The TURBONATOR

J.E. ADAMS MODEL NO. 20000

OWNER'S MANUAL

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SPECIFICATIONS

GENERAL VACUUM:

- OVERALL HEIGHT: 54 1/4 IN.
- CANISTER DIAMETER: 19 IN.
- DOME DIAMETER: 24 IN.
- TOTAL UNIT DEPTH FROM REAR OF DOME TO LOCKBOX FACE: 30 1/8 IN.
- WEIGHT: 218 POUNDS

ELECTRICAL:

- 110/120 VAC, 60 Hz, SUPPLY VOLTAGE, 30A SERVICE REQUIRED.
- SWITCH LAMPS: GE TYPE NO. 757

MOTORS:

- AMETEK UNIVERSAL TYPE, 50/60 Hz
- 2 STAGE PERIPHERAL BYPASS DISCHARGE
- UL RECOGNIZED CATEGORY PRGY2 (E47185)
- CSA CERTIFIED, CLASS 1611 01 (LR31393)

- APPROXIMATE CFM: 188
- APPROXIMATE VACUUM: 58 IN. WATER

FEATURES

- CHOICE OF TWO POWER SETTINGS:
  - "NORMAL" 2 MOTOR POWER.
  - "TURBO" 3 MOTOR POWER.

- FULLY PROGRAMMABLE DISPLAY TIMER.

- ELECTRONIC COIN MECHANISM FOR ENHANCED PERFORMANCE.

- MARS 2000 SERIES BILL ACCEPTOR, COUPON PROGRAMMABLE.

- JB7 STYLE COIN BOX SUITED TO ROUTE OPERATIONS.

- LIGHTED DOME.

GENERAL OPERATION

THE TURBONATOR HAS TWO MODES OF OPERATION: “NORMAL” AND “TURBO”. THE CUSTOMER HAS THE OPTION TO SELECT WHICH MODE THEY WISH TO START THE UNIT IN.

EITHER MODE CAN BE SELECTED AT ANY TIME DURING THE VACUUM CYCLE, PROVIDED THE UNIT WAS STARTED IN “TURBO” MODE. THE TIME REMAINING WILL BE RE-CALCULATED ACCORDINGLY.

IF THE UNIT IS STARTED IN NORMAL MODE, AND TURBO IS SELECTED DURING USE, THE UNIT WILL NOT FUNCTION UNTIL SUFFICIENT MONEY IS INSERTED TO ENABLE TURBO OPERATION.

IMPORTANT NOTE:
THE ABILITY TO SELECT BETWEEN THE TWO MODES OF OPERATION DURING USE DEPENDS ON HOW THE TIME AND COIN SETTINGS ARE CONFIGURED IN THE DISPLAY TIMER. THE CUSTOMER MUST INSERT A SUFFICIENT AMOUNT OF MONEY TO ACTIVATE THE “TURBO” FEATURE, BEFORE SWITCHING TO “NORMAL” MODE AND VICE VERSA.

INSTALLATION REQUIREMENTS

GENERAL MECHANICAL:

- ALL DIMENSIONS IN DRAWINGS ARE IN INCHES.
- MOUNTING STUD SIZE 3/8 X 16UNC X 1".
- 4" MINIMUM CONCRETE REQUIRED AROUND MOUNTING STUD.
- 18" MINIMUM PAD RECOMMENDED FOR BUMPER CLEARANCE.

FOR GASOLINE DISPENSING LOCATIONS:

- A **MINIMUM 18"** HIGH PAD ABOVE THE DRIVEWAY.
- **20 FOOT HORIZONTAL CLEARANCE** FROM THE EXTERIOR ENCLOSURE OF ANY GASOLINE DISPENSING PUMP.

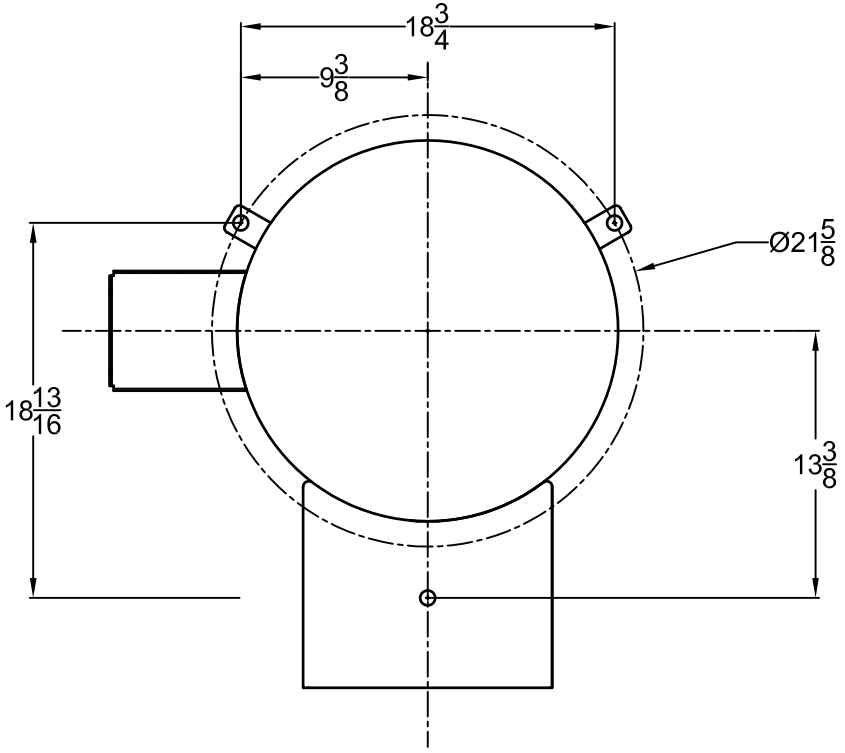
ELECTRICAL SERVICE:

- **30 AMP**, DEDICATED SERVICE REQUIRED. **10 AWG MINIMUM** WIRE SIZE REQUIRED. WIRE SIZE WILL VARY WITH DISTANCE FROM THE SERVICE TO THE UNIT. **CHECK WITH QUALIFIED ELECTRICIAN FOR SIZING REQUIREMENTS IN SPECIFIC INSTALLATIONS.**

