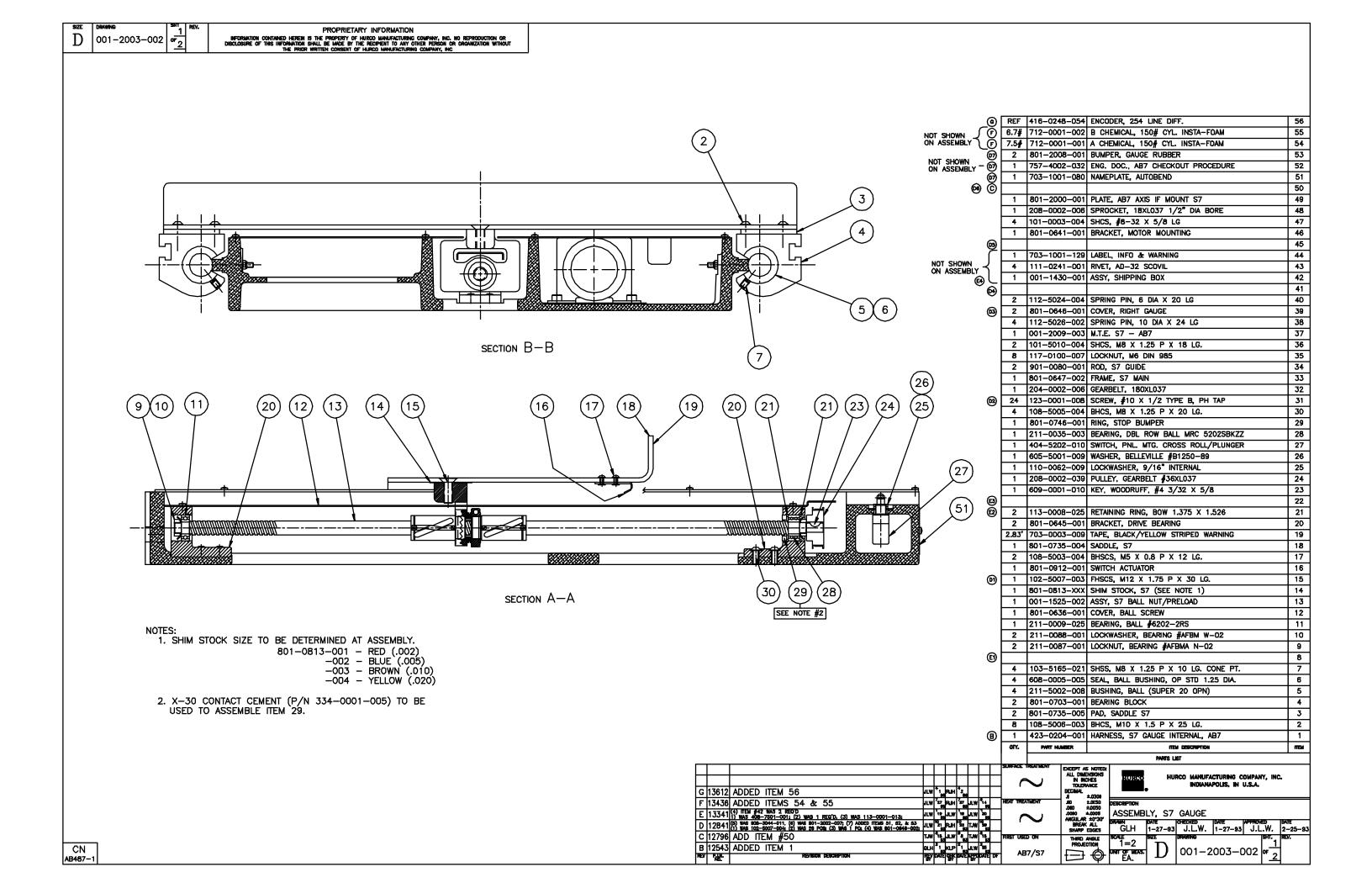
SURFACE TREATMENT	EXCEPT AS NOTED: ALL DIMENSIONS IN INCHES TOLERANCE DECIMAL	HURCO MANUFACTURING COMPANY, INC INDIANAPOLES, IN U.S.A.						
HEAT TREATMENT	.00 ±.0150	DESCRIPTION						
	.000 ±.0000 .0000 ± 0005 ANGULAR ± 0'30'	PANEL, AB6 MEMBRANE SWITCH/DISPLAY						
' ~	BREAK ALL SHARP EDGES	DRAWN SEP	DATE OB.JUL.96	CHECKED	DATE	APPROVED	DATE	
FIRST USED ON	THIRD ANGLE PROJECTION	SCALE 1:1	SIZE	DRAWING		SHT.	REV.	
AUTOBEND 6		UNIT OF MEAS	$\mid D \mid$	405-3	001-0)27 <u>~ 2</u>]	

