

ELECTRIC LOCK MANUAL

GYRO-TECH ELECTRIC LOCK

ELECTRIC LOCK MANUAL 155225

ELECTRIC LOCK MANUAL

This manual shall cover the New Electric Lock and New Electric Lock Module. This New Lock Module, supplied by Lanson Electronics, is the control center for the Electric Lock.

Take a moment to review ALL materials in this manual before beginning an installation. ALL questions You may have should be answered thru either, the drawings or the instructions. Once You have reviewed these materials, You will get a clear picture of how the system operates.

The manual will cover ALL phases of the Electric Lock from, retro fitting an old system, to a new factory installation. By reviewing the Block Diagram, You will see how easy trouble shooting any problems will be, if that need ever arises.

ELECTRIC LOCK MANUAL 155223

ELECTRIC LOCK

A Gyro Tech Electric Lock consists of:

A Direct Current, 24V Solenoid with a return spring especially designed to use with the 1/2" steel plunger. This assembly is mounted to a 1/4" thick aluminum mounting plate.

The plunger rests between a stop rest block made of a 1/2" thick aluminum block and a specially designed Delrin Flipper.

NOTE: The Electric Lock is designed to LOCK the Slide function only. If the Panic Breakaway is required to be Locked in addition to the Slide function - contact the Sales department at Gyro Tech 414 879 0045

FAIL SECURE

A Fail Secure Electric Lock will utilize a DC solenoid that will retract when energized, "power applied" and will set the plunger in place to lock under spring tension when de-energized.

A Fail Secure Electric Lock, when used with a system 1100 Whisper Slide will function in this manner. A solid state Lock Module will provide all logic functions to the Electric Lock. The Module will disconnect the Holding Beams when the system is locked, change 24 VAC to 24 VDC, supply a hold open time delay feature, and supply terminal connections for all input and output devices.

1) The DC Solenoid and Flipper mechanism will be mounted Horizontally in the Slide Header, parallel to the travel of the Door(s).

2) A 1/2 inch thick Stainless Steel Hex Door Carrier Locking Bolt will be attached to the Door Carrier and will protrude perpendicular to the locking Flipper.

3) When the 1/2 inch Steel Solenoid Plunger is in the Lock mode, De-energized (no power applied), the Carrier Lock Bolt will be captured by the locking flipper.

4) When an Activation signal is received by the Lock Module, the Solenoid Plunger will retract under "power", once the Plunger has cleared and a half second delay