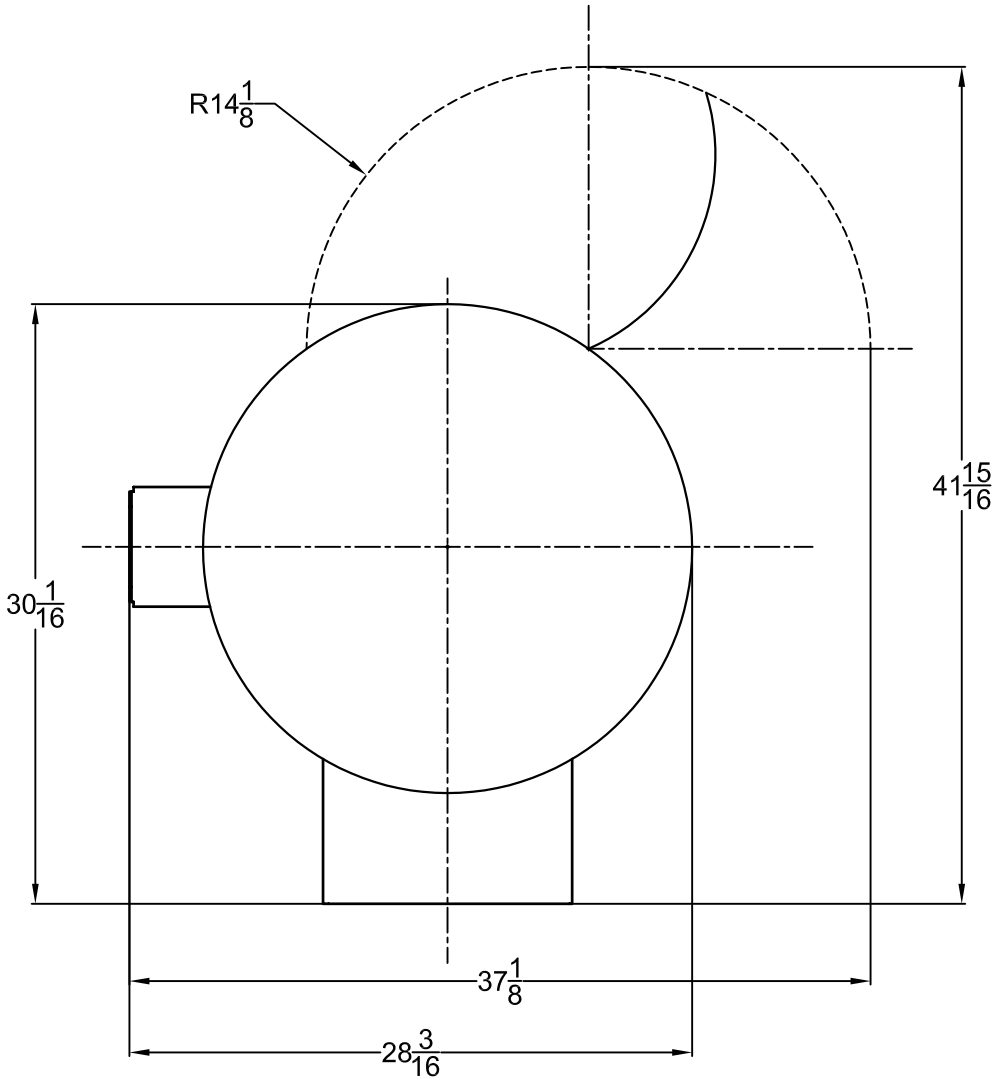
- **IMPORTANT NOTE:**

ADEQUATE POWER AND WIRE SIZE MUST BE PROVIDED FOR THIS UNIT TO OPERATE CORRECTLY. FAILURE TO DO THIS MAY CAUSE THE UNIT TO PERFORM ERRATICALLY, BLOW FUSES, AND TIME INCORRECTLY.

PLEASE CONSULT WITH A QUALIFIED ELECTRICIAN FOR HELP WITH INSTALLATION OF THIS VACUUM.