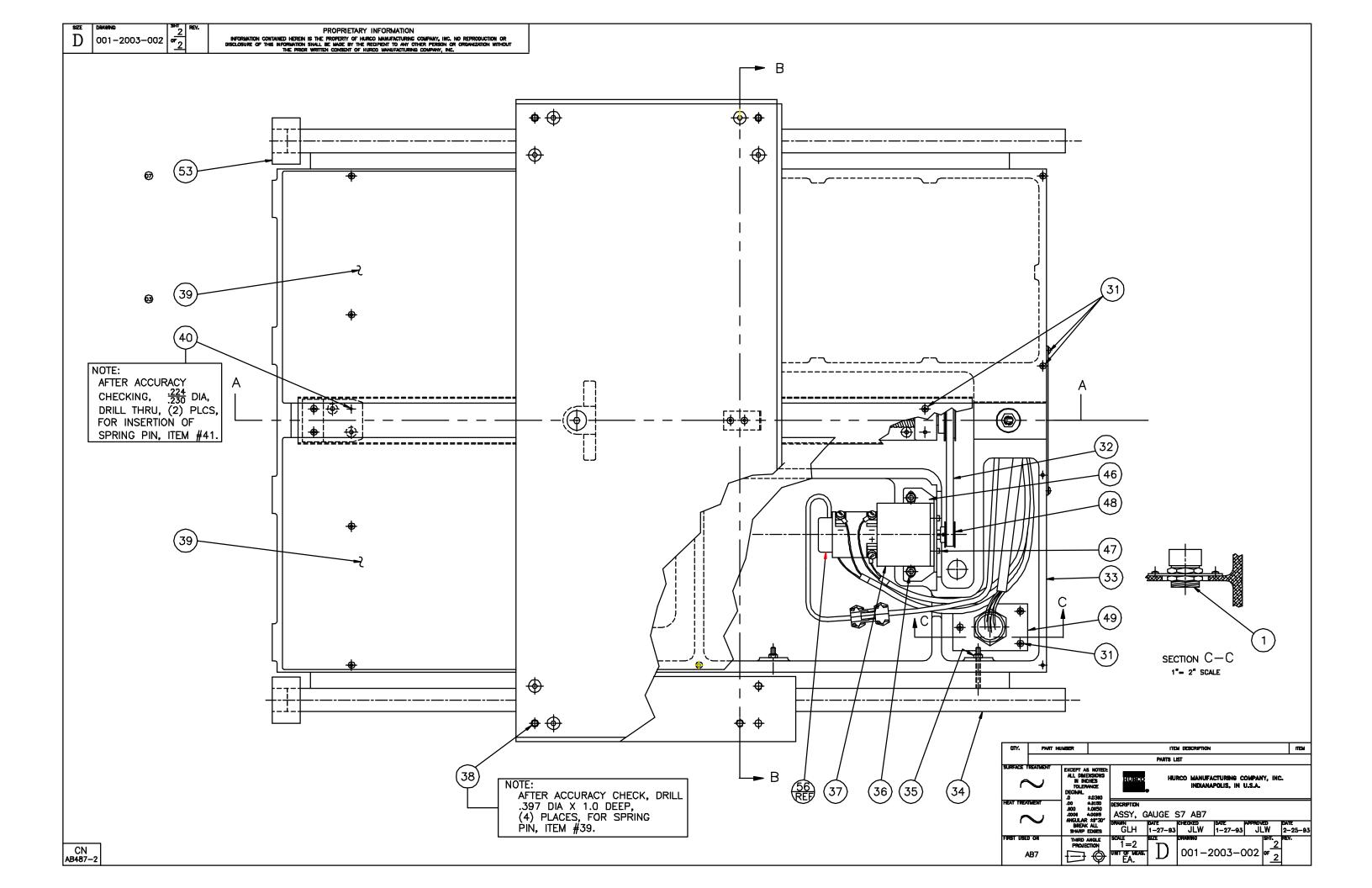
Backgauge

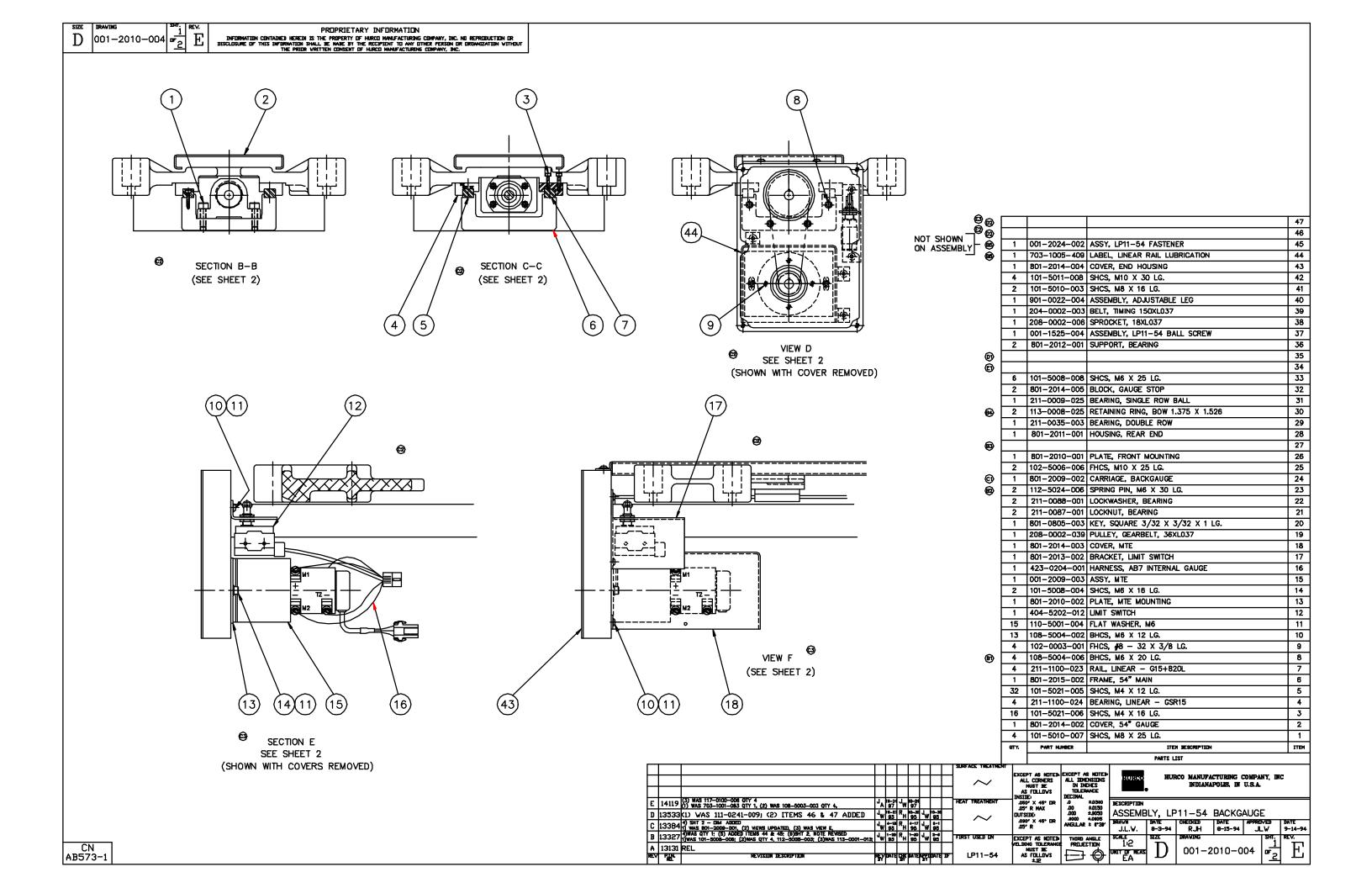
Backgauge

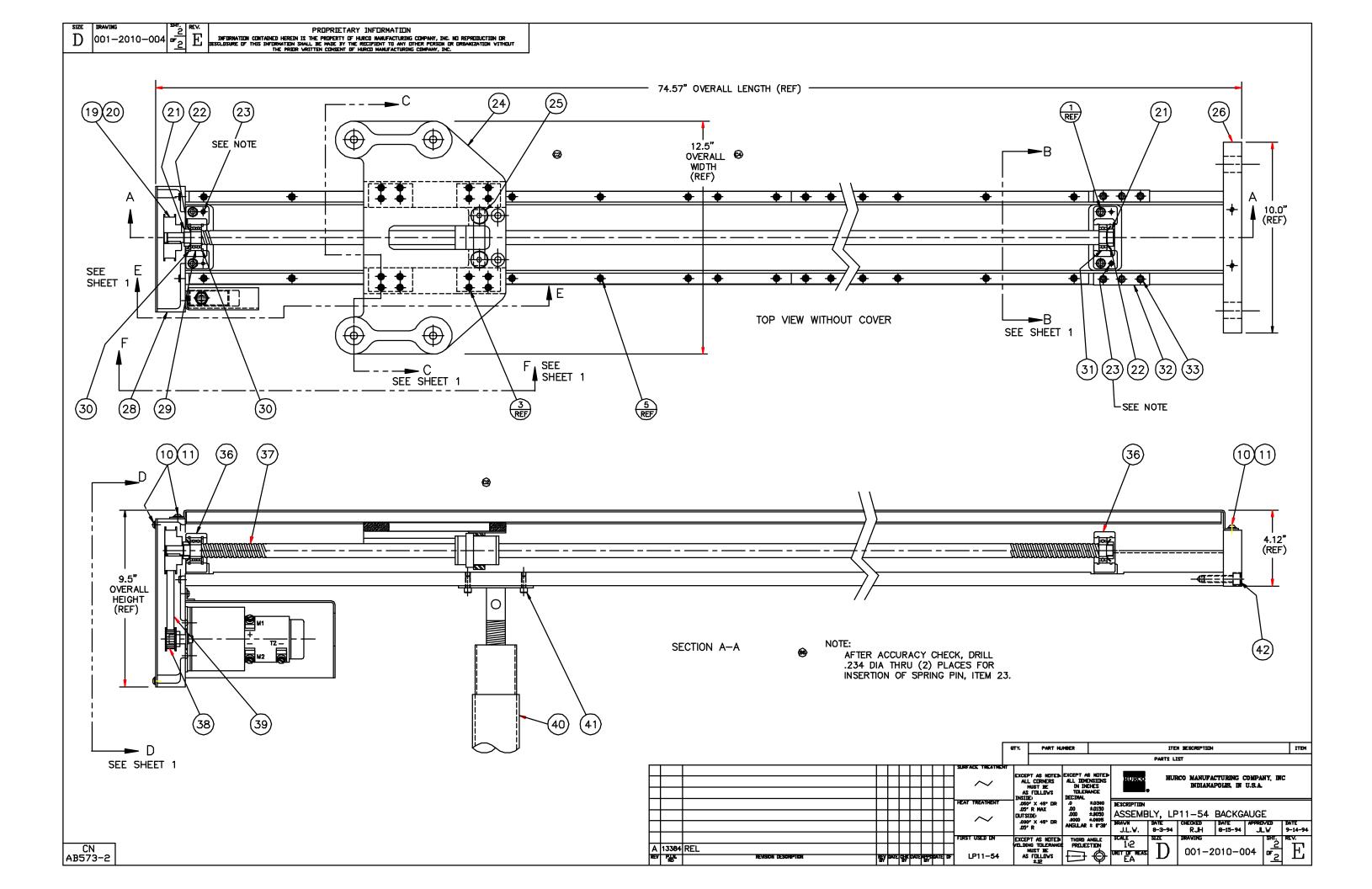


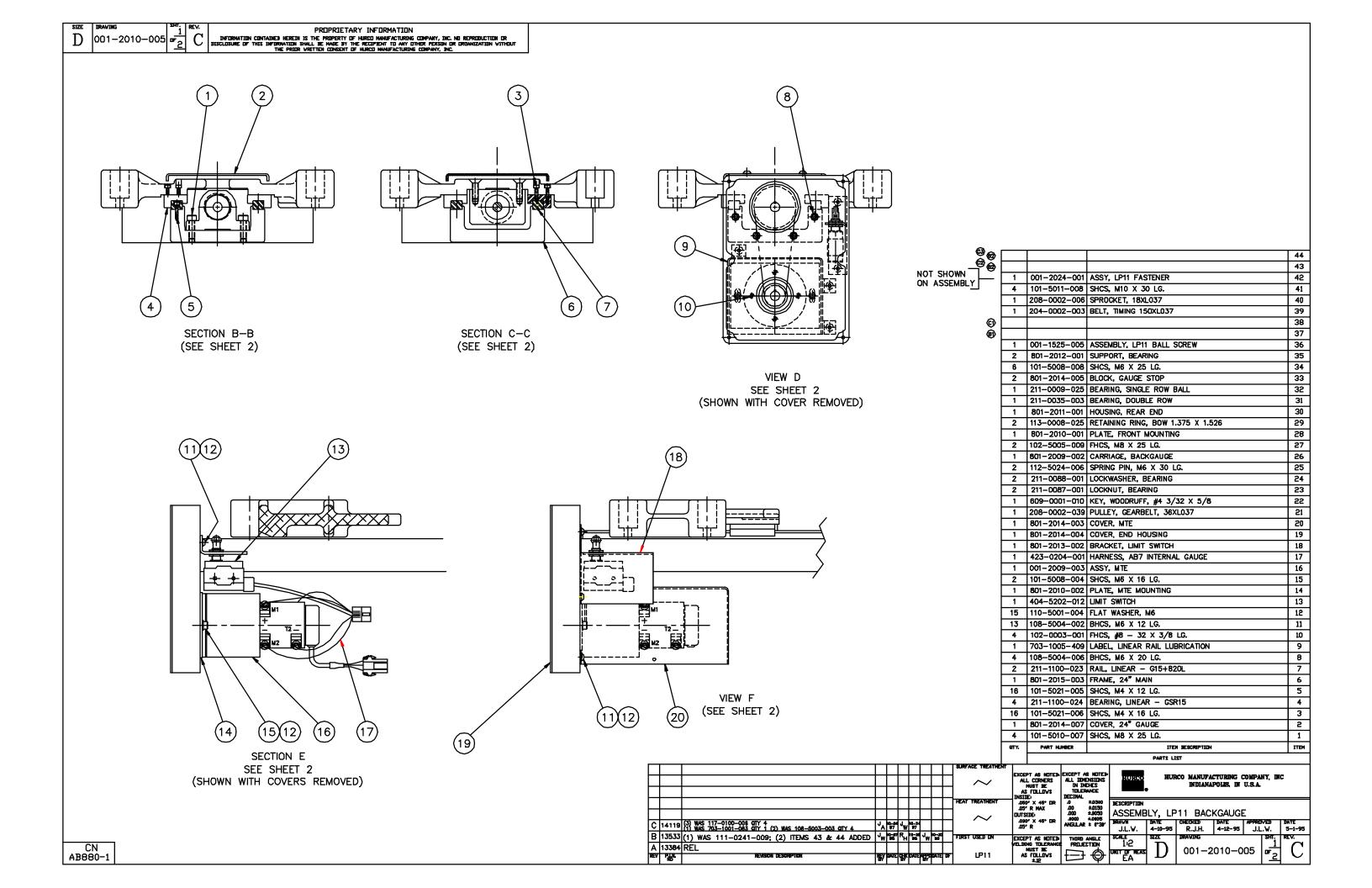


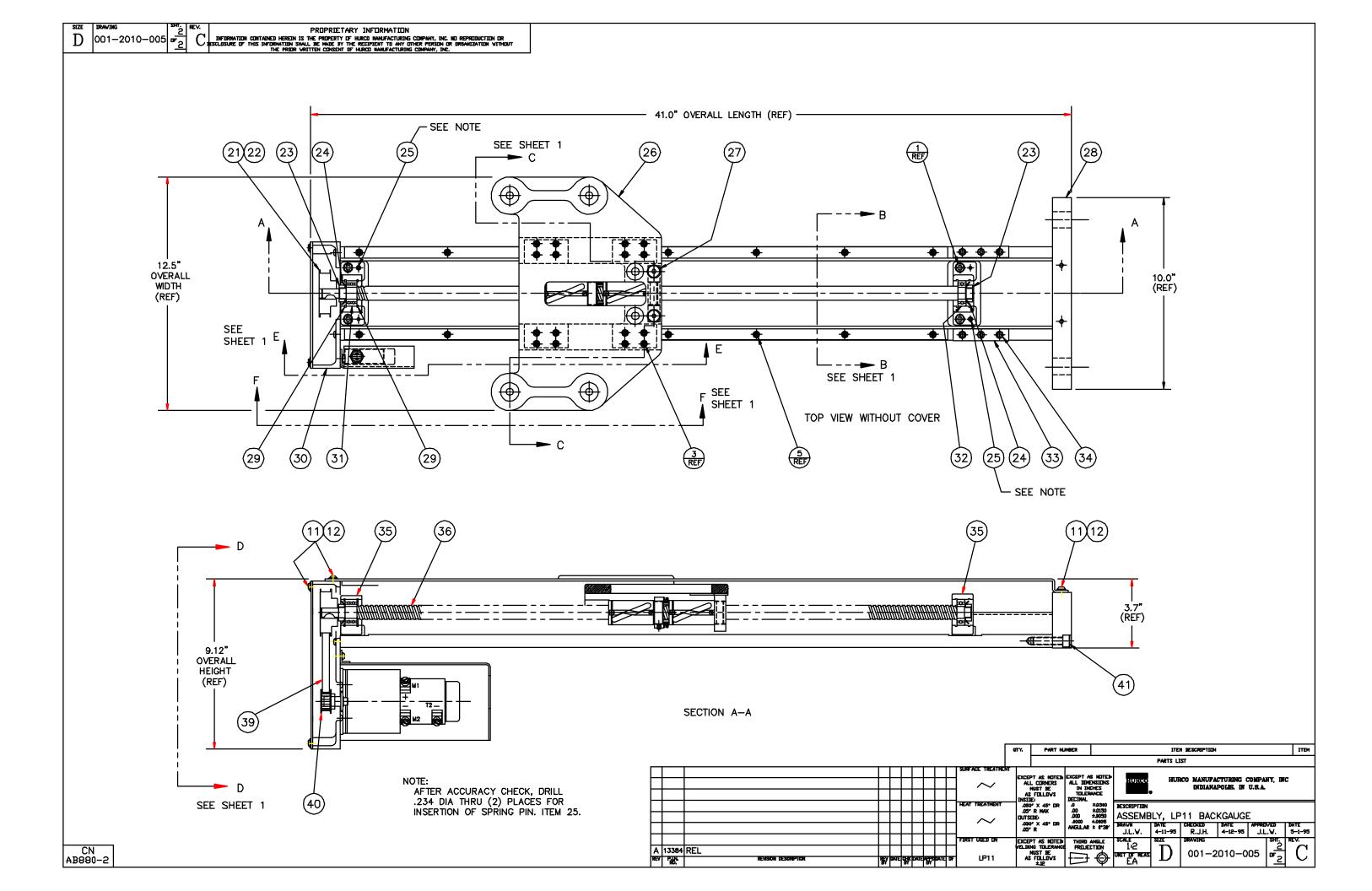


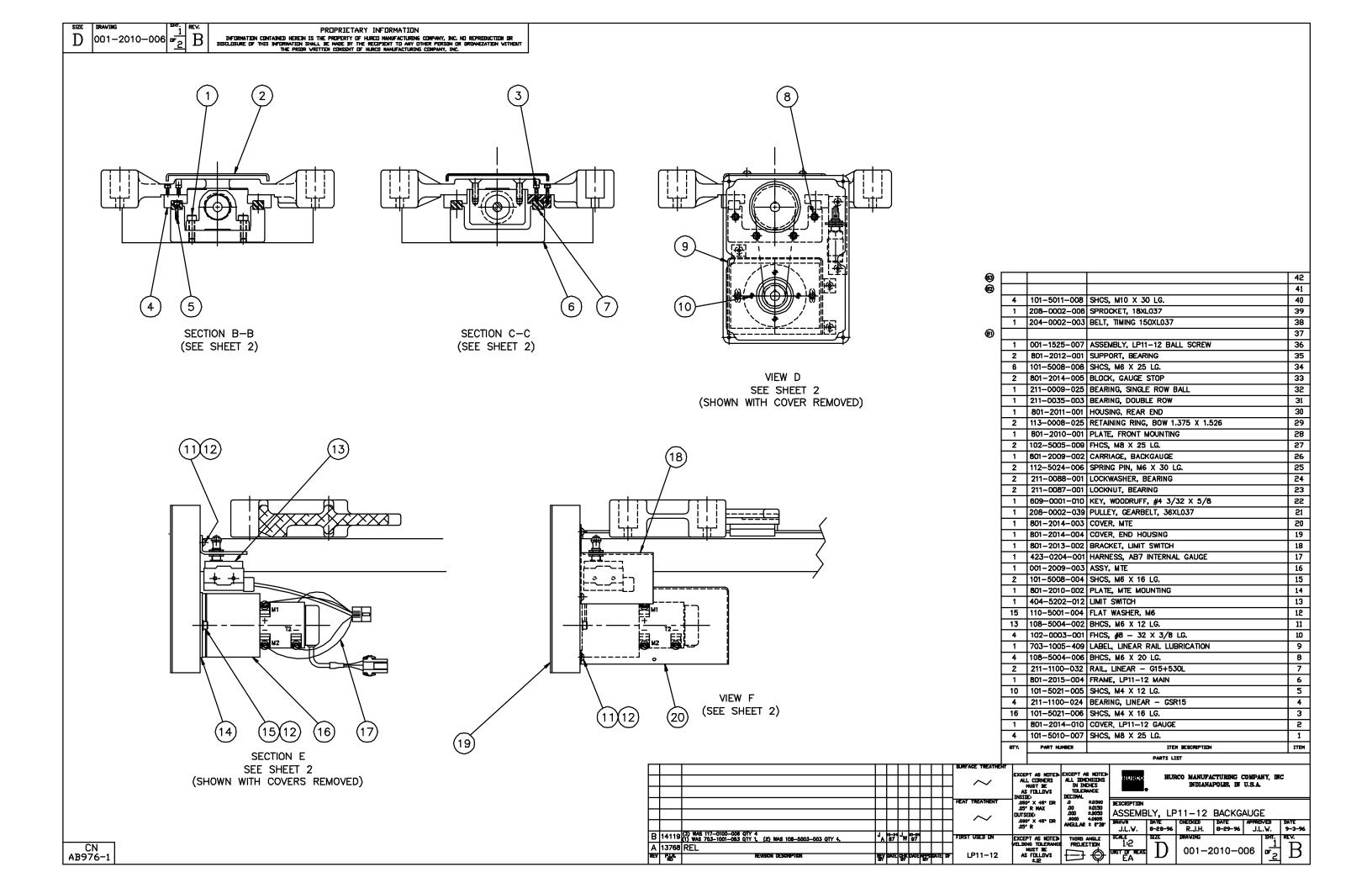