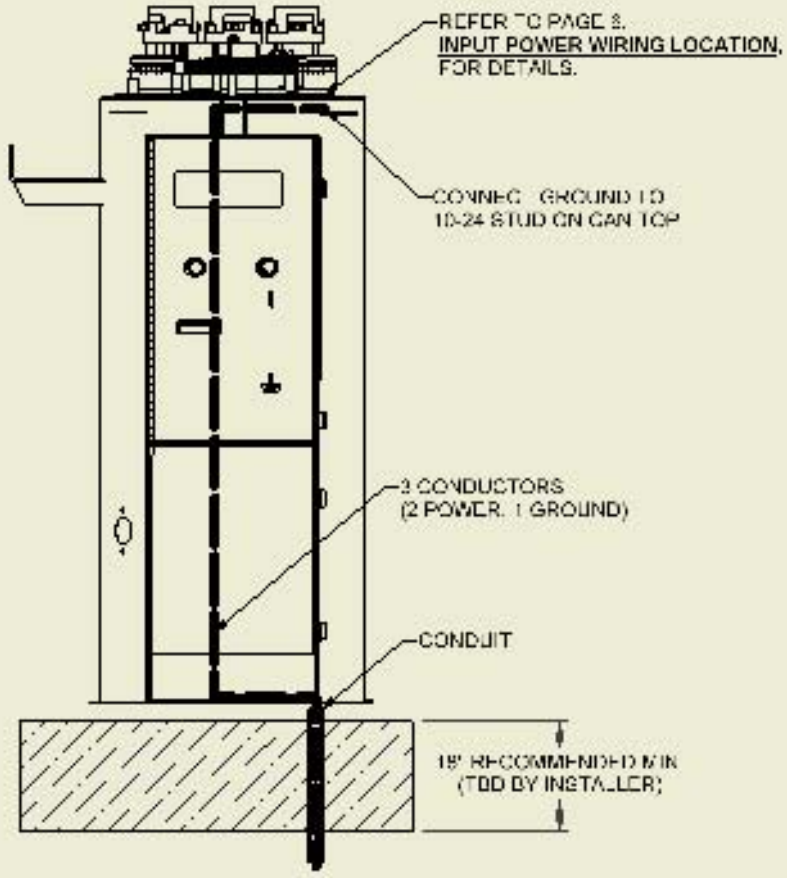
MOUNTING BOLT LOCATIONS



OVERALL DIMENSIONS

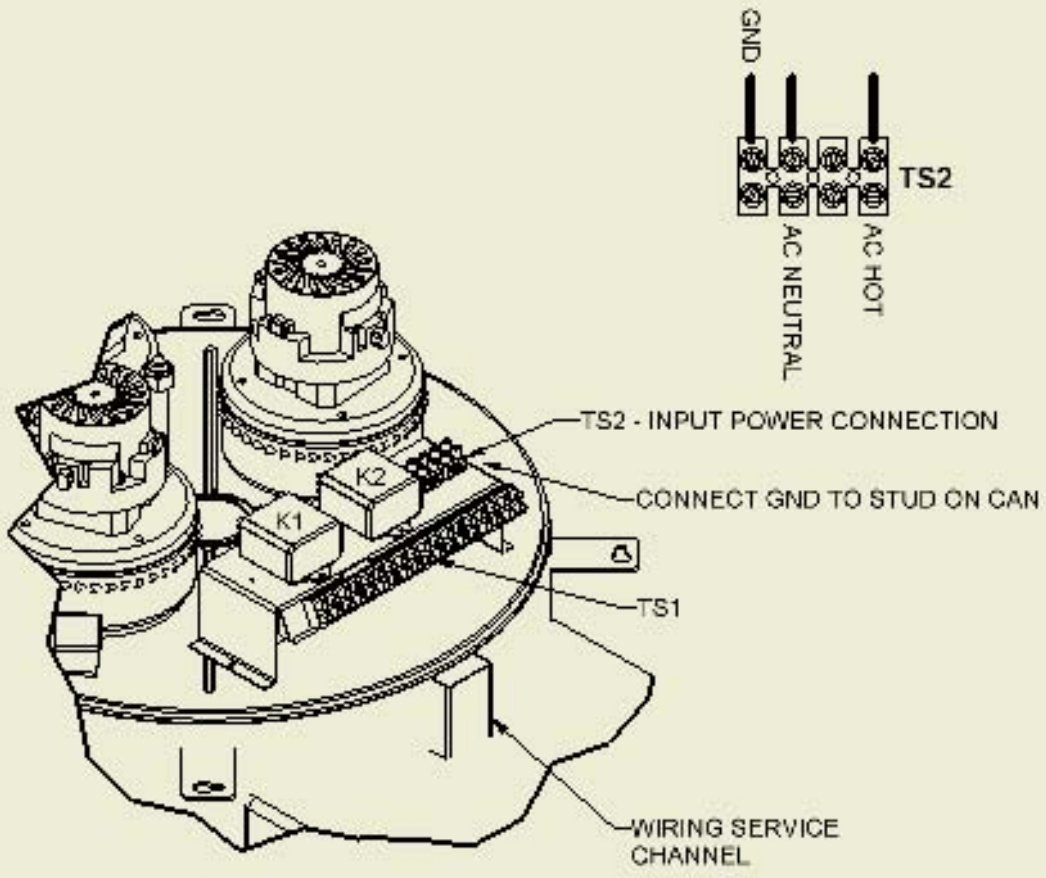
INSTALLATION FOOTPRINT

STANDARD INSTALLATION



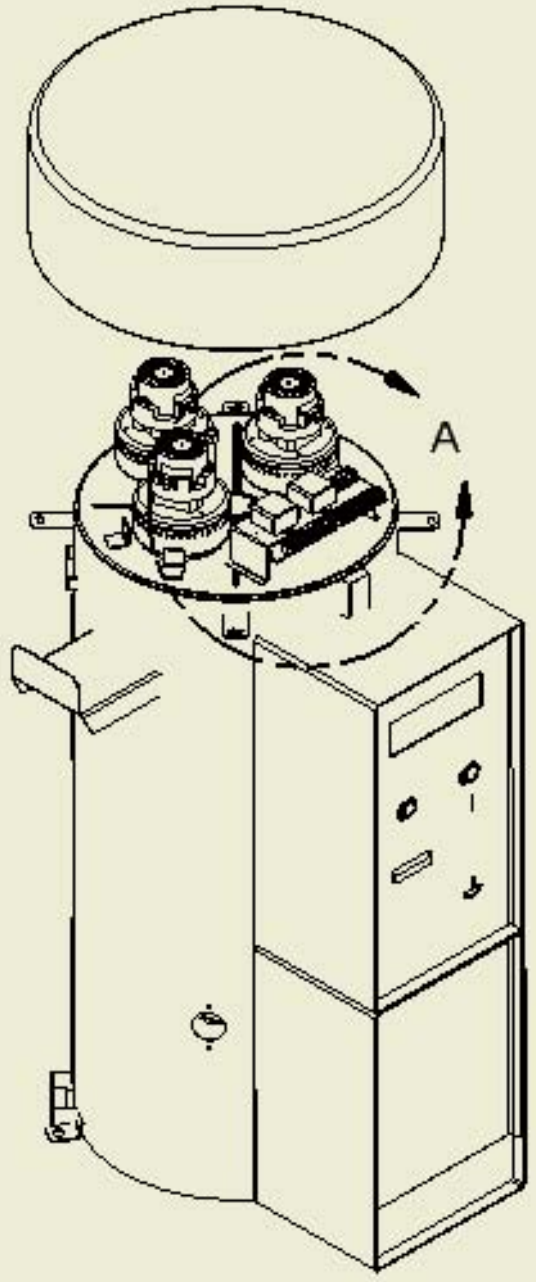
NOTES:

1. **IT IS HIGHLY RECOMMENDED** THAT THIS UNIT BE INSTALLED BY A LICENSED ELECTRICIAN. THIS WILL INSURE ALL NATIONAL AND LOCAL ELECTRICAL CODES ARE ADHERED TO.
2. AFTER ELECTRICAL SERVICE HAS BEEN SUPPLIED, APPLY POWER TO THE UNIT.
3. CHECK THE DISPLAY FOR CORRECT OPERATION.
4. PROGRAM THE DISPLAY MESSAGES AND TIME/PRICE SETTINGS AS REQUIRED.



DETAIL A

NOTE: TS1 INTERCONNECT WIRING NOT SHOWN



INPUT POWER WIRING LOCATION

Display programming with remote:

1) Press the red power button.
2) Timer will display 0000. At this time type in 4 digit access code. Note code will be 1234 until changed by customer.
3) Once code has been entered display should read ok. If display does not read ok, repeat step 1 and 2.
4) Press ***CH +*** button. Timer will display coin value. This should $.25 and should not be changed.
5) Press the ***CH +***button. Display will now read (***A: 30***) or may be a different time. (***A***) Will be the time per coin for the ***VAC***. Set desired time per coin by using the ***VOL –*** to decrease or the ***VOL +*** to increase. Once time is entered move to next step.
6) Press the ***CH +*** button. Display will now read (***B: 30***) or may be different time. (***B***) Will be the time per coin for ***TURBO***. Set desired time per coin by using the ***VOL –*** to decrease or the ***VOL +*** to increase. Once time is entered move to next step.
7) Press the ***CH +*** button. Display will now read ***C***. ***C*** is not use.
8) Press the ***CH +*** button. Display will now read ***D***. ***D*** is not use.
9) Press the ***CH +*** button. Display will now read ***E***. ***E*** is not use.
10) Press the ***CH +*** button. Display will now read ***F***. ***F*** is not use.
11) Press the ***CH +*** button. Display will now read (on A). This is the number of coins to start ***VAC.*** Use the ***VOL –*** and ***VOL +*** to adjust. Once this is done press the ***CH+*** button and repeat for (B) ***TURBO.***
12) Press the **CH +** button. Display will read bonus time. Set if desired. See explanation at the end programming instructions.
13) Press the ***CH +*** button. Display will debit mode. Set if desired. See explanation at the end programming instructions.
14) Press the ***CH +*** button. Display will delayed start. Set if desired. See explanation at the end programming instructions.
15) Press the ***CH +*** button. Display will read ***HLxx***. Set if desired. See explanation at the end programming instructions.
16) Press the ***CH +*** button. Display will read Restart off or restart on depending on what is set. Restart off will require a person to put in full amount after unit is turned off to reactivate. Restart on allows for additional coins to be put in the machine to keep unit running. To set use ***VOL –*** or ***VOL +*** to change.
17) Press the ***CH +*** button. Display will now read ***STD*** or ***USER*** or ***MIX***. To make a custom message use ***VOL +*** button to scroll to USER. At this point press and hold ***CH +*** button until original message appears. At this time you may change the message simply by using the ***VOL –*** or ***VOL +*** buttons to change letters. ***Once message has been entered you must put the symbol / at the end of message.*** This will tell display that this is the end of the message.
18) Press the ***CH +*** button now 5 more times to exit programming.
19) Unit should now be programmed.

Program definitions:

- Bonus time settings:
  - Amount of time set in bonus time is added to regular time per coin/pulse(e.g. if you want to give 45 seconds for bonus time and your regular time per coin is 30 seconds, you would set bonus time at 00:15)
  - Bonus is disabled by setting bonus time to 00:00.
  - If bonus time is set to less than one minute, bonus time is added when bonus coin is reached and every coin after that until time expires.
  - If bonus time is set at 1:00 or more, bonus will be a “one time” bonus. Bonus time will only be added for bonus coin or multiplies of bonus coin (e.g. 16th coin, 32nd coin, etc). Any other coin will on receive regular time per coin.
  - If bonus time is set to 99:00, when bonus coin is deposited, timer will show “-on-“ and timer will continue to run until coin switch wire is shorted to ground by a loop detector or other switch closure for a minimum of two seconds.

- Debit and credit mode:

- Debit mode: As coins are deposited display shows “$1.75 MORE, $1.50 MORE, $1.25 MORE” etc. until start price is reaches. Once start price is reached display switches to time accumulating until no more coins have been deposited.
- Credit mode: As coins are deposited display shows money accumulating ($.25, $.50, $.75 etc). If timer is also set to delayed start mode timer will continue to show money accumulating until no more coins have been deposited. If timer is set to instant start, as soon as start price is reached, timer will change to time counting down.
- Both mode: As coins are deposited display shows money accumulating ($.25, $.50, $.75 etc). If start price is not reached, after 5 seconds timer will alternate between “add $x.xx more” and amount of money already deposited.

Display programming with push button:

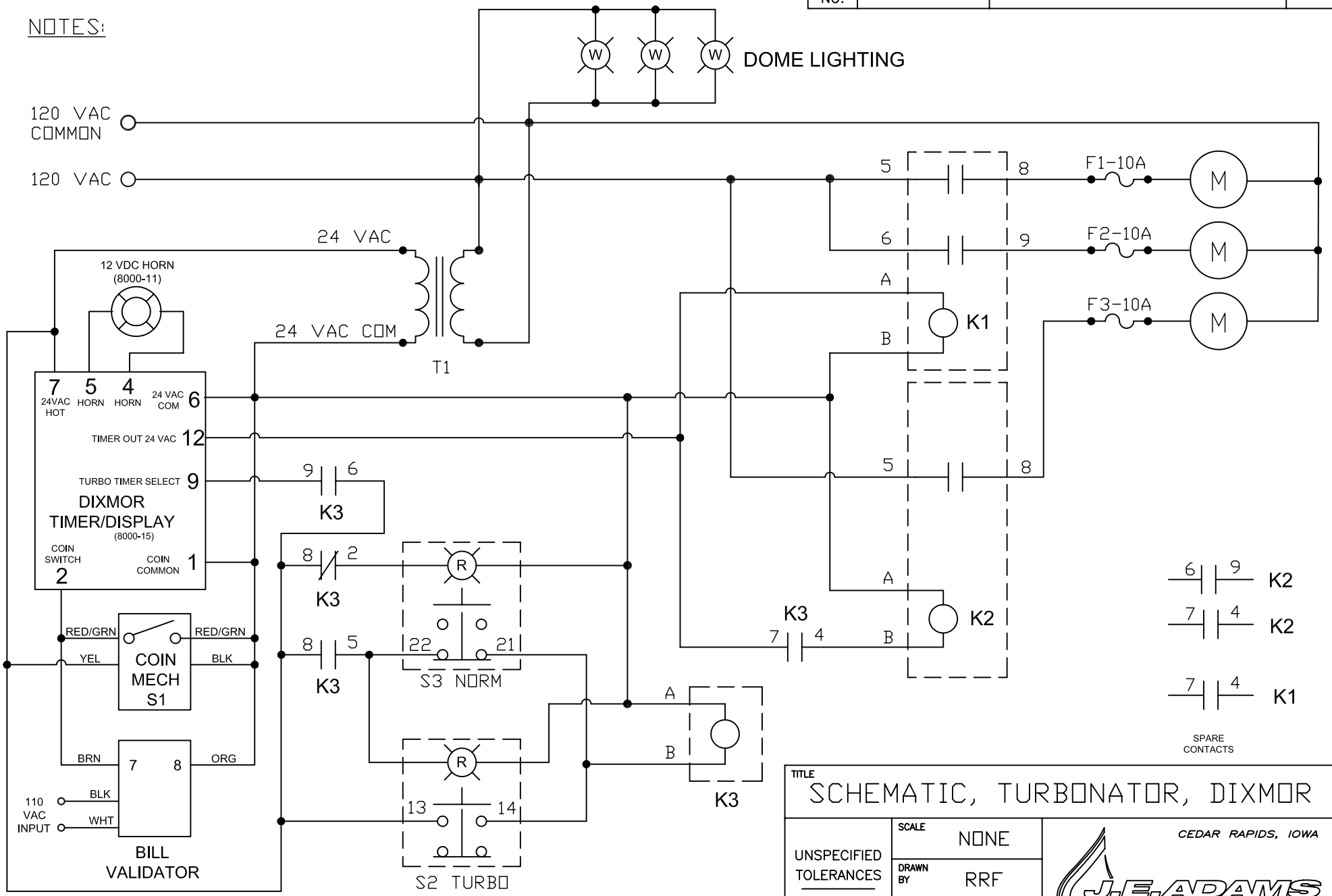
- Unit can be programmed using buttons that are located inside display. One is labeled ***S2***, which is used to change from item to item. One is labeled ***S1*** which is used to set desired value. If you hold down ***S1*** this will cause numbers to decrease. If you repeatedly push ***S1*** numbers will increase.
- When programming with buttons use same instructions as remote except for the following. Where it says to press ***CH +*** use ***S2*** and where it says to use ***VOL +*** or ***–*** use ***S1***.

PART NO. S20000-1B

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY.