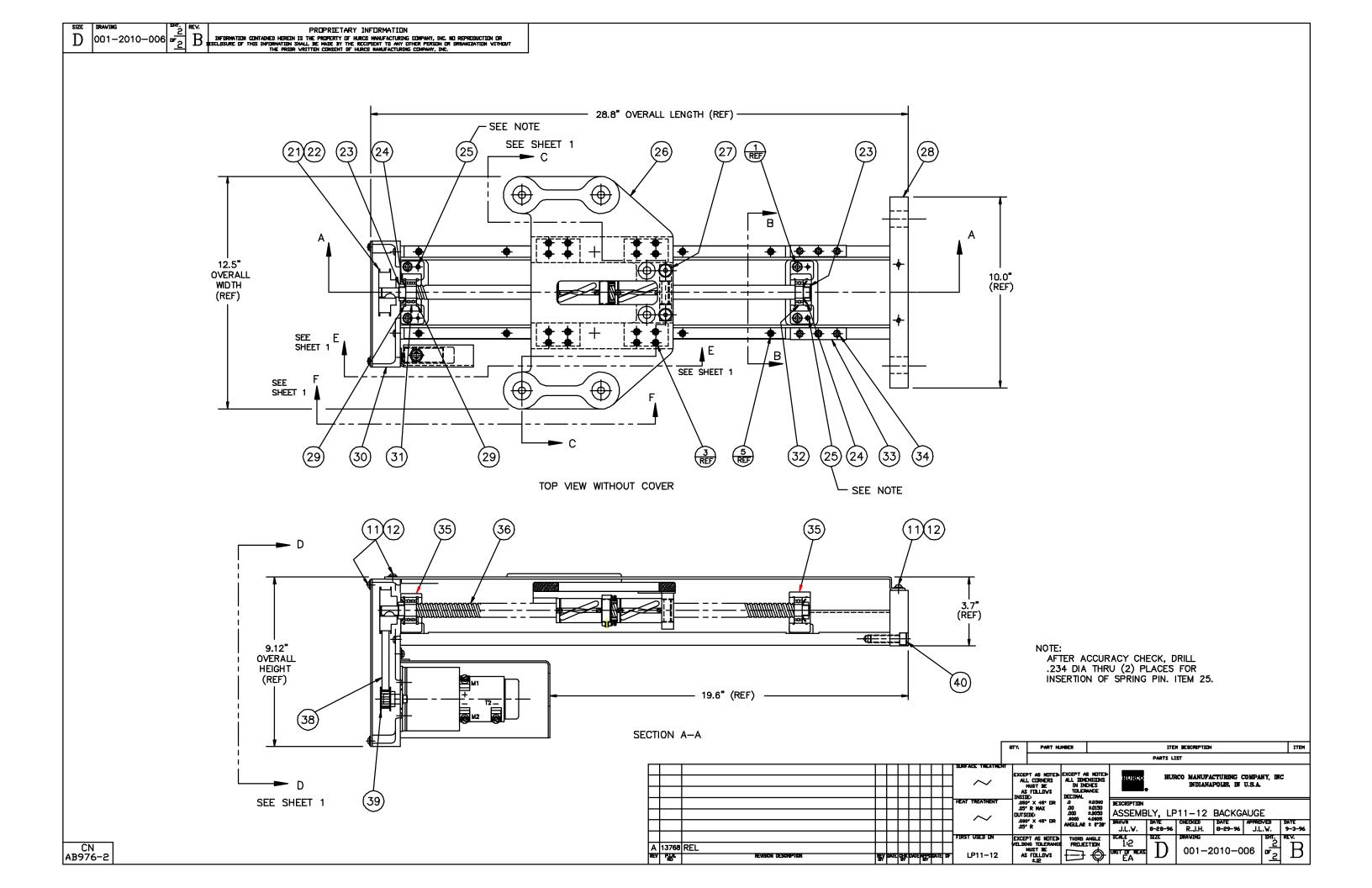


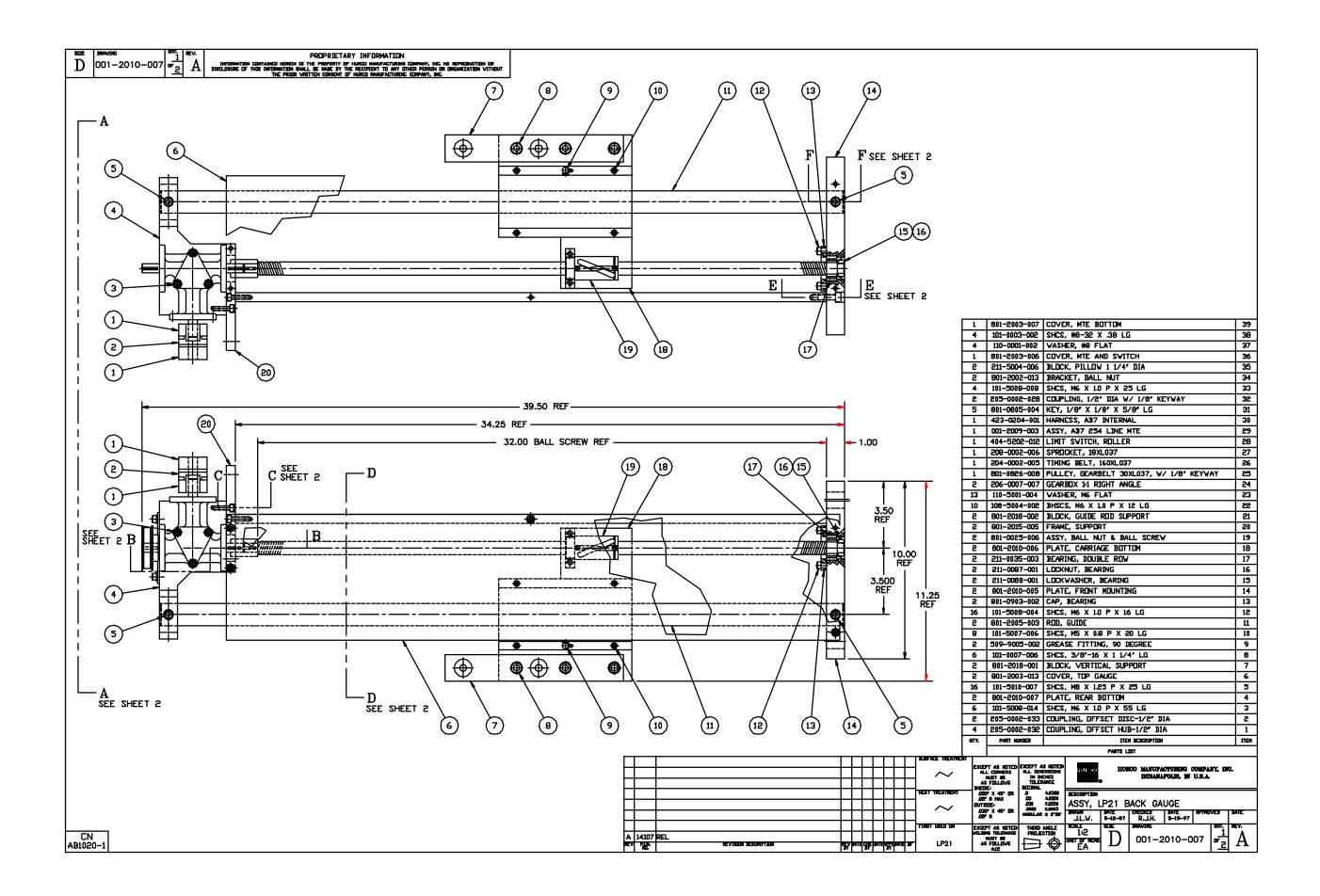


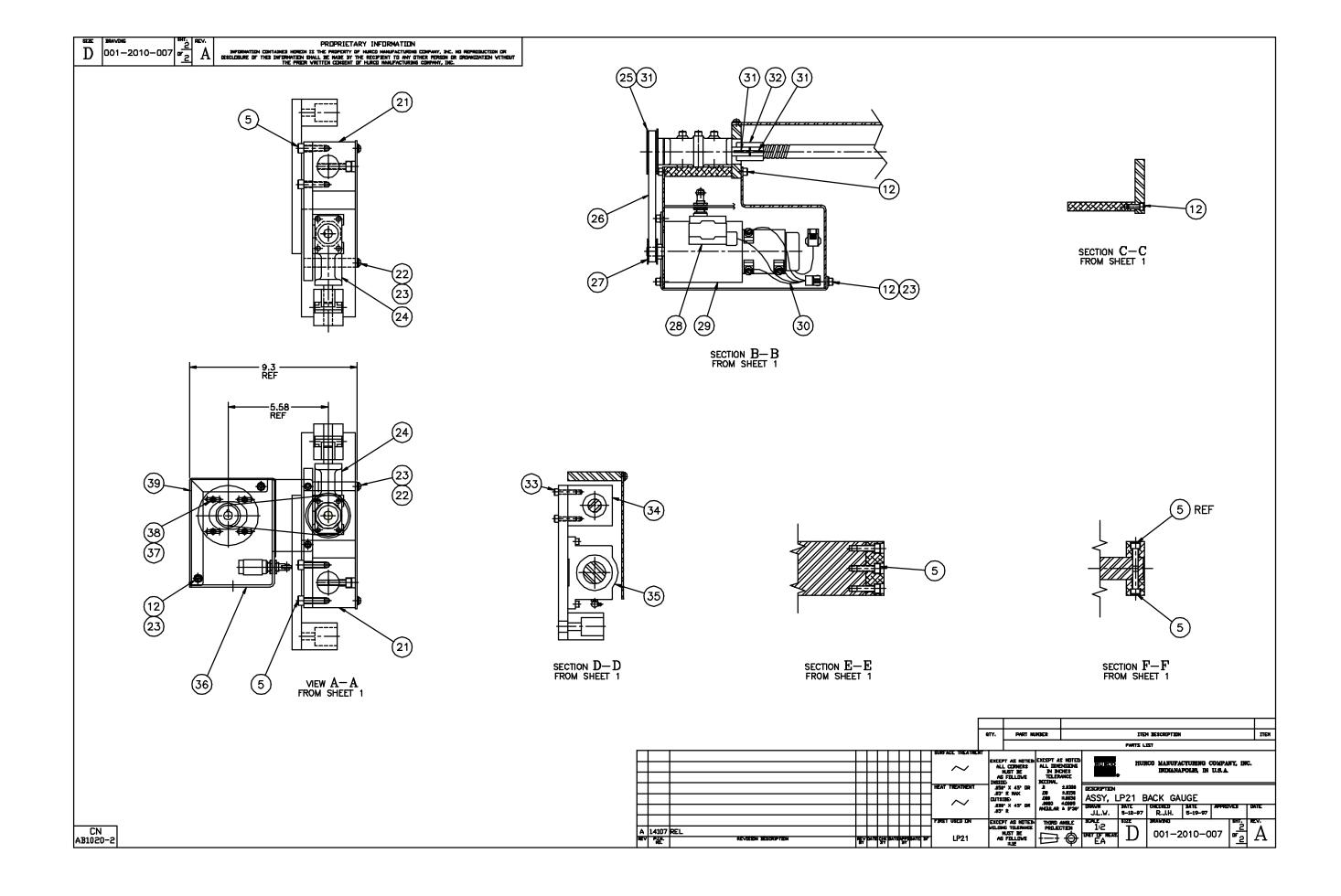


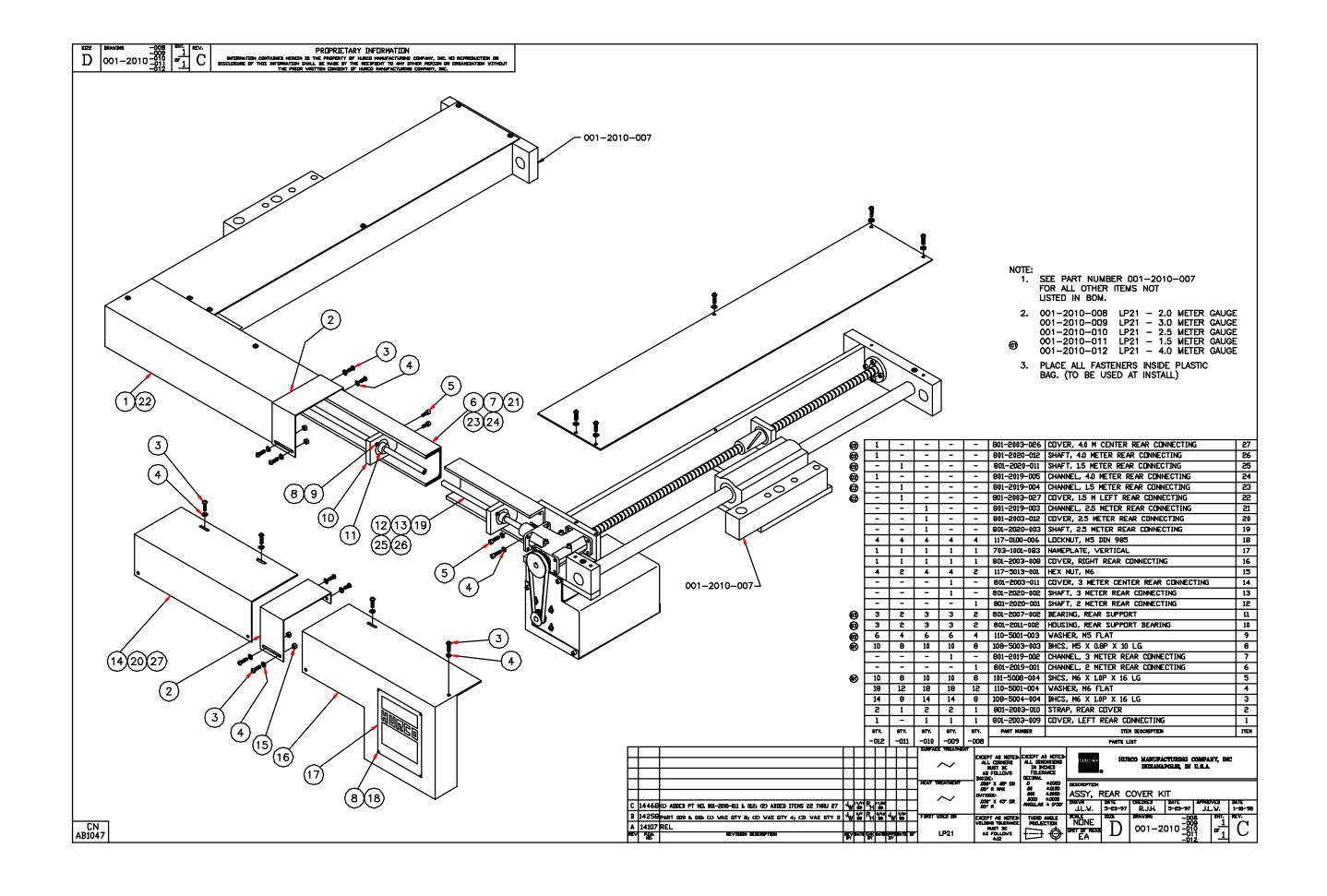


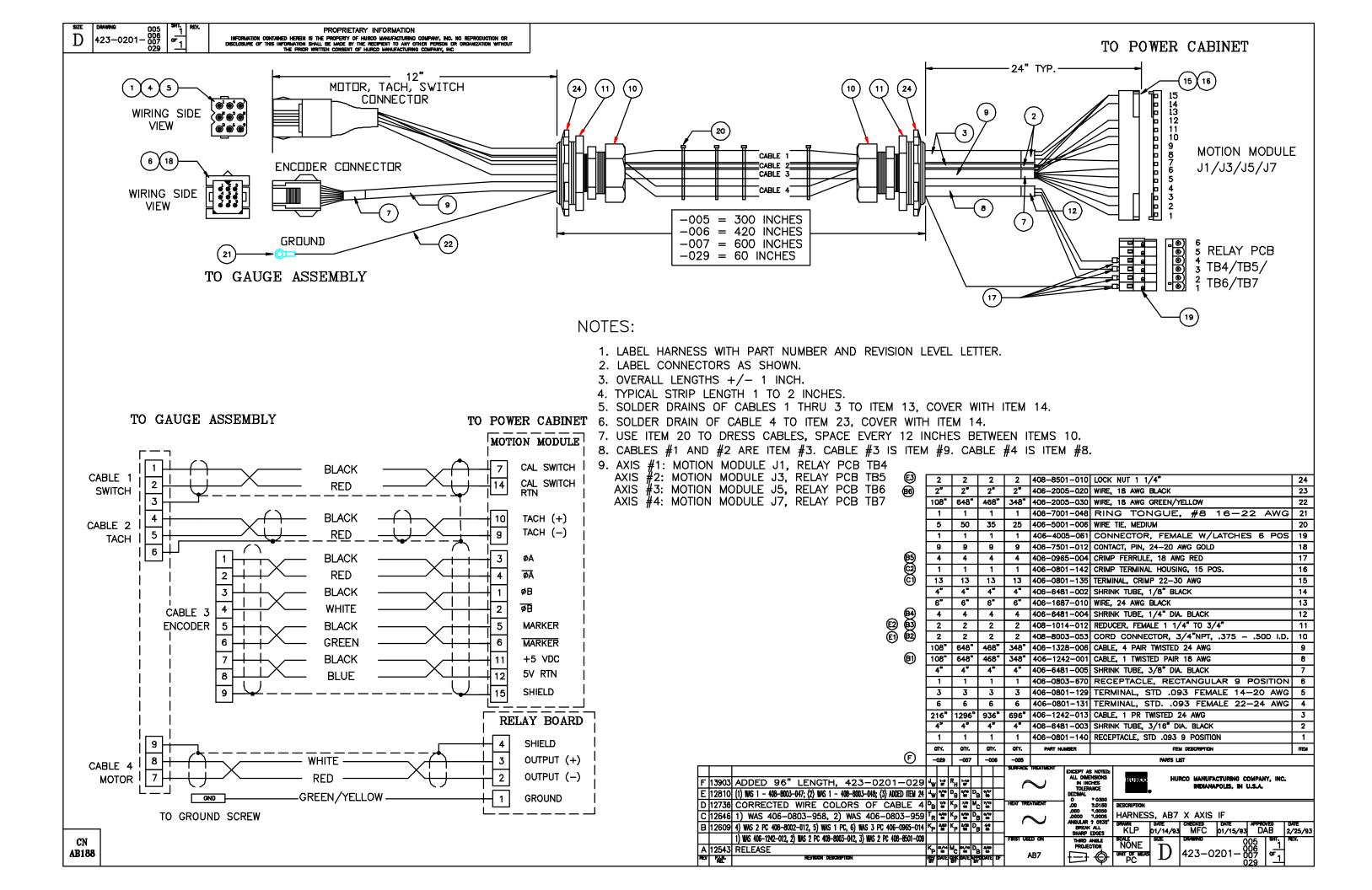


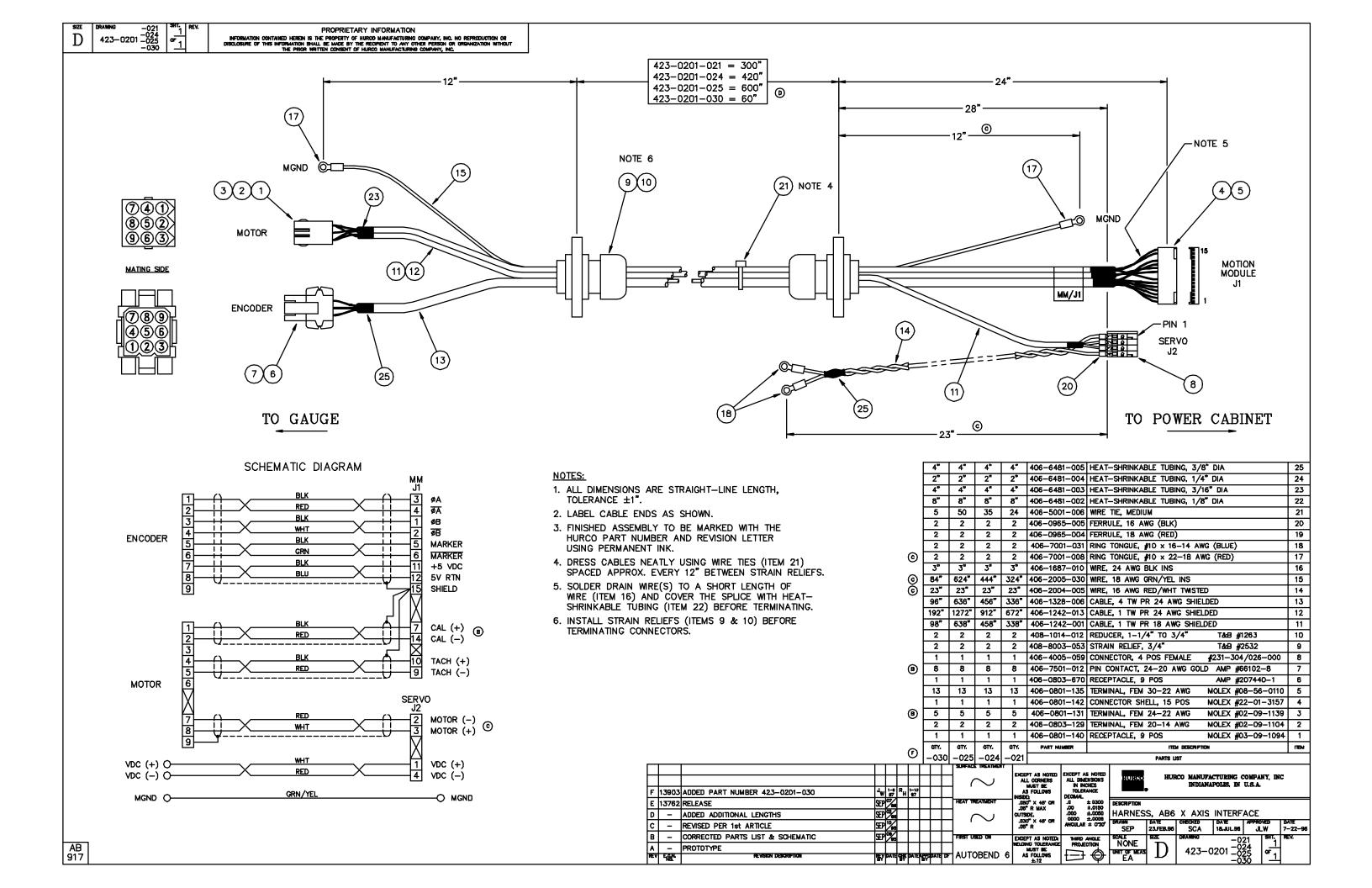


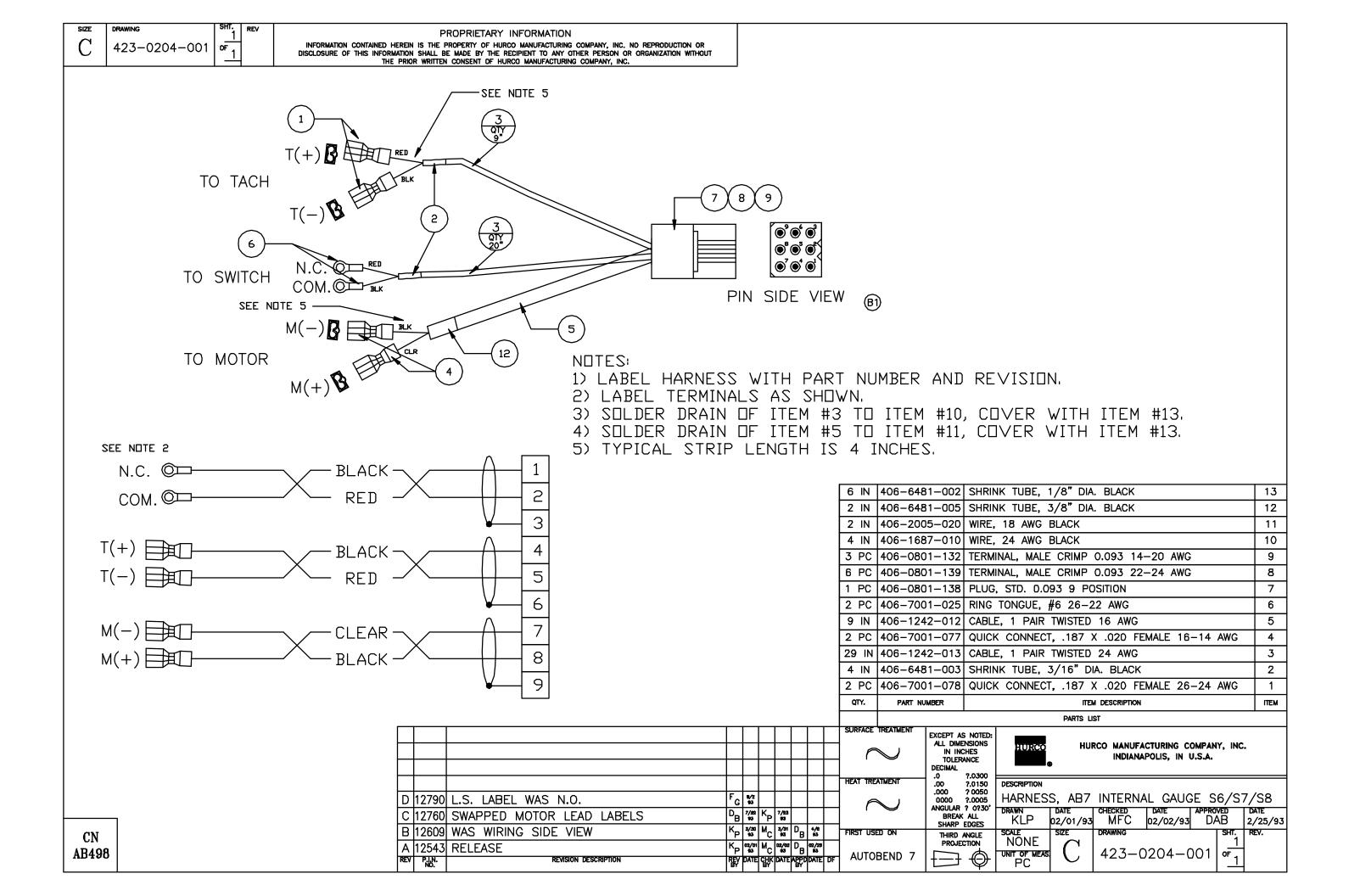