NOTES:



TITLE: SCHEMATIC, TURBONATOR, DIXMOR

UNSPECIFIED TOLERANCES
FRACT. ±1/32
2 PL ±.020
3 PL ±.010
ANGLE ±1.0°

SCALE: NONE
DRAWN BY: RRF
DATE: 7/14/05
REL. FOR PROD.

CEDAR RAPIDS, IOWA
J.E. ADAMS INDUSTRIES, LTD

PART NO. S20000-1B
REV.

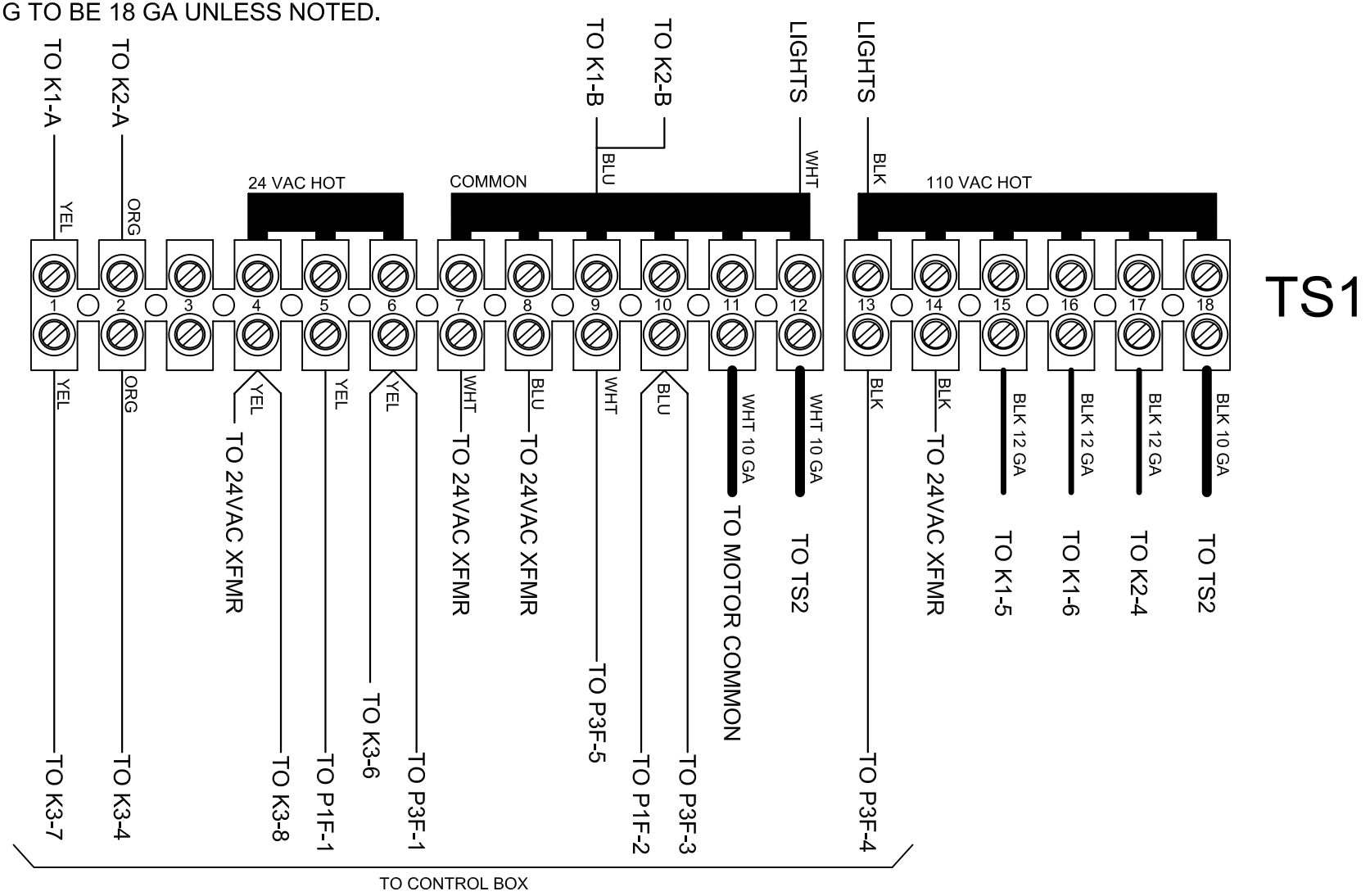
REV	NO.	DESCRIPTION	DATE	BY

PART NO.	
S20000-2B	

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY.

NOTES:
1. ALL WIRING TO BE 18 GA UNLESS NOTED.



TITLE
WIRING LAYOUT, TS1 TERMINALS

REV	NO.	DESCRIPTION	DATE	BY

UNSPECIFIED TOLERANCES
FRACT. ±1/32
2 PL ±.020
3 PL ±.010
ANGLE ±1.0°

SCALE N/A
DRAWN BY RRF
DATE 14 JUL 05
REL. FOR PROD.

CEDAR RAPIDS, IOWA
J.E. ADAMS INDUSTRIES, LTD

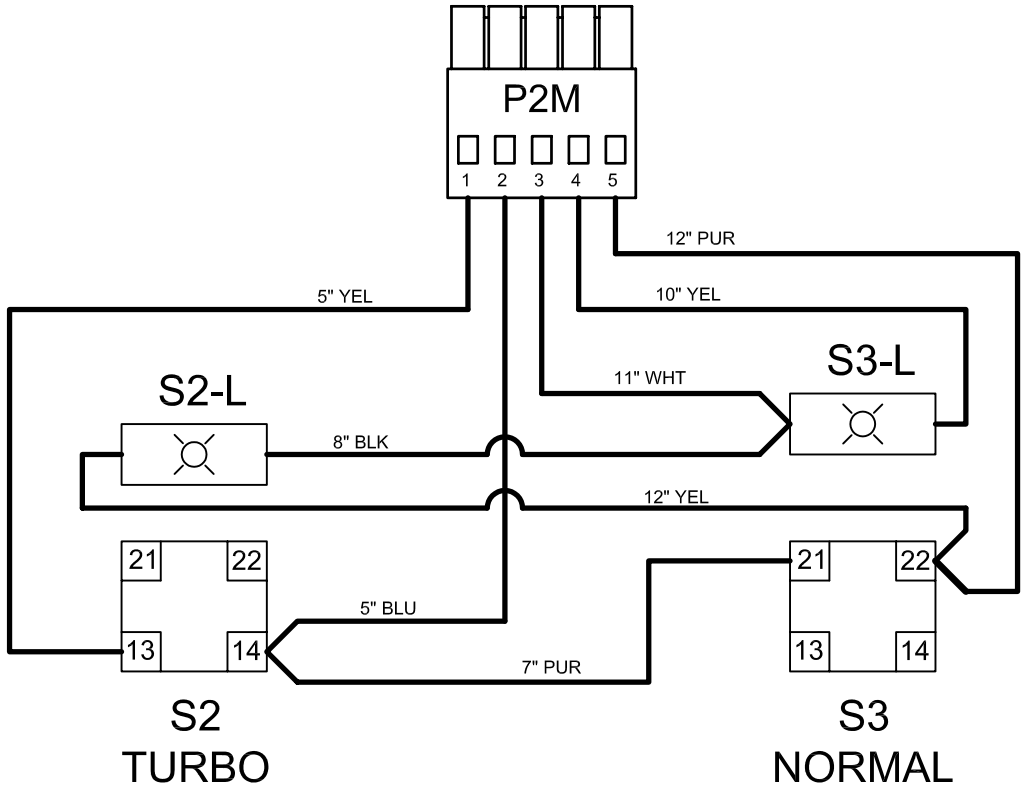
PART NO. S20000-2B
REV.

PART NO. S20000-4B

NOTES:
1. ALL WIRING TO BE 18 GA UNLESS NOTED.

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY.
			1



REV	NO.	DESCRIPTION	DATE	BY

TITLE: SWITCH WIRING, TURBO VAC

UNSPECIFIED TOLERANCES
FRACT. ±1/32
2 PL ±.020
3 PL ±.010
ANGLE ±1.0°

SCALE: NONE
DRAWN BY: RRF
DATE: 7/14/05
REL. FOR PROD.:

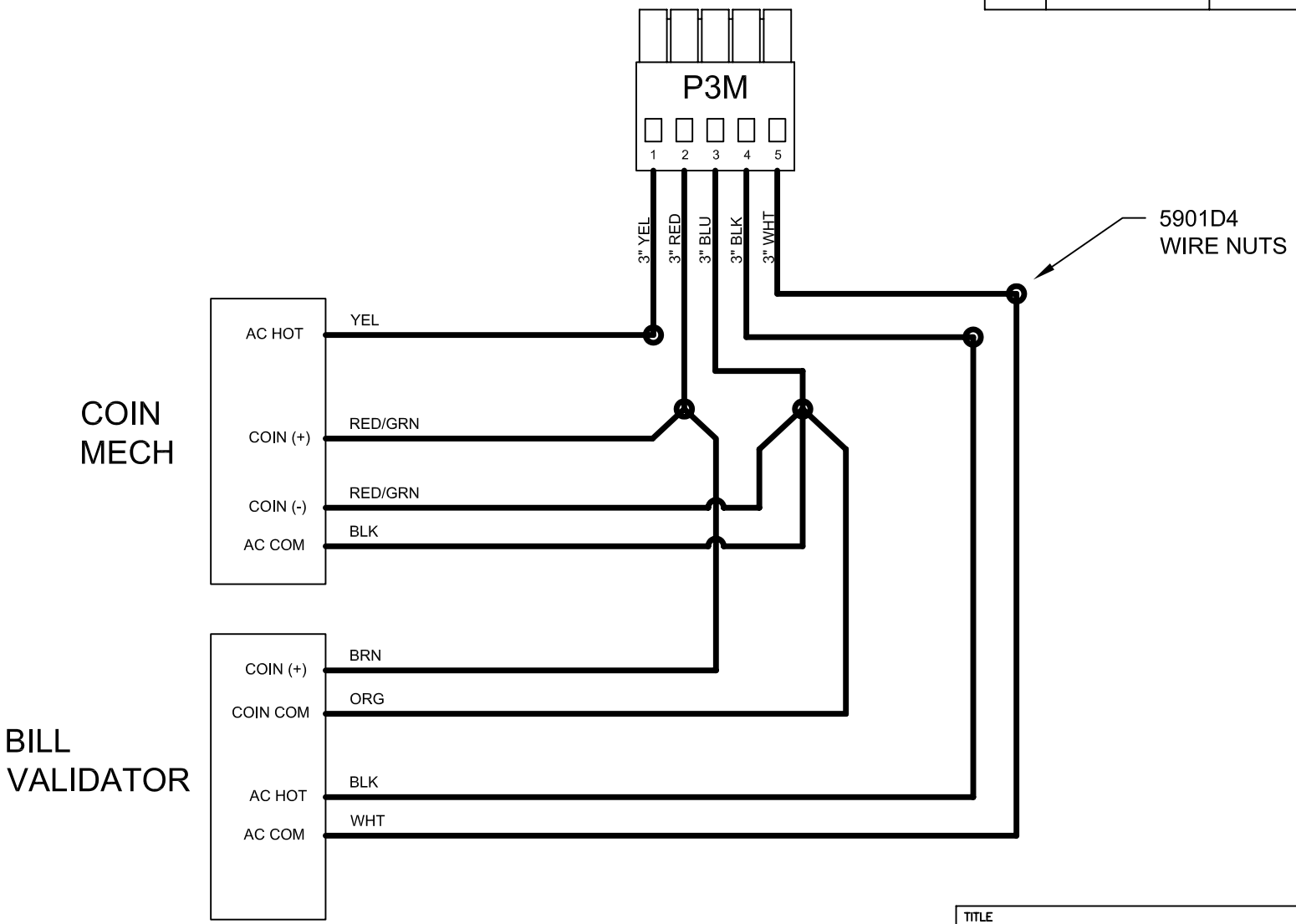
CEDAR RAPIDS, IOWA
J.E. ADAMS INDUSTRIES, LTD

PART NO. S20000-4B
REV.

PART NO. S20000-5B

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY.



TITLE
VALIDATOR/ MECH WIRING, TURBO VAC

REV	NO.	DESCRIPTION	DATE	BY

UNSPECIFIED TOLERANCES
FRACT. ±1/32
2 PL ±.020
3 PL ±.010
ANGLE ±1.0°

SCALE NONE
DRAWN BY RRF
DATE 7/14/05
REL. FOR PROD.