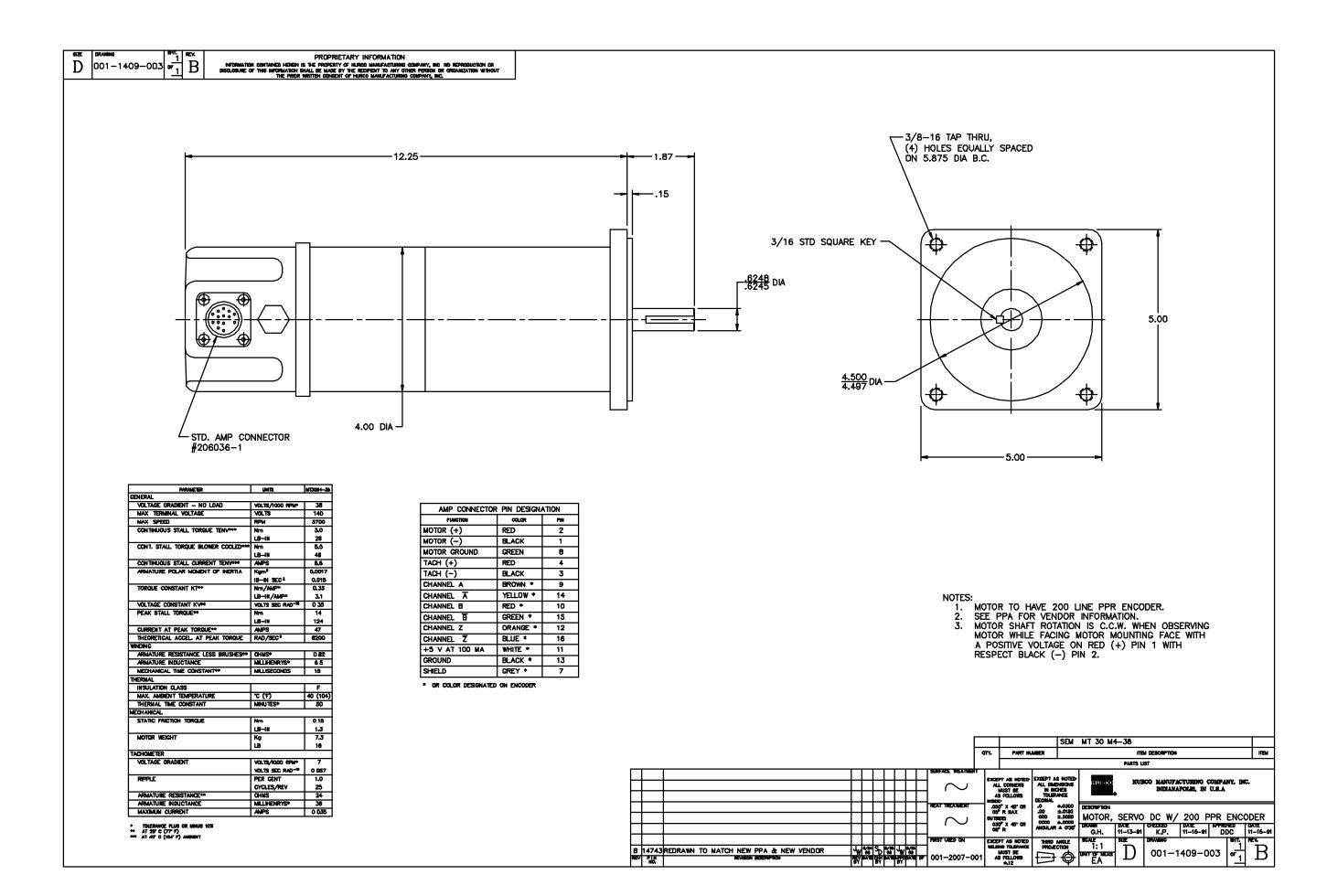


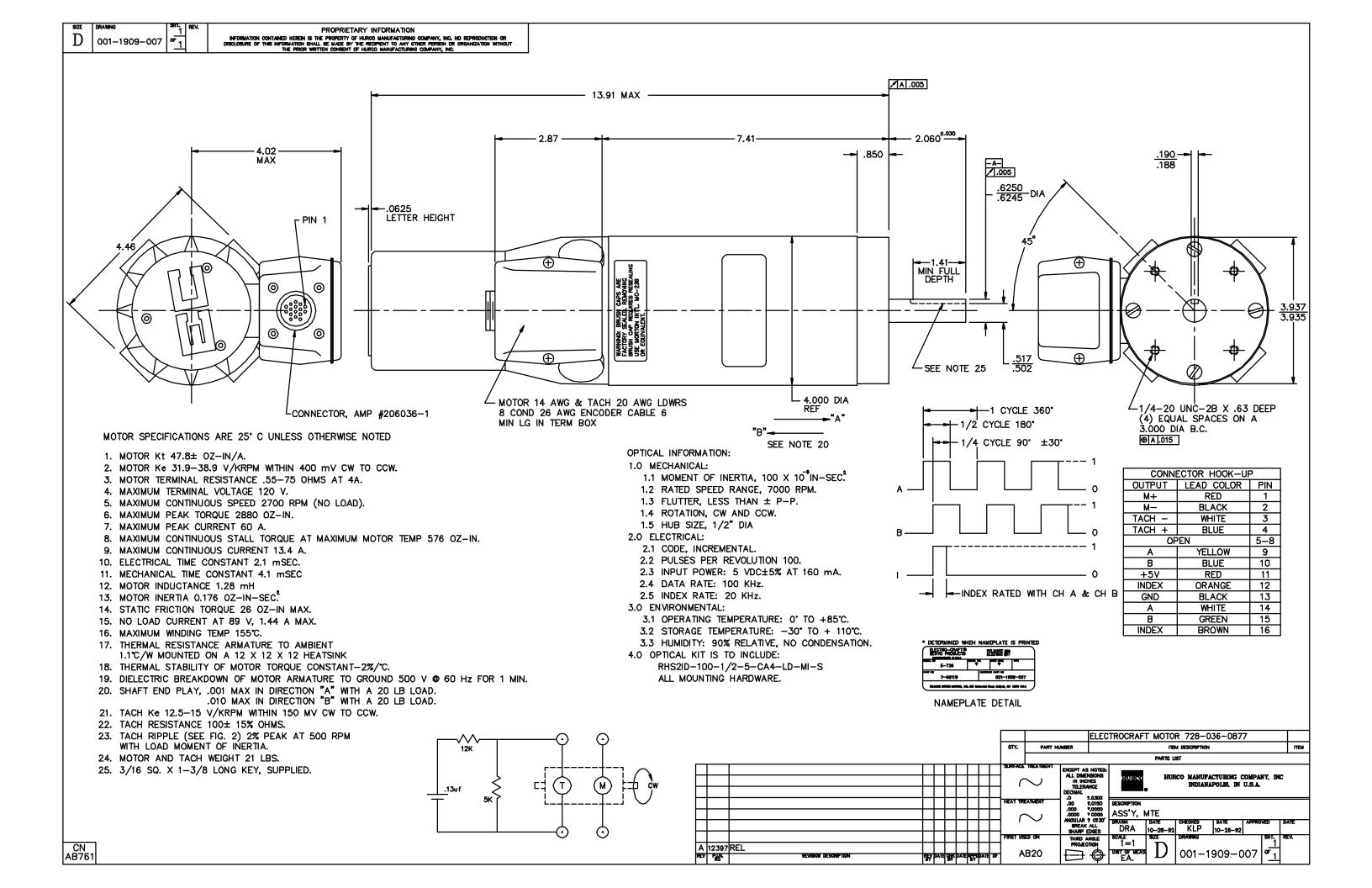


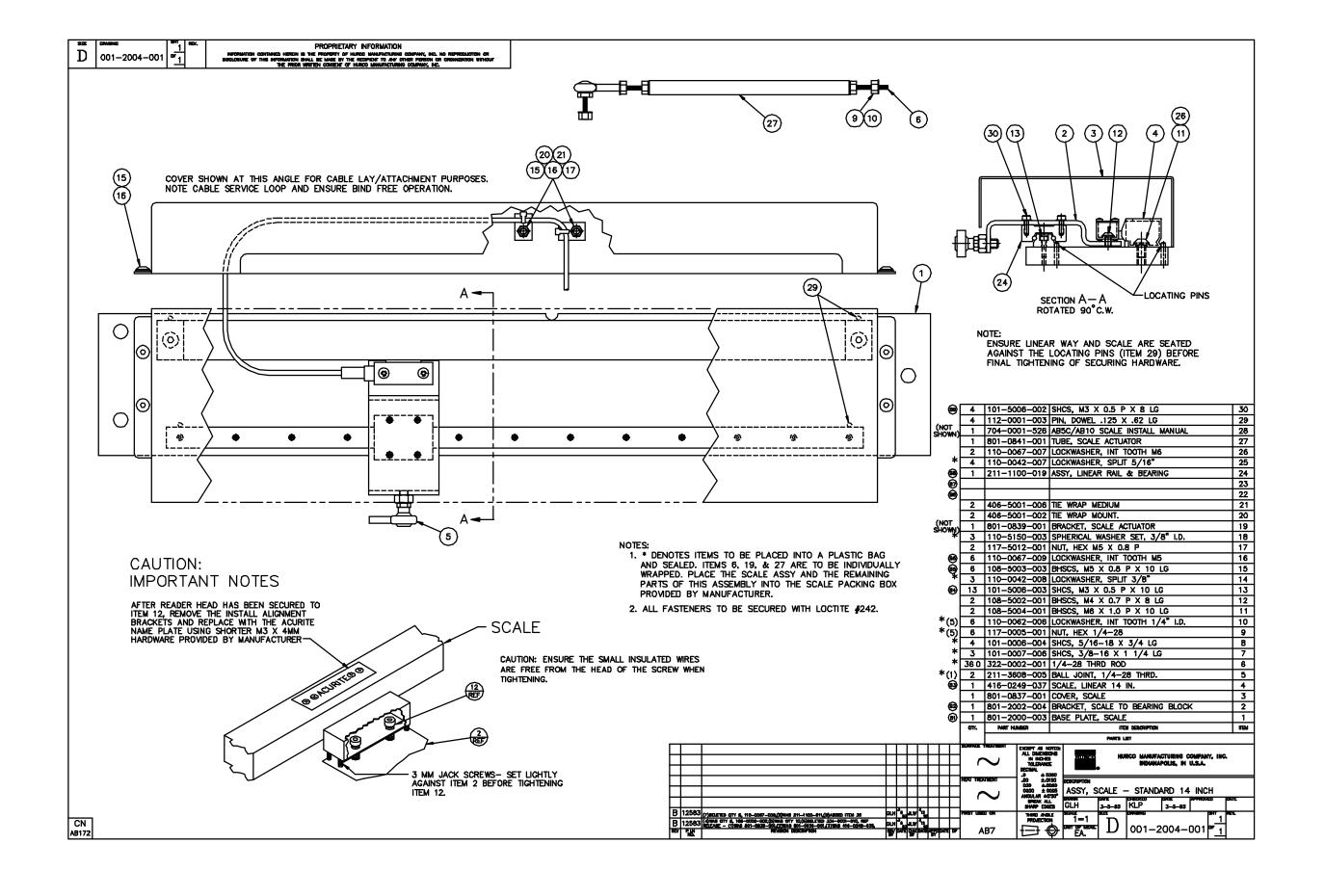


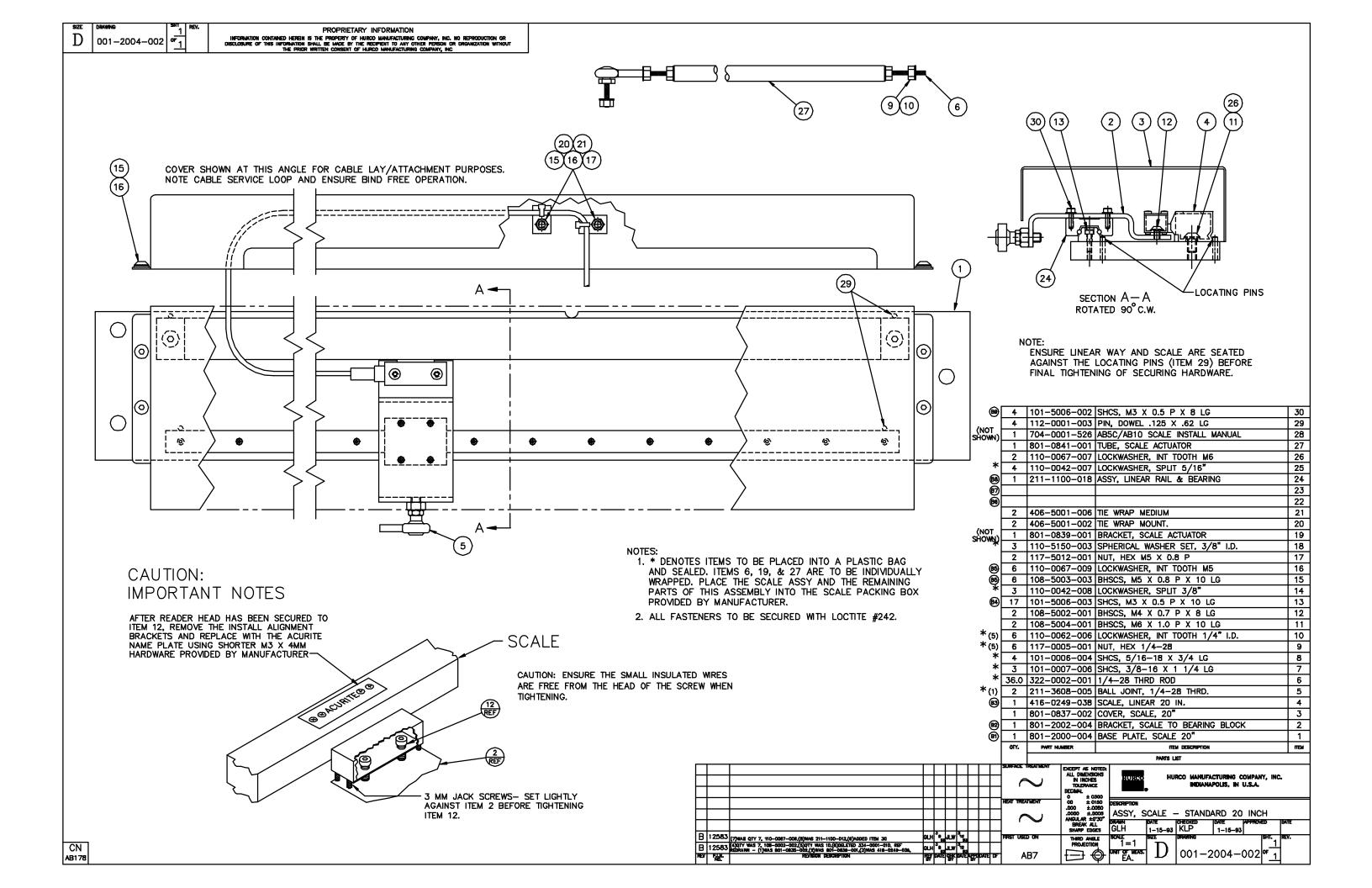
Y-Axis

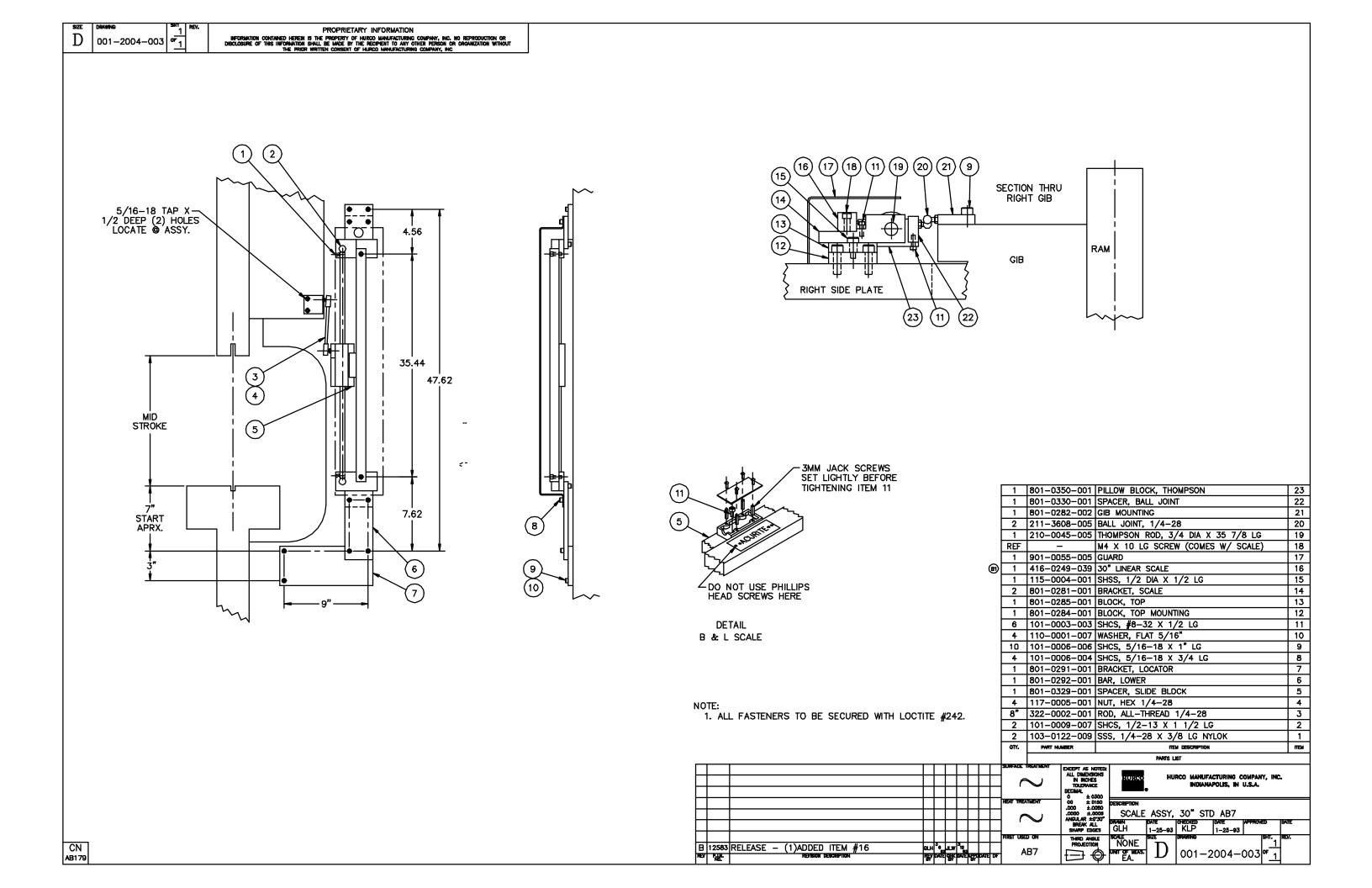
Y-Axis

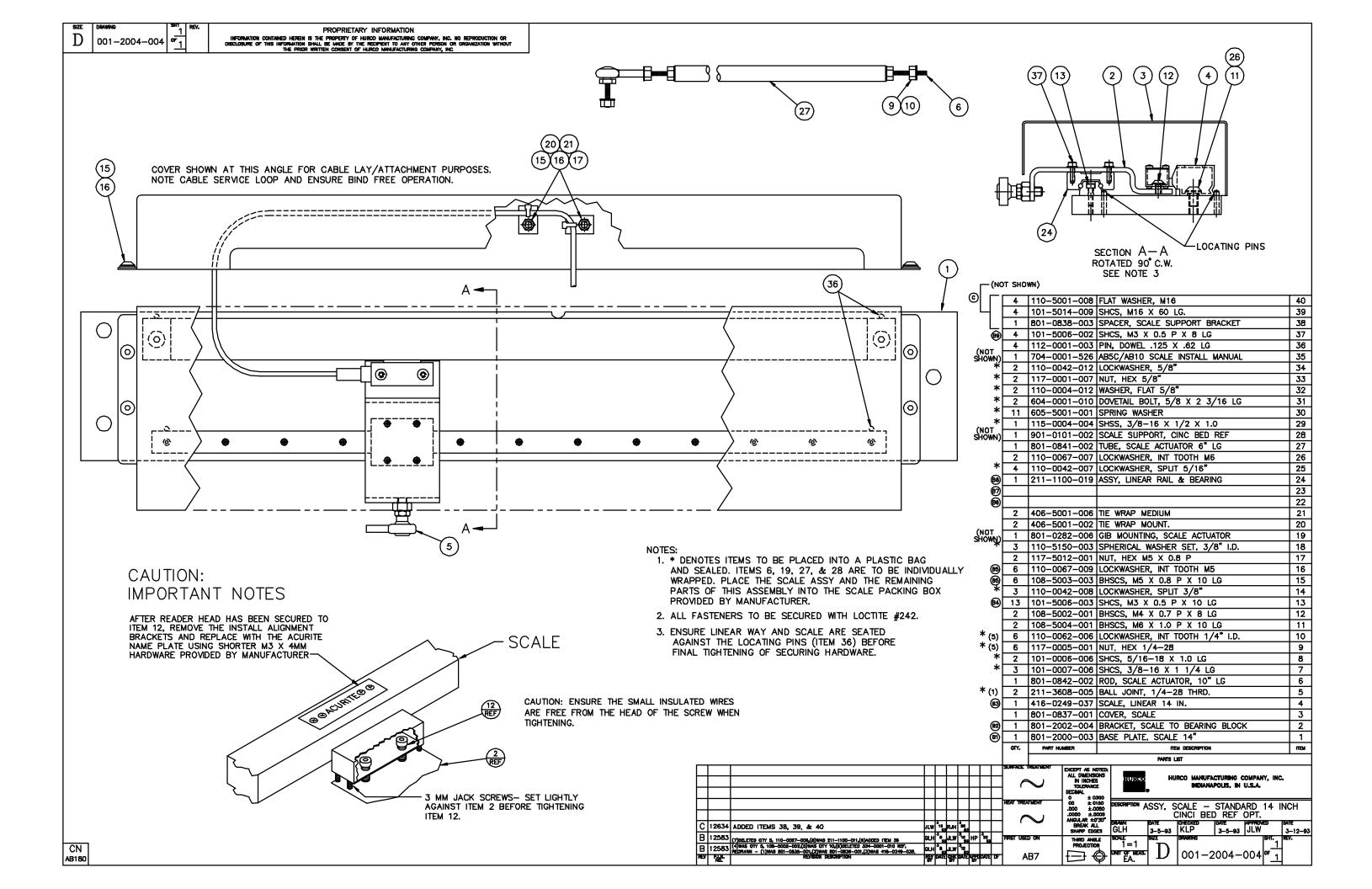