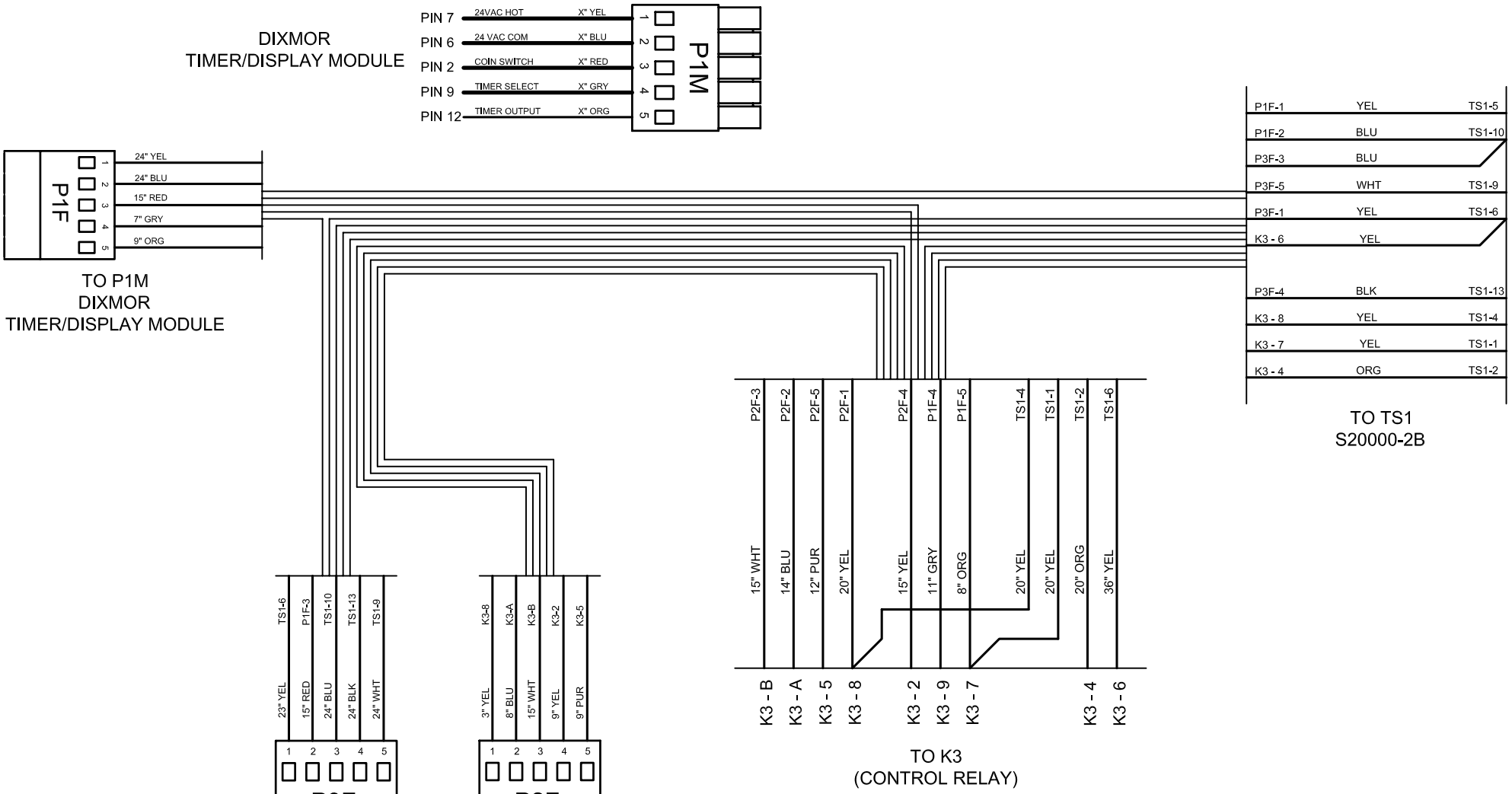
CEDAR RAPIDS, IOWA
J.E. ADAMS INDUSTRIES, LTD

PART NO. S20000-5B
REV.

PART NO. S20000-6B

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY.

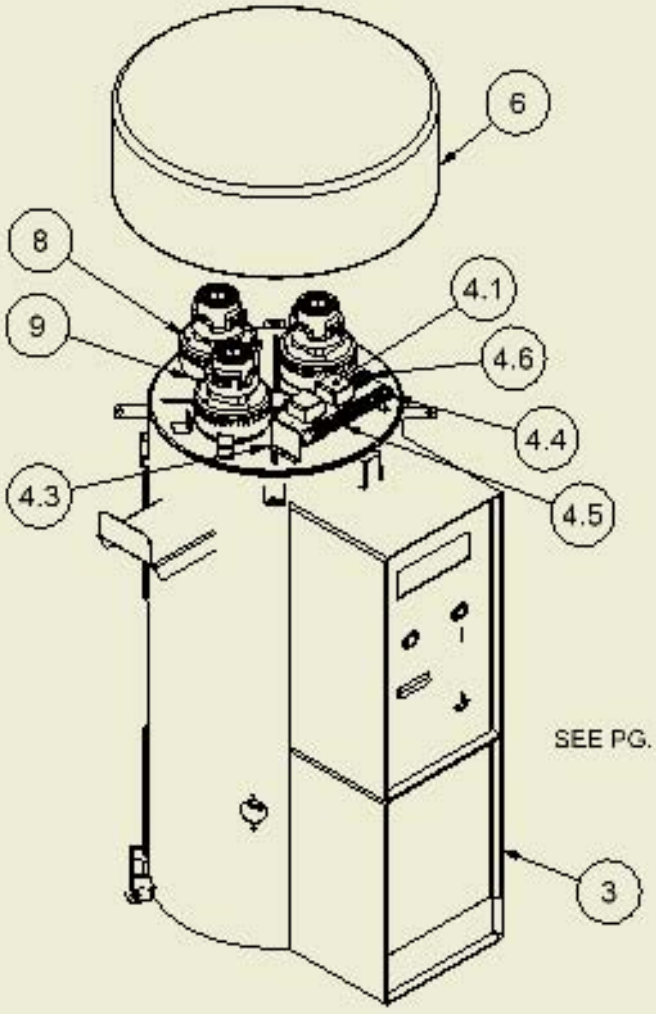


TITLE

MAIN WIRE HARNESS, TURBO VAC

UNSPECIFIED TOLERANCES FRACT. ±1/32 2 PL ±.020 3 PL ±.010 ANGLE ±1.0°	SCALE NONE DRAWN BY RRF DATE 7/14/05 REL. FOR PROD.	CEDAR RAPIDS, IOWA J.E. ADAMS INDUSTRIES, LTD PART NO. S20000-6B REV.