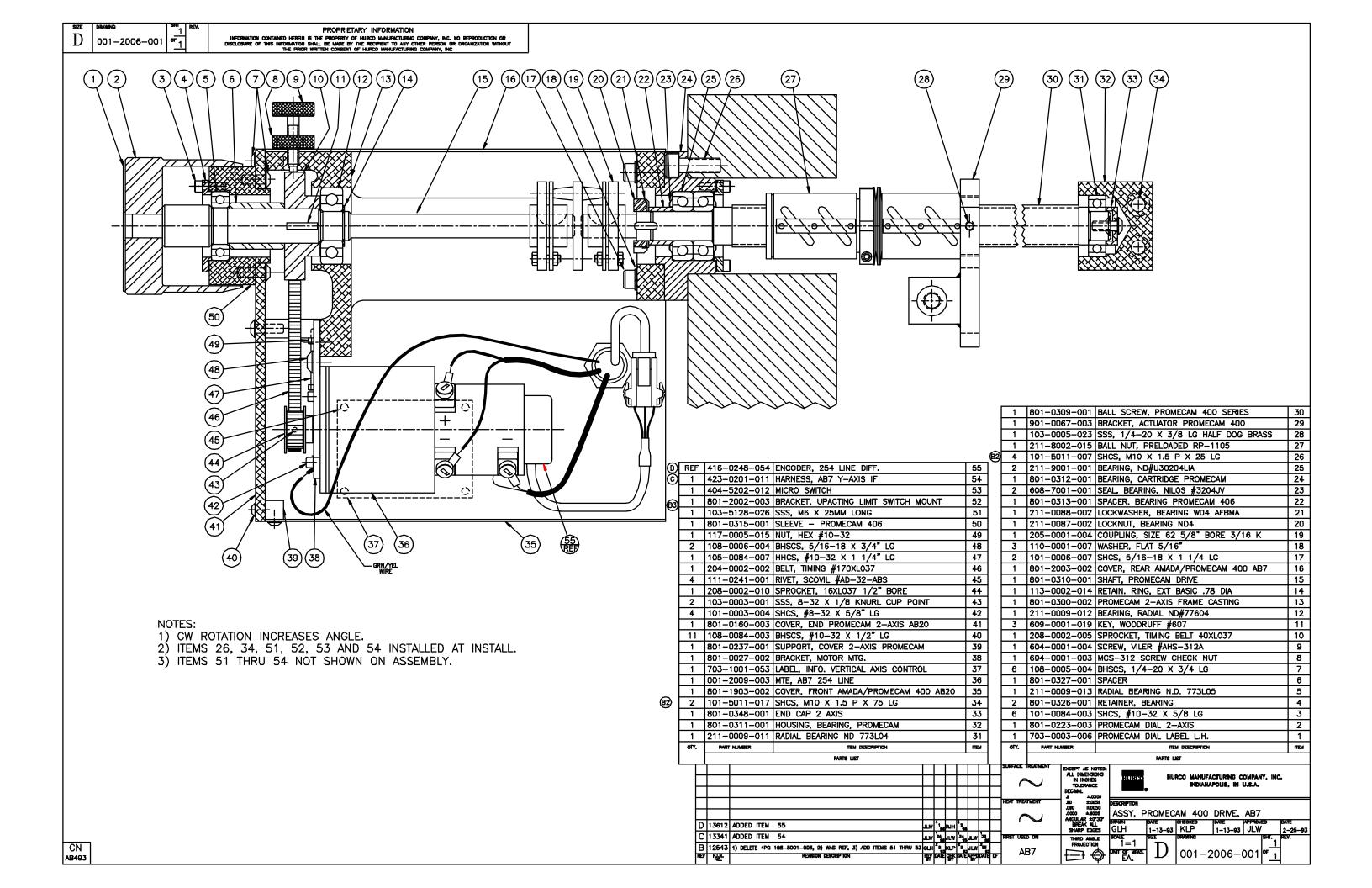


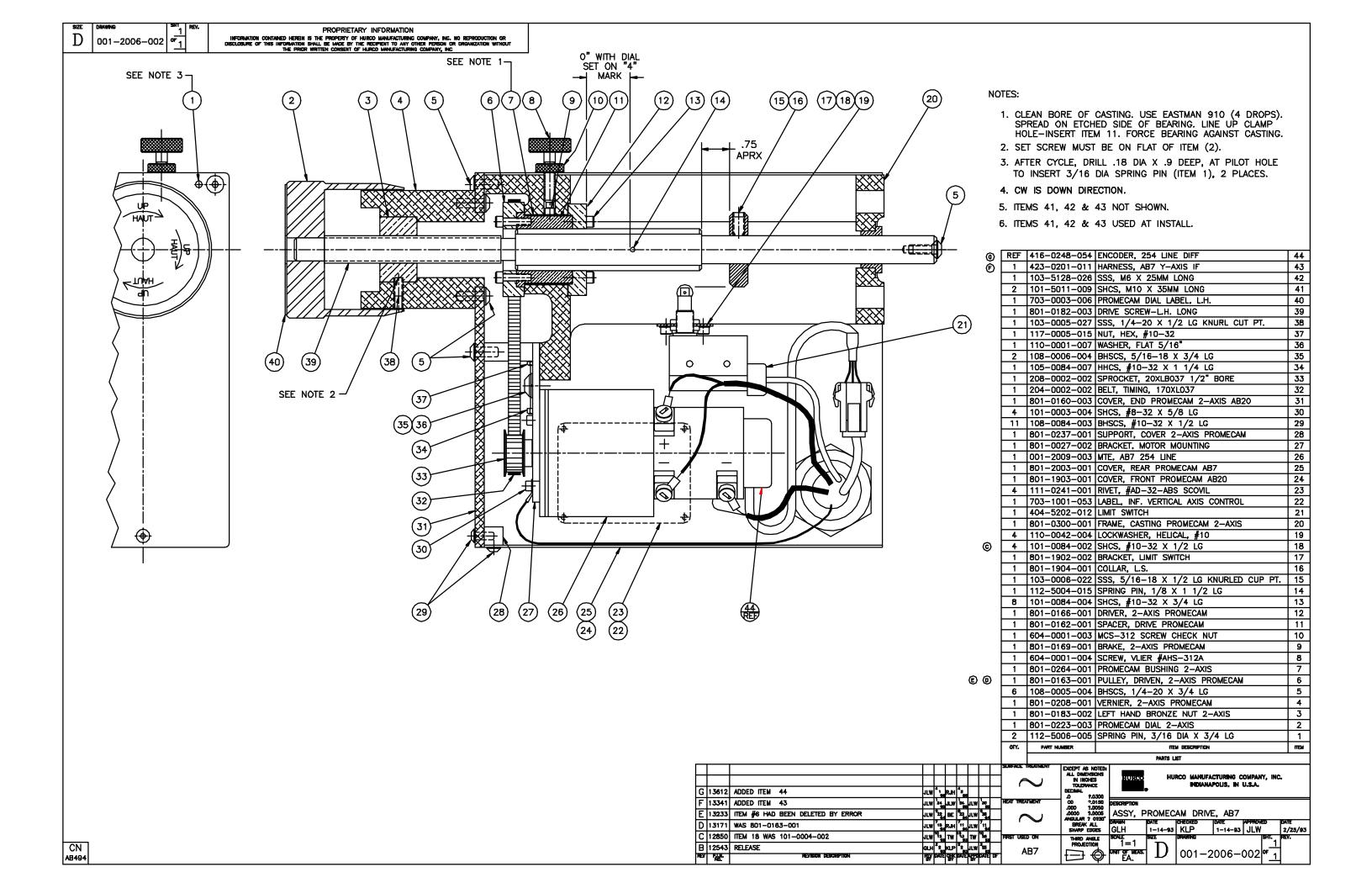


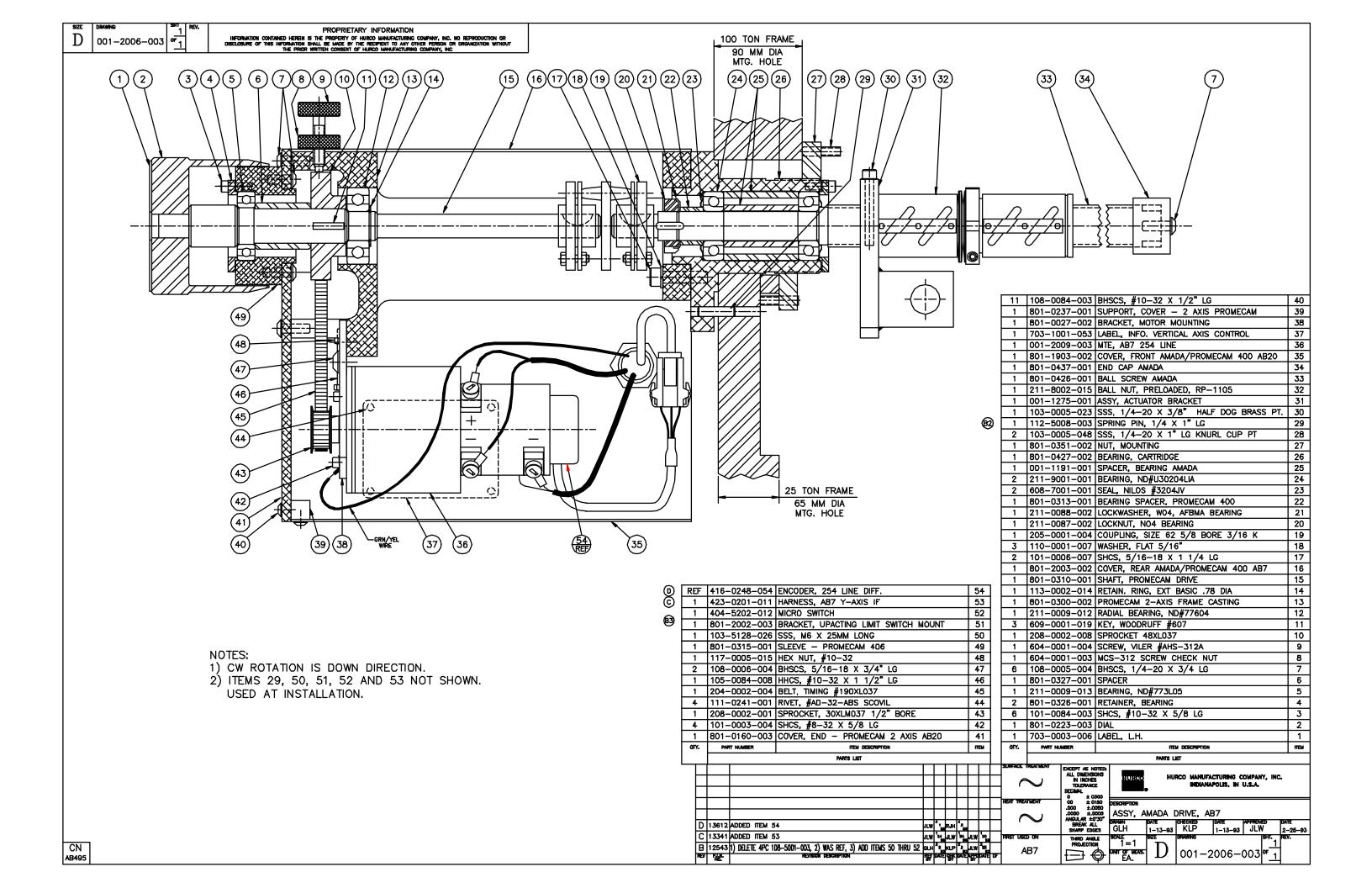


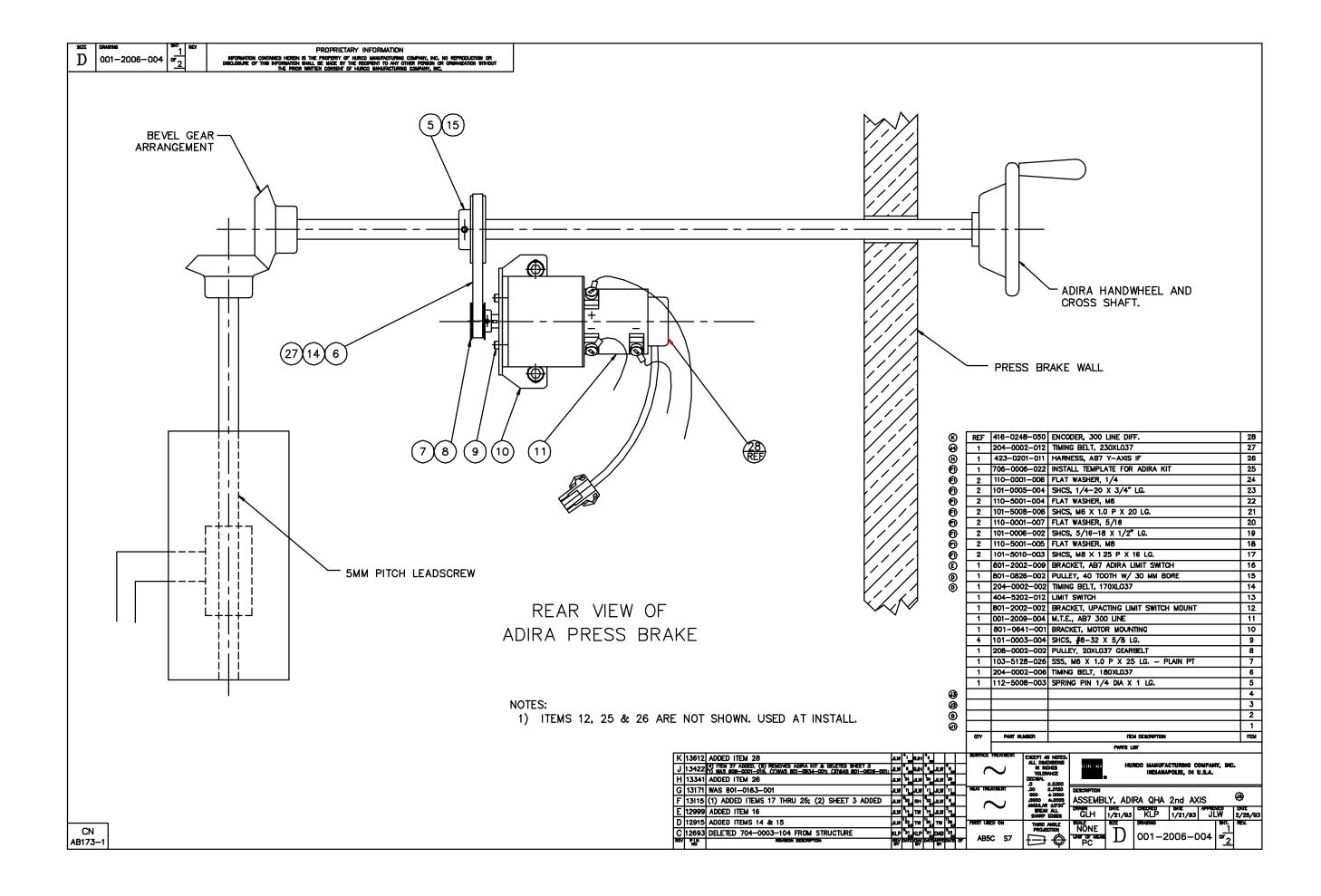


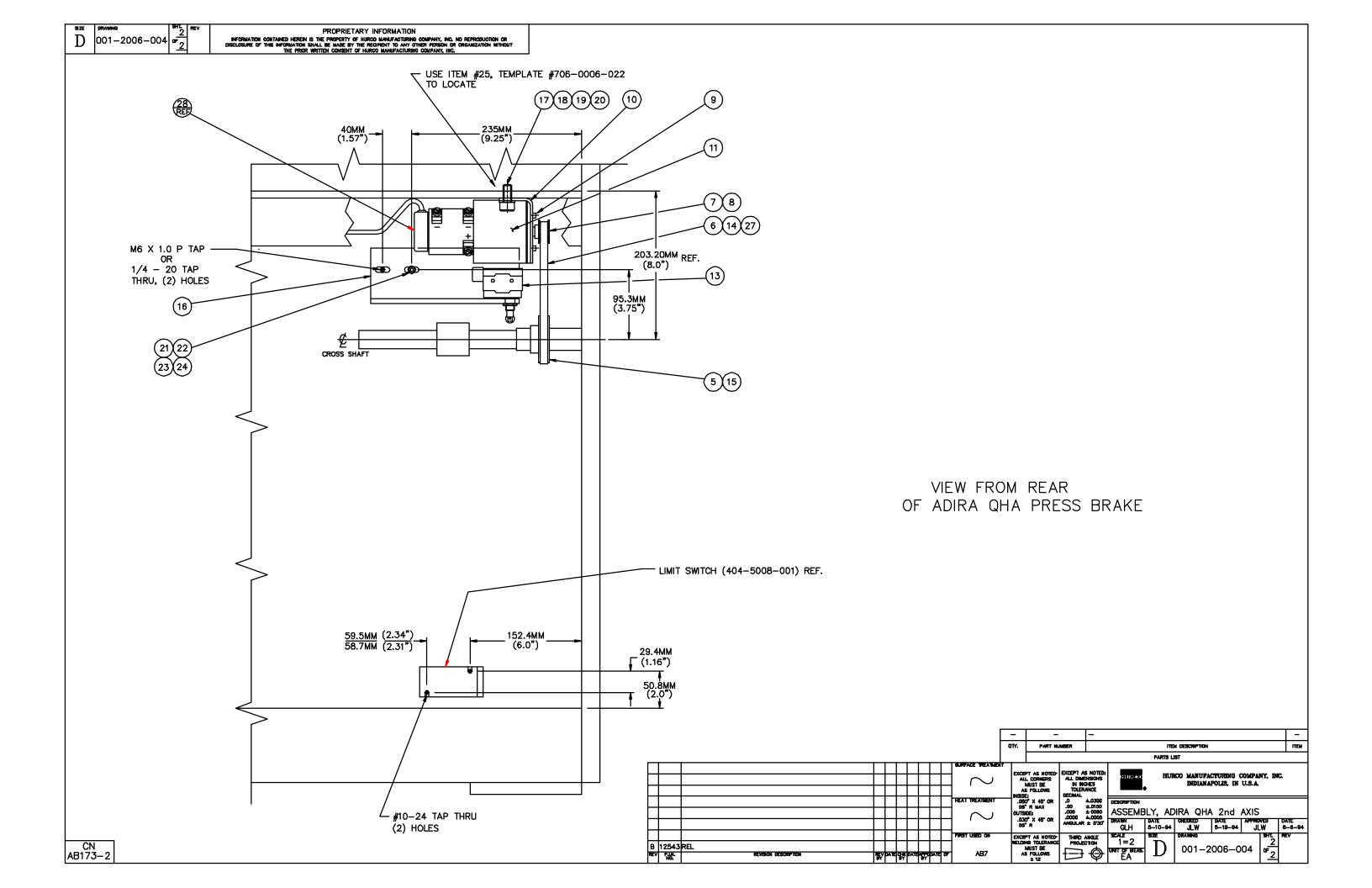


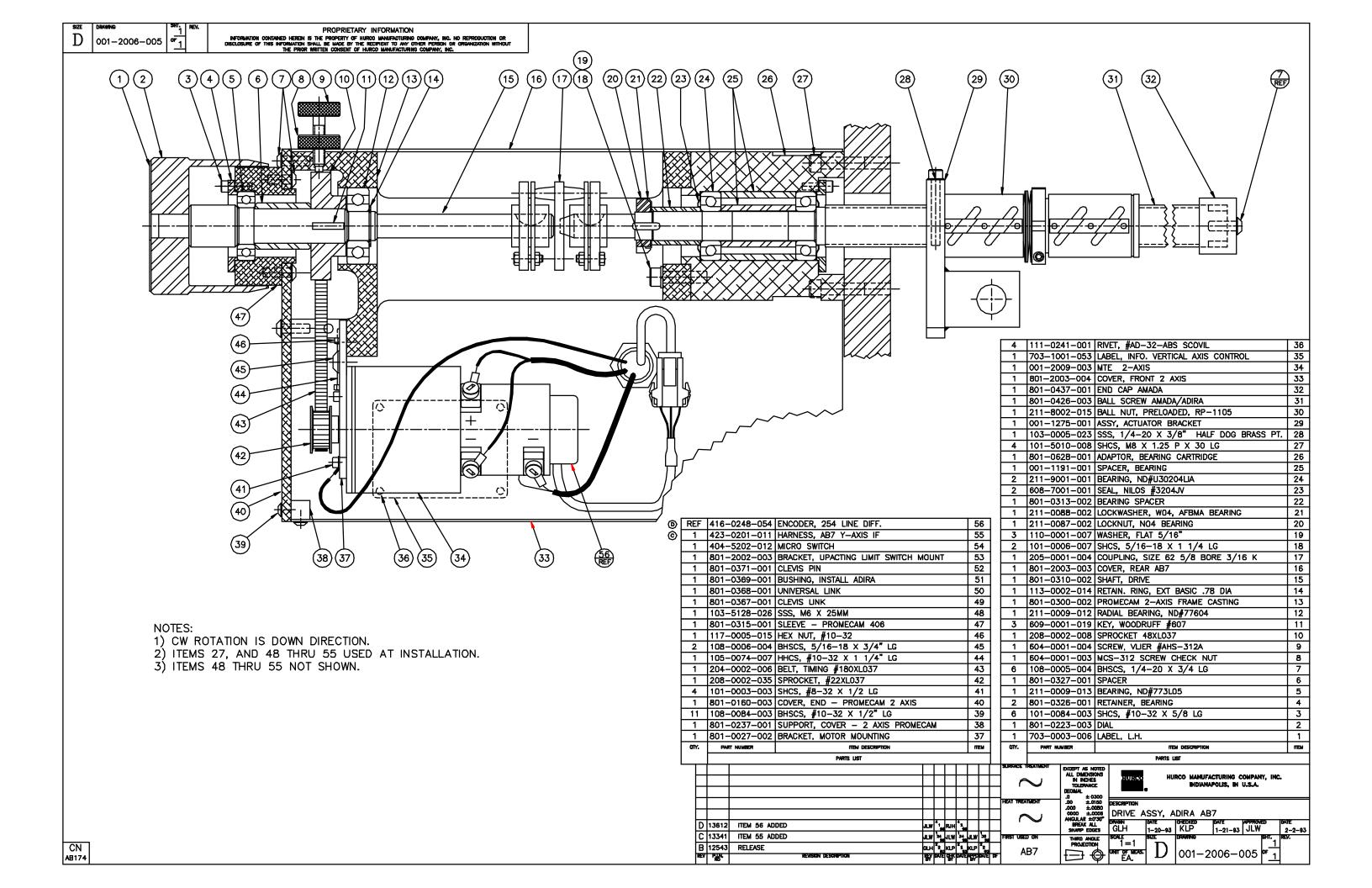


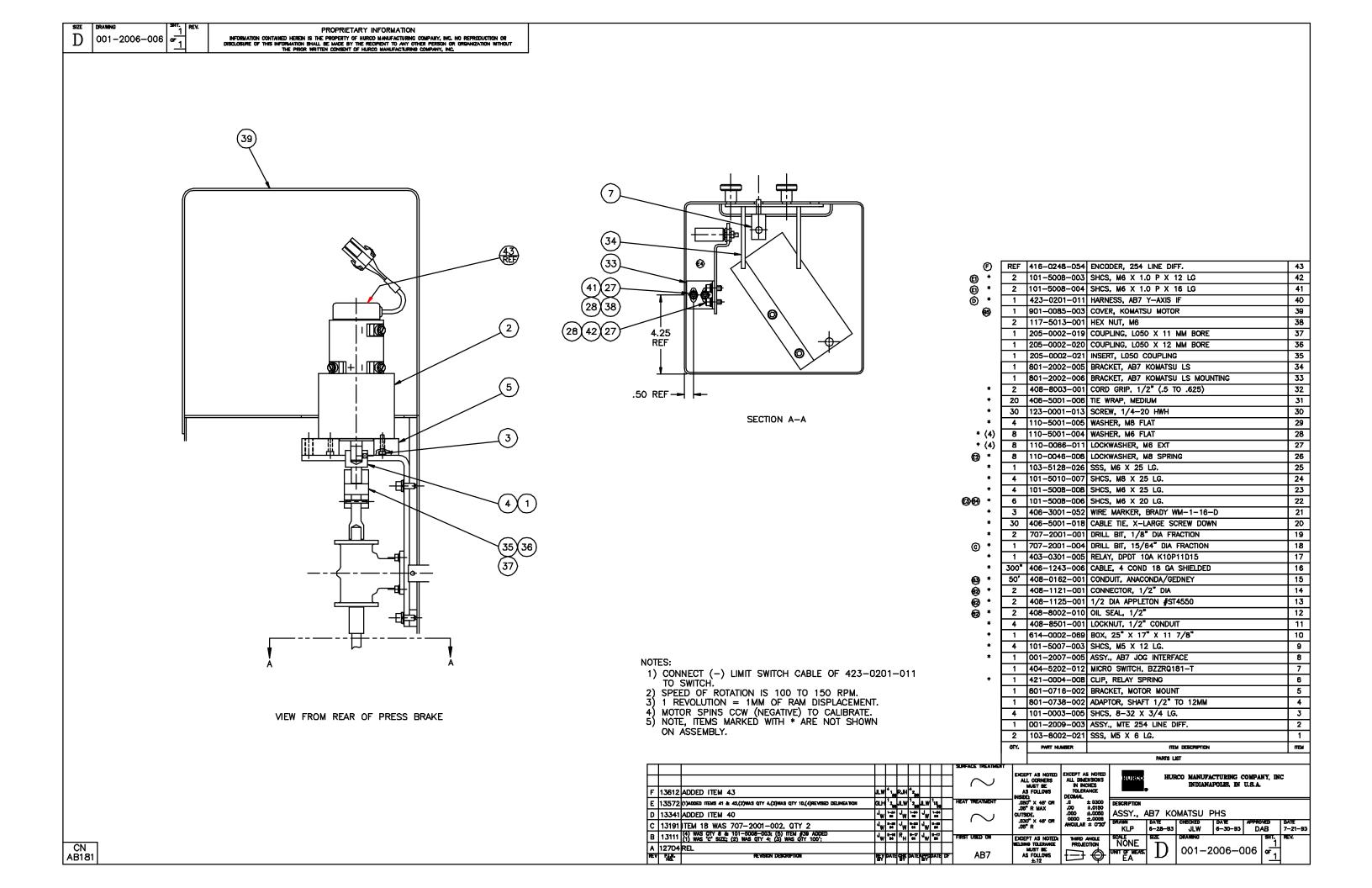


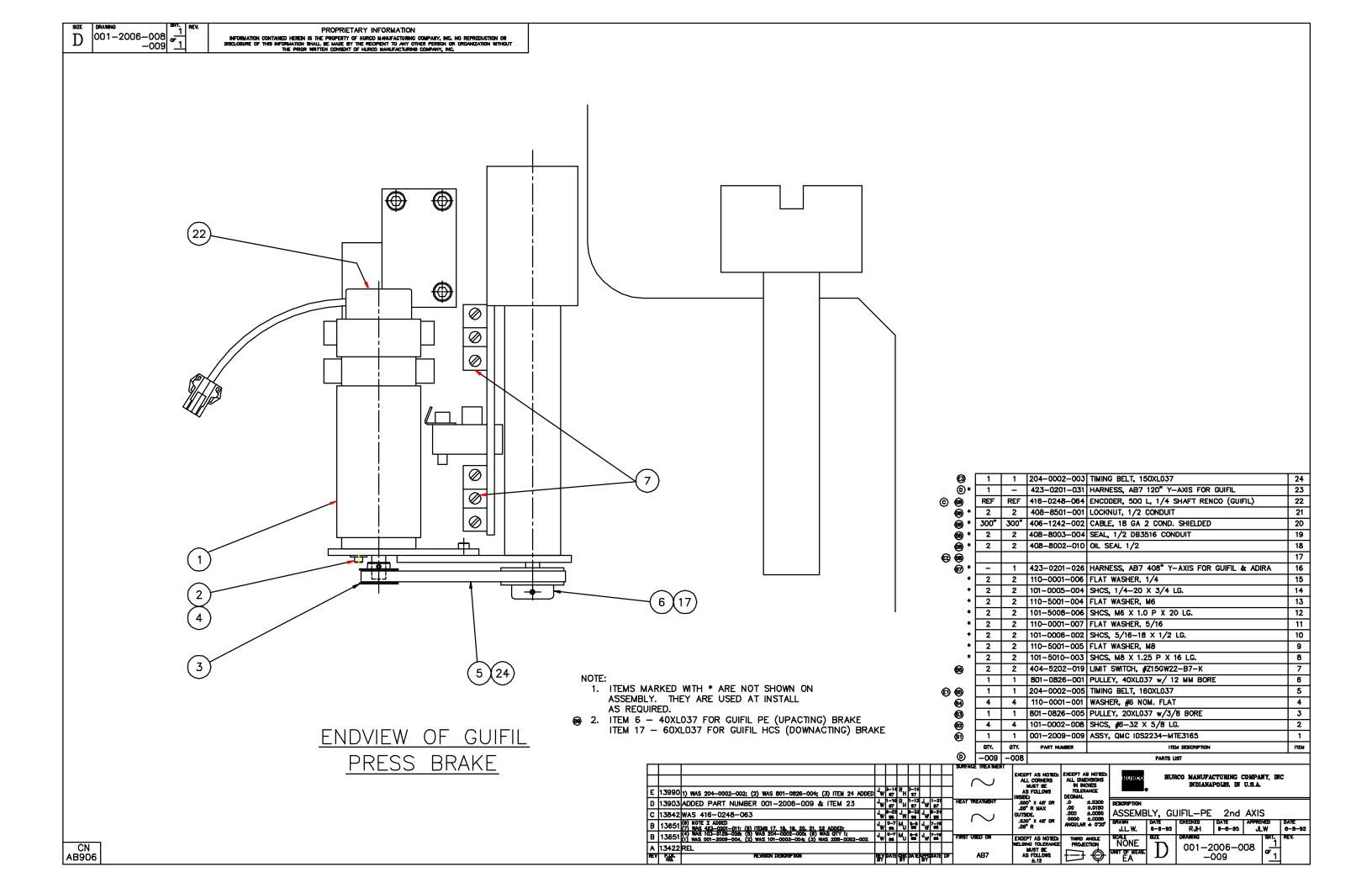


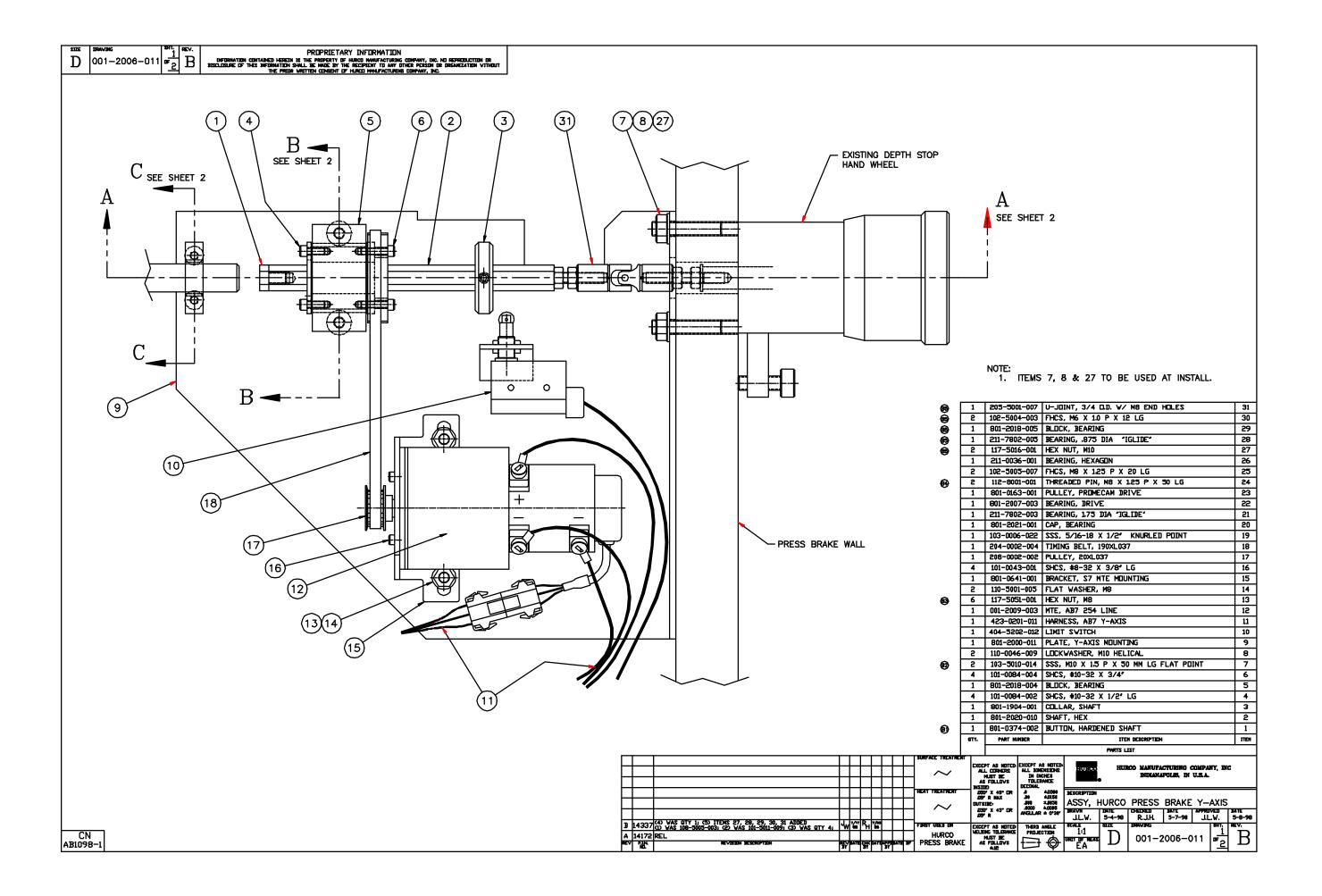


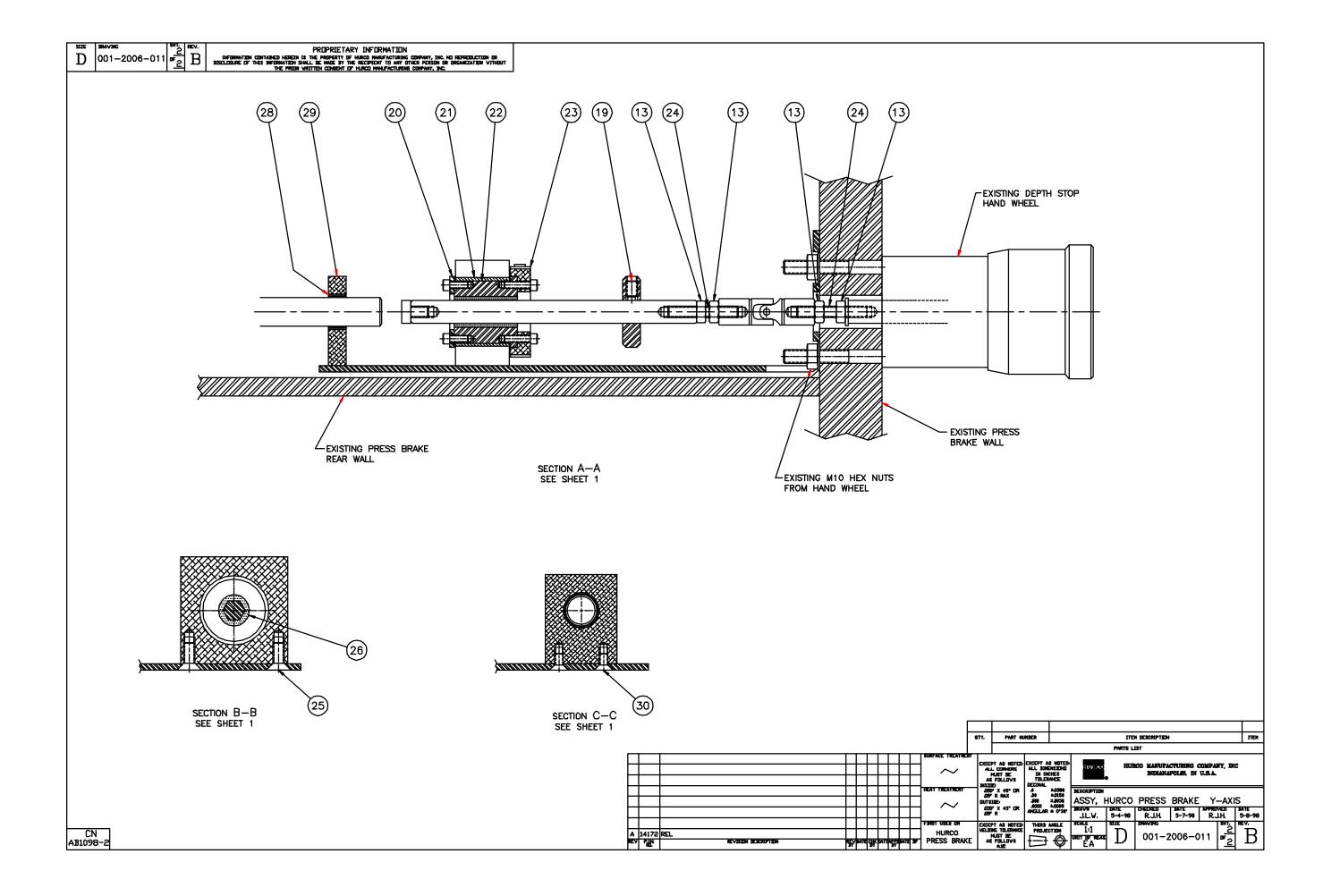


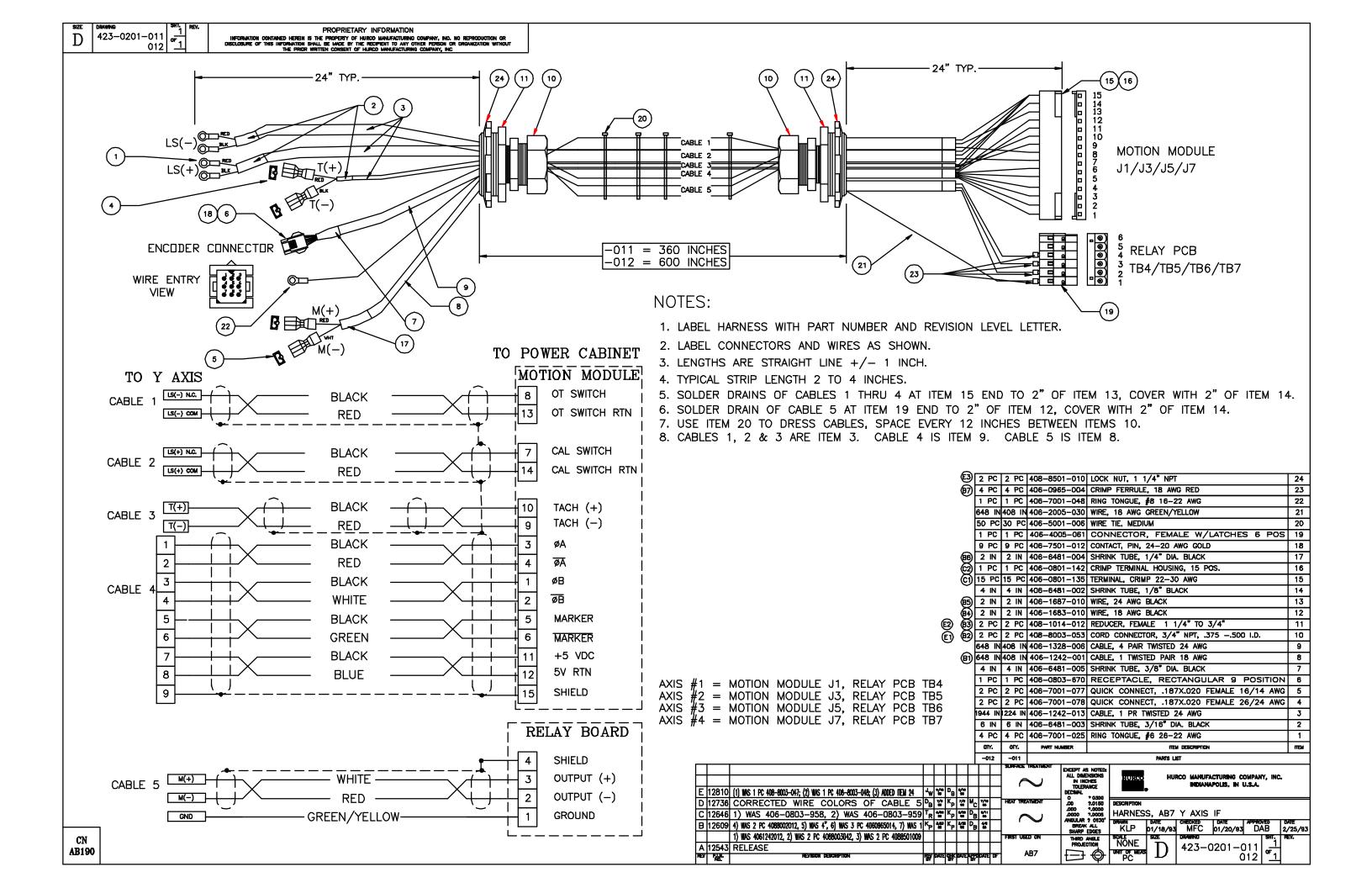


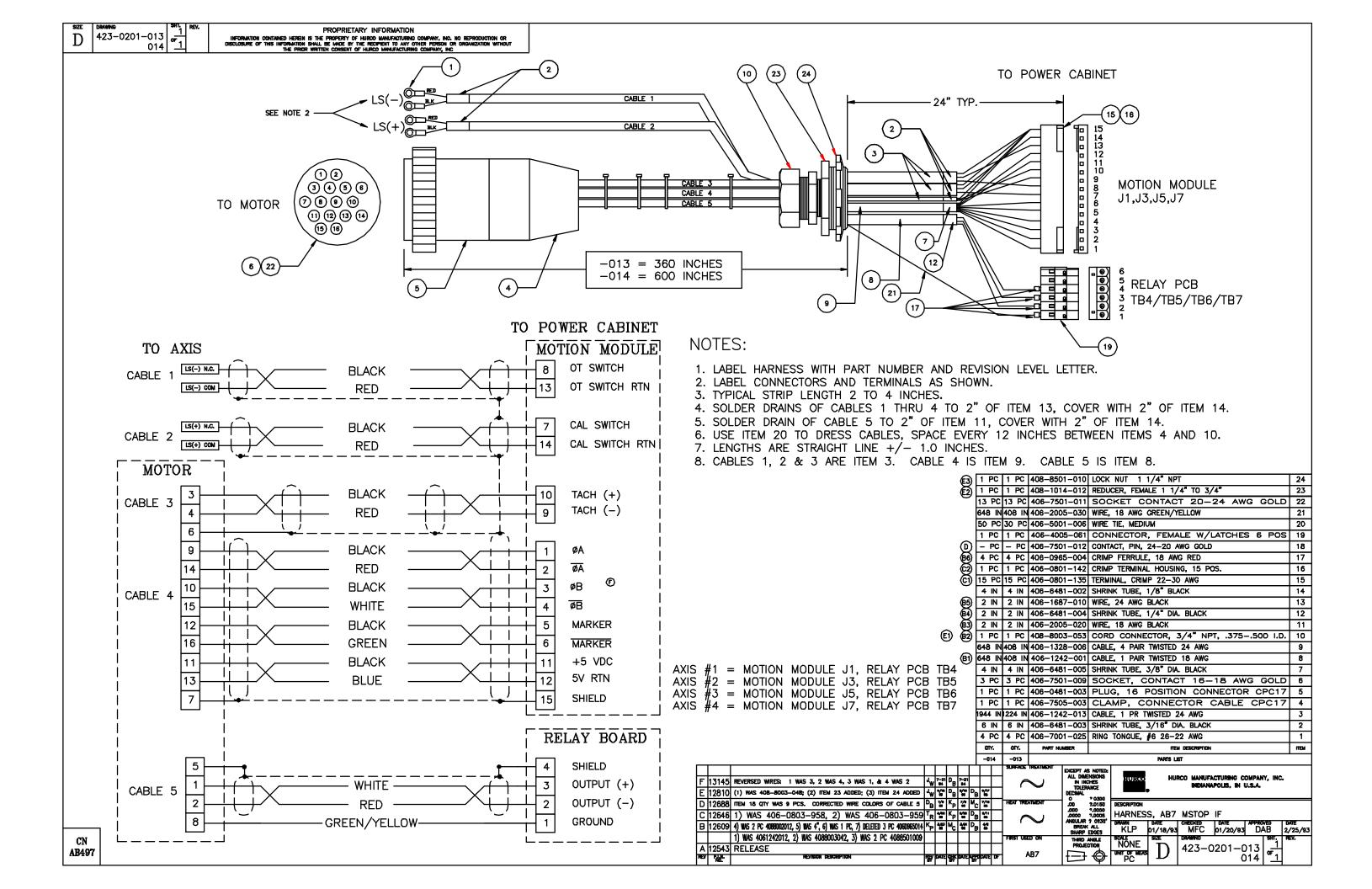


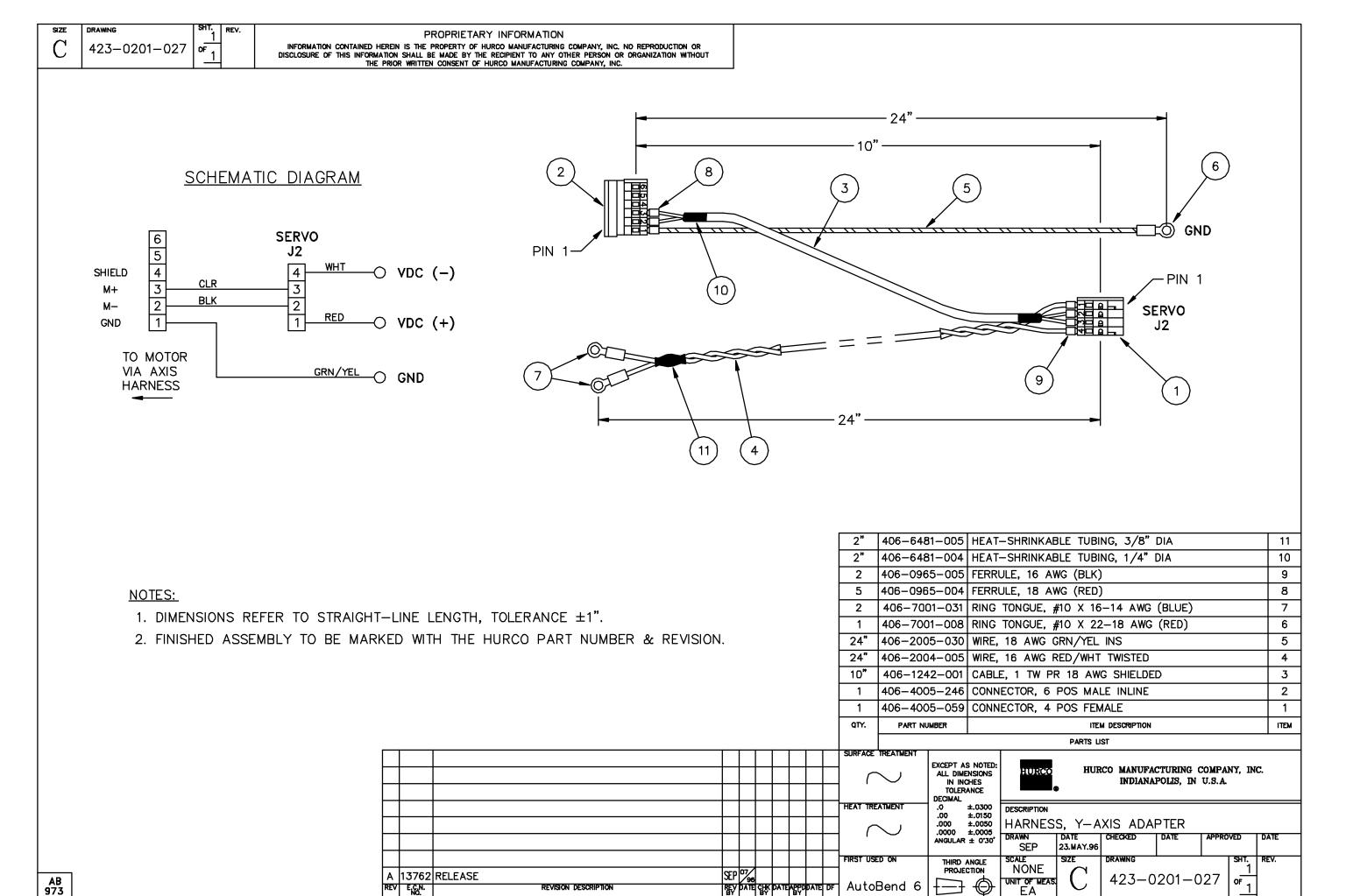