REV	NO.	DESCRIPTION	DATE	BY

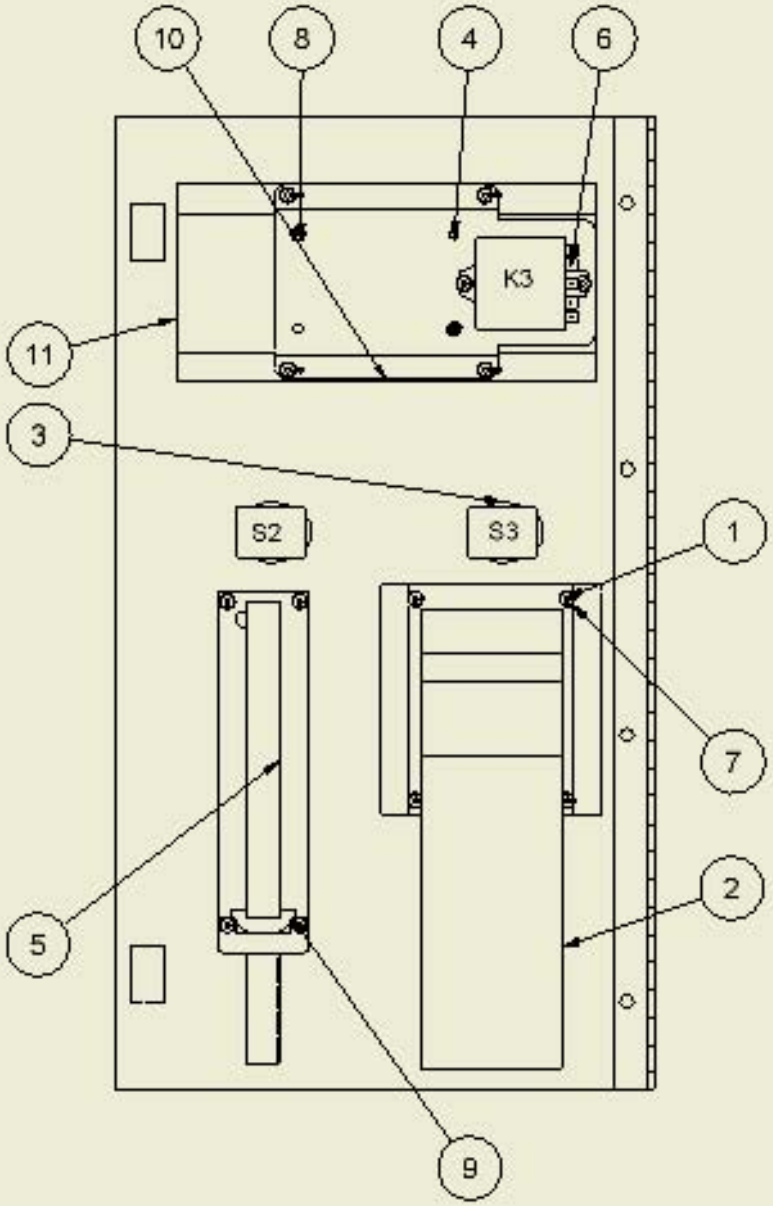


SEE PG. 14

BILL OF MATERIALS			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	20000W	CAN WELDMENT, TURBO VACUUM	1
3	20000-5W	WELDMENT, DOOR, COIN BOX	1
* 4.1	8131-2	TRANSFORMER, 110/220-24 1.66A	1
4.2	8761	RELAY, DPDT-24VAC-20A@1HP	2
4.3	20000-91	BRACKET, RELAY MOUNTING	1
4.4	5944D007	STRIP, TERMINAL, 35A, 12 POLE	1
4.5	5944D008	STRIP, TERMINAL, 35A, 6 POLE	1
4.6	5944D009	STRIP, TERMINAL, 35A, 4 POLE	1
4.5	5944-6	ELECTRICAL JUMPER, COPPER	2
4.11	5944-3	ELECTRICAL JUMPER, COPPER	1
4.12	8000-11	ALARM, LAST COIN ALERT	1
* 5	8953	MEDECO CAM LOCK W/2 KEYS	4
6	8306	DOME, PLASTIC	1
* 7	8659-24	LOCK COLLAR -SS	4
8	8055	MOTOR, AMETEK 115V	3
9	8057	MOTOR GASKET	3
* 10	8076	FILTER BAG	4
* 11	8051-3M	BRACKET, 3 MOTOR MOUNTING	1
* 12	2036	2" X 15' VAC HOSE, BLACK	1
* 13	2091	CUFF	1
* 14	2056 - BLACK	CLAW NOZZLE, BLACK	1
* 15	8159	GASKET, DOOR	2
* 16	B5996-010	FUSE, 10 AMP	3
* 17	B5997-001	HOLDER, FUSE	3
* 18	5603D11	NUT, MOTOR MOUNT	1
* 19	8615-7	INLET TUBE	1
20	20000-7A-1	ASSEMBLY, CONTROL DOOR	1

(*) = ITEMS NOT SHOWN IN DIAGRAM

GENERAL PARTS LIST



BILL OF MATERIALS			
ITEM	PART NUMB	DESCRIPTION	QTY
1	20000-3W-1	WELDMENT, DOOR, CONTROL BOX	1
2	8130-9	MARS 110V BILL VALIDATOR	1
3	20000-72A	SWITCH, ILLUMINATED PUSHBUTTON	2
4	20000-92W-1	WELDMENT, TIMER BRACKET	1
5	8131-11	COIN ACCEPTOR, IDX MA800	1
6	8761	RELAY, DPDT-24VAC-20A@1HP	1
7	8157	NUT, #6-32 KEPP NUT STAINLESS	14
8	5629D2	#8 x 1/2 SELF TAPPING SCREW	2
10	29000-34	LEXAN WINDOW	1
11	8000-15	BIG DIXMOR DISPLAY	1
*12	20000-74	BULB, GE NO. 757	2

(*)= ITEMS NOT SHOWN IN DIAGRAM

CONTROL DOOR PARTS LIST

MAINTENANCE

- SHAKE THE DIRT FROM THE FILTER BAGS. WE RECOMMEND DOING THIS WEEKLY AND, IF POSSIBLE, MACHINE WASHING THE BAGS MONTHLY.

- REMOVE DIRT AND DEBRIS FROM THE CANISTER AS REQUIRED.

- CHECK THE VAC HOSE AND NOZZLE FOR SIGNS OF WEAR OR DAMAGE AND REPLACE THEM AS NEEDED.

- CLEAN THE OUTSIDE PORTION OF THE CANISTER WITH A STAINLESS STEEL POLISH. DO NOT USE ANY ABRASIVE CLEANERS, STEEL WOOL OR ANY KIND OF BRUSH TO CLEAN THE EXTERIOR. THIS COULD POSSIBLY SCRATCH OR DAMAGE THE FINISH OF THE CANISTER.

- MILD SOAP AND WATER MAY BE USED TO CLEAN THE DECALS. DO NOT USE ANY HARSH OR ABRASIVE CLEANERS OR THE DECAL SURFACE MAY BE DAMAGED.

TO CHANGE THE BULBS IN THE PUSHBUTTON SWITCHES:

1. USING A SMALL SCREWDRIVER, GENTLY PRY THE MOLDED IN RETAINING CLIPS ON THE SWITCH BODY AWAY FROM THE HOUSING, WHILE GENTLY PULLING IT REARWARD. DO THIS FOR ONE SIDE FIRST, THEN THE OTHER TO RELEASE THE SWITCH BODY.

2. REMOVE THE OLD BULD AND REPLACE WITH A NEW BAYONET STYLE BULB (GE 757 OR EQUIVALENT).

3. LOCATE THE SWITCH BODY BACK IN THE HOUSING AND ALIGN THE CLIPS ON BOTH SIDES, GENTLY PUSHING THE BODY FORWARD TO SNAP IT BACK INTO PLACE.