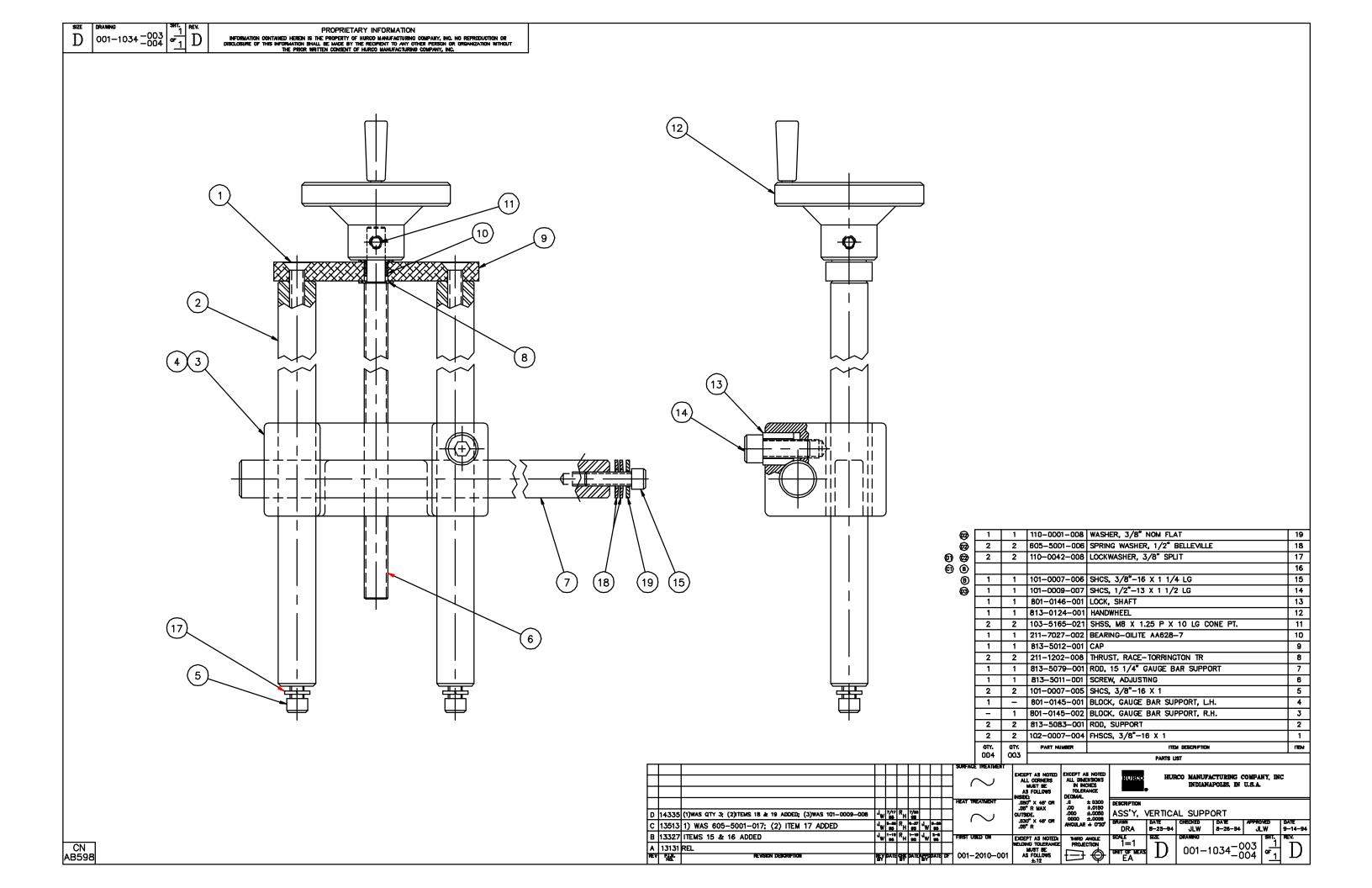


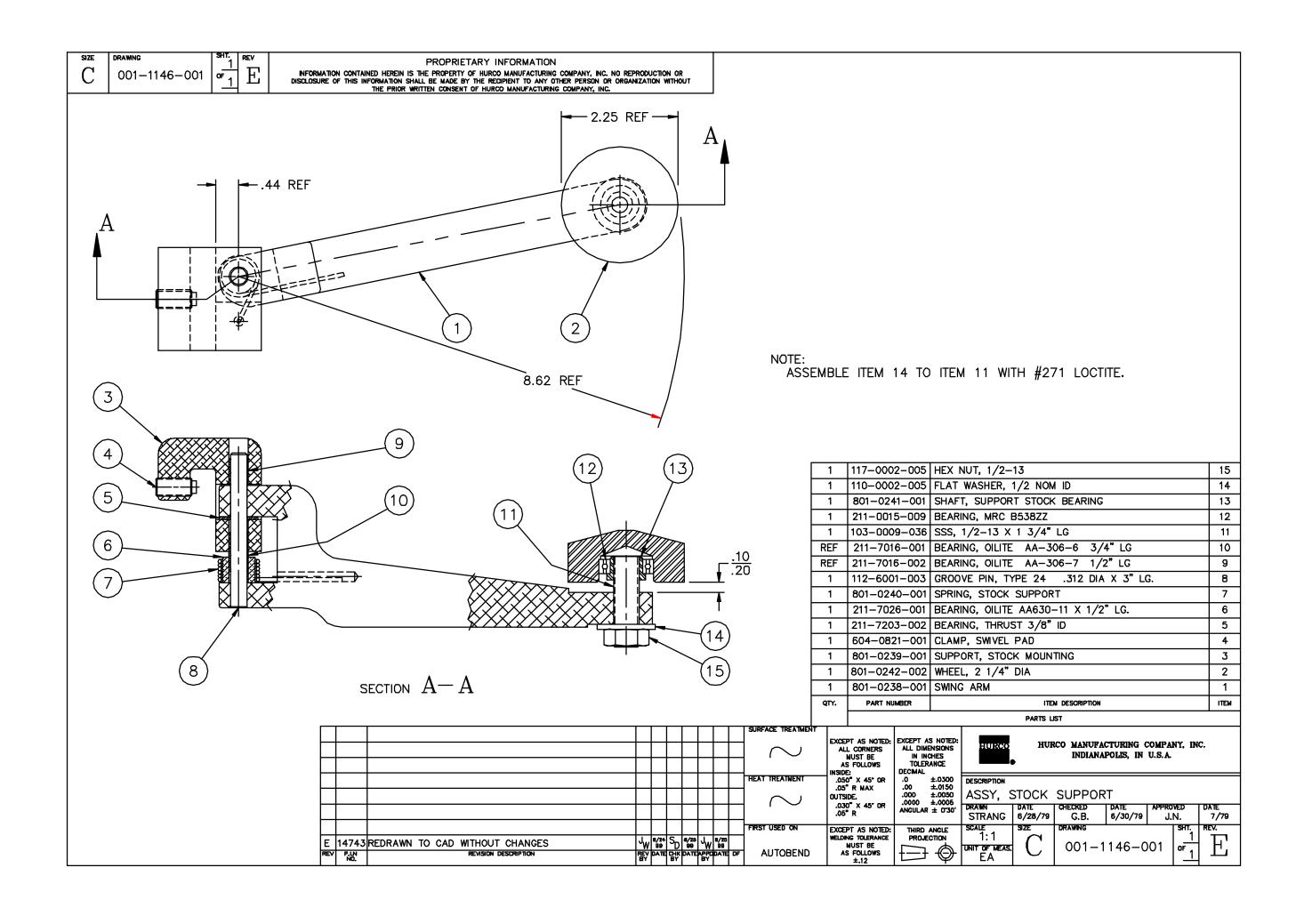
REVISION DESCRIPTION

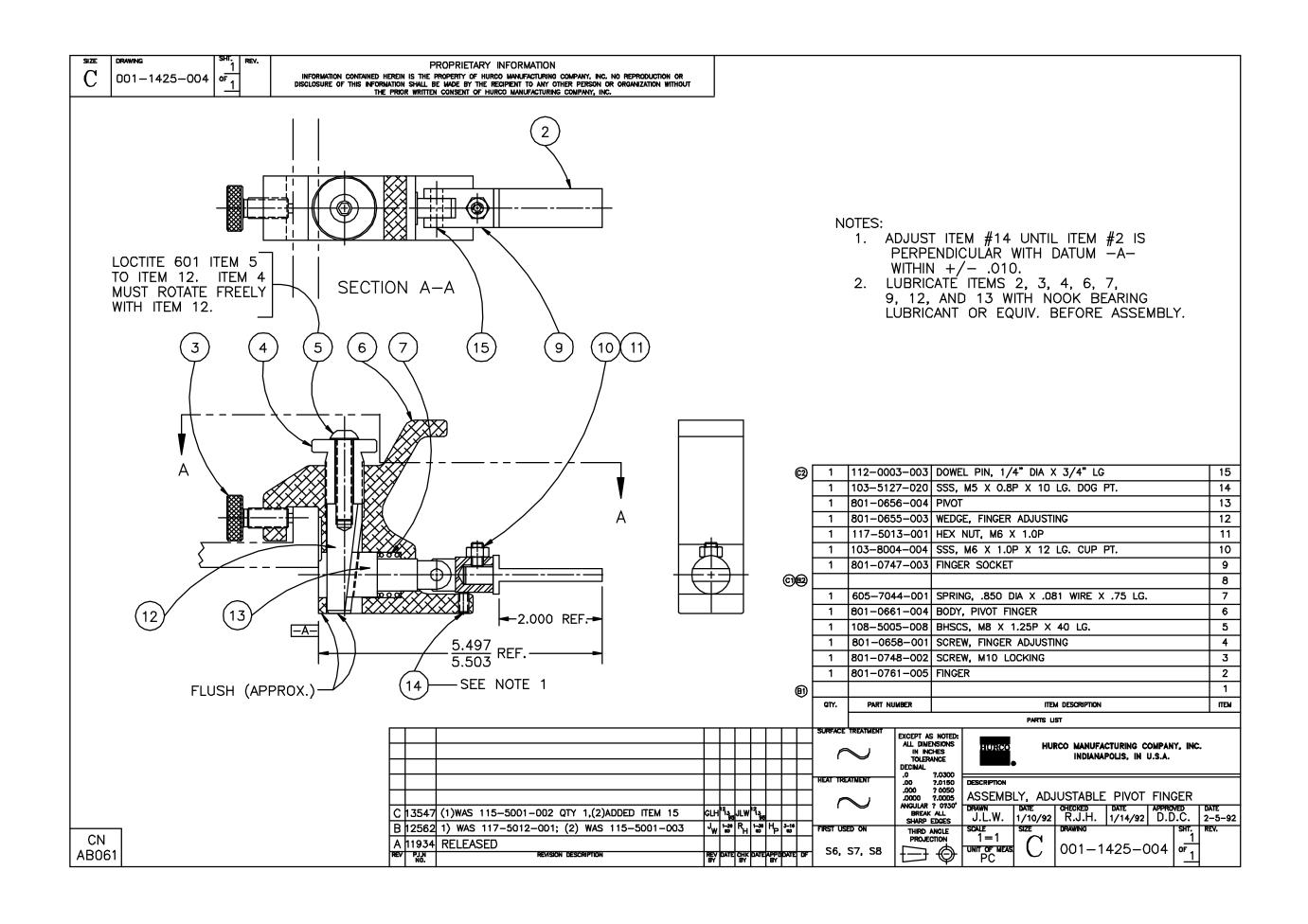
हिर्पूर्ण वर्गेने दूसूर विवास विद्युप्त विवास विद्युप्त विवास विद्युप्त विवास विद्युप्त विवास विद्युप्त विद्युप

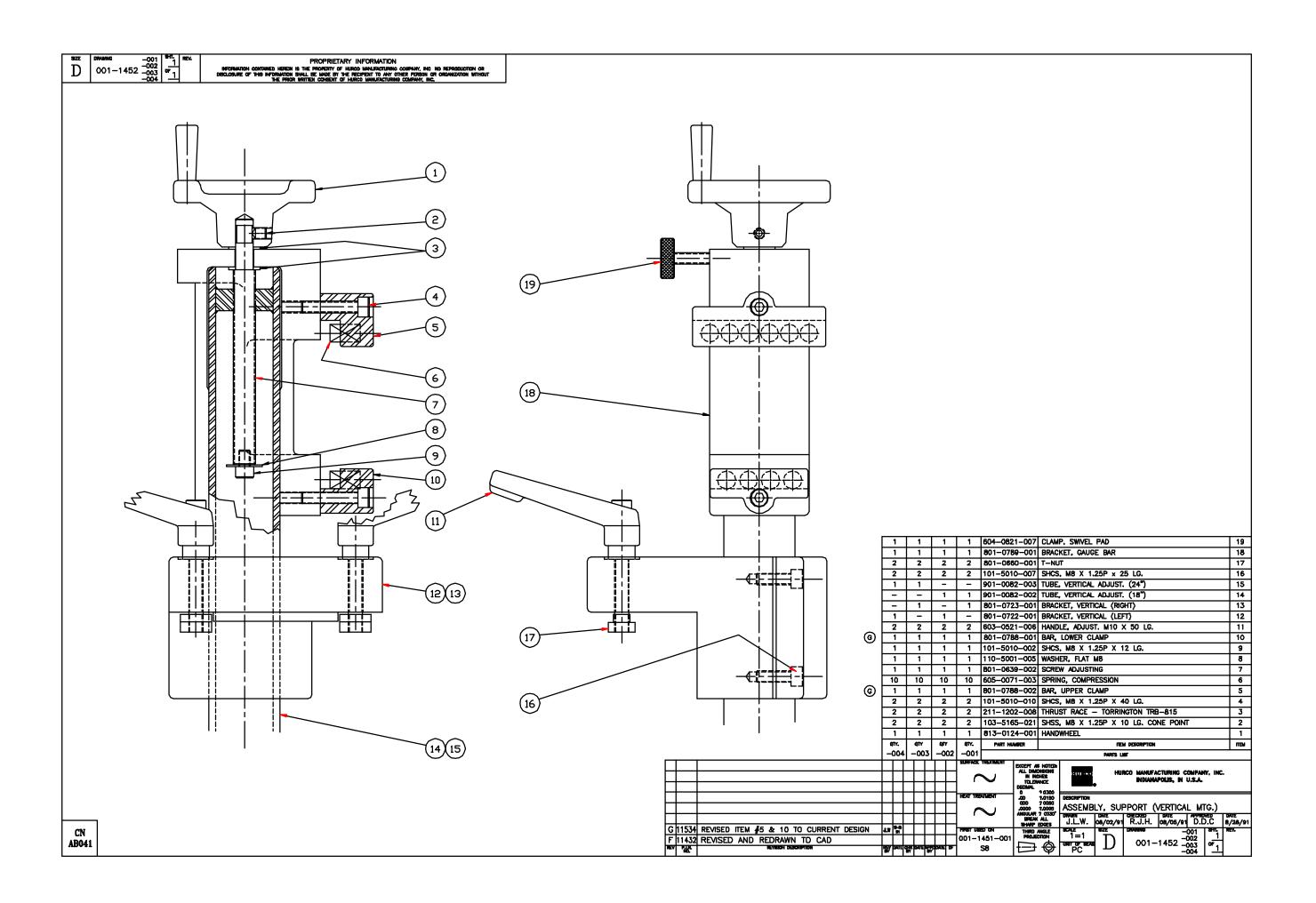
Miscellaneous

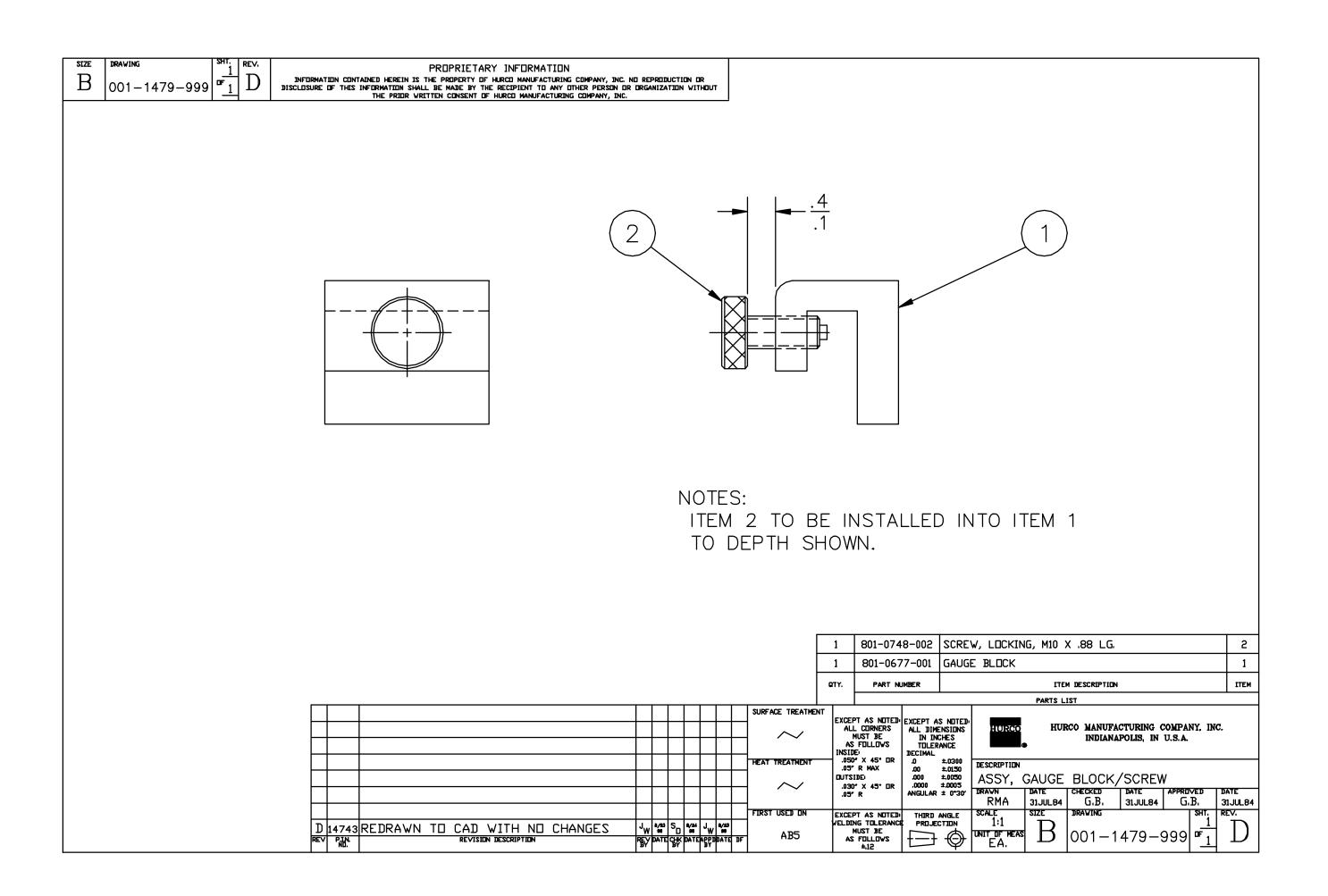
Miscellaneous

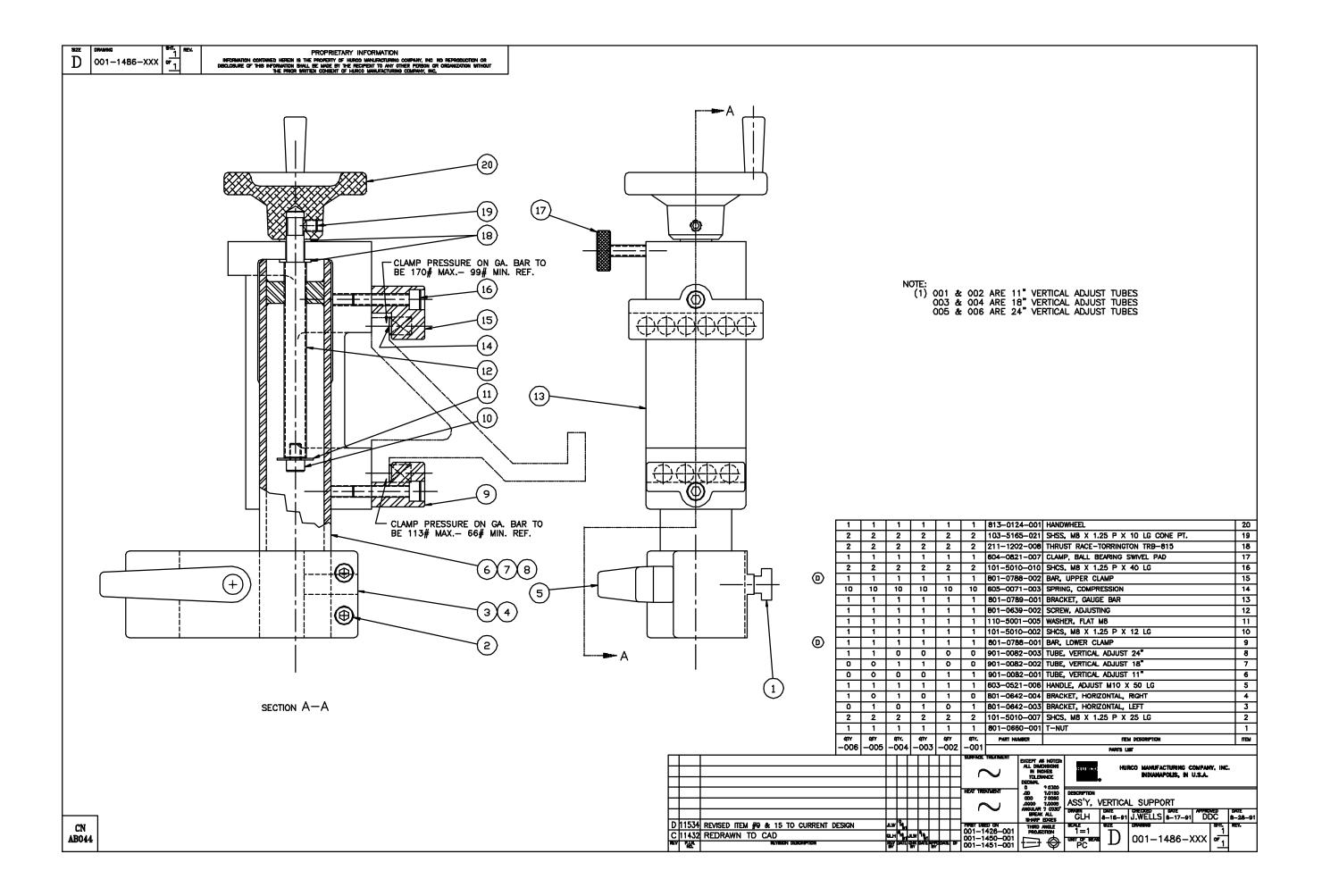


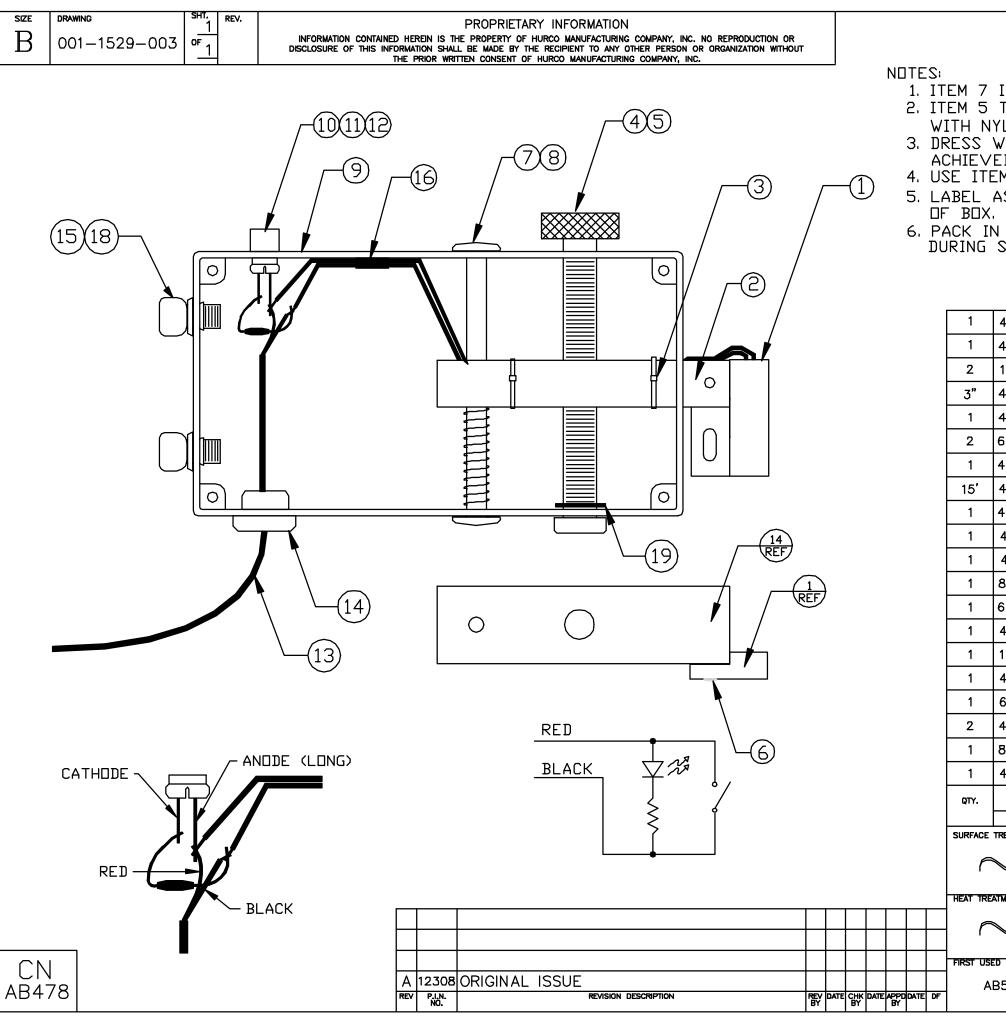












- 1. ITEM 7 INSERTED FROM TOP, SCREW IN BOTTOM.
- 2. ITEM 5 TURNED 3/4 ROTATION AFTER CONTACT WITH NYLON.
- 3. DRESS WIRES OF ITEM 1 SO FULL TRAVEL CAN BE ACHIEVED.
- 4. USE ITEM 17 FOR ASSY OF ITEMS 1, 11, 12 & 13.
- 5. LABEL ASSEMBLY WITH PART NUMBER ON TOP OF BOX.
- 6. PACK IN SEALED BUBBLE PACK BAG FOR PROTECTION DURING SHIPPING.

PARTS LIST			
QTY.	PART NUMBER	ITEM DESCRIPTION	ITEM
1	418-5001-008	SWITCH, MAGNETIC	1
1	801-0855-004	BAR, RETRACT ADJUST	2
2	406-5001-006	CABLE TIE	3
1	604-0003-001	THUMB SCREW, 5/16" X 3"	4
1	408-8501-013	NUT, ELASTIC LOCKING, 5/16"	5
1	102-5001-003	FHSCS, M3 X 10	6
1	421-0001-035	GUIDE POST, 3/16" X 2-1/2"	7
1	605-0029-008	SPRING, 7/16" O.D. X 1-7/8" L, .035 WIRE DIA	8
1	801-0855-003	ENCLOSURE, RETRACT ADJ. MOUNTING	9
1	411-3001-015	LENS, LED MOUNTING .25" MNT. HOLE	10
1	411-2001-033	LED, 1mA RED DIFFUSED, T1-3/4	11
1	407-0035-297	RESISTOR, 1.21K 1/4W 1%	12
15'	406-1242-006	CABLE, 2 COND. 22 AWG	13
1	406-0530-003	STRAIN RELIEF BUSHING	14
2	604-0003-002	THUMB SCREW, 10-32 X 1/2"	15
1	406-5001-023	CORD CLIP, ADHESIVE BACKED	16
3"	406-6481-003	SHRINK WRAP, 3/16" BLACK	17
2	117-1002-002	NUTSERT, M5	18
1	408-7501-048	E-CLIP, RETAINER RING, 5/16"	19
1	418-5001-009	ACTUATOR, MAGNETIC	REF

SURFACE TREATMENT EXCEPT AS NOTED: ALL DIMENSIONS IN INCHES TOLERANCE HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A. DECIMAL HEAT TREATMENT .00 ?.0150 .000 ?.0050 .0000 ?.0005 ANGULAR ? 0?30' DESCRIPTION ASSY, RETRACT @ PINCHPOINT DRAWN CHECKED BREAK ALL SHARP EDGES A.E.T. 17AUG92 A.E.T. 04SEP92 FIRST USED ON THIRD ANGLE N/A PROJECTION AB5C UNIT OF MEAS. $001 - 1529 - 003 | o_{1}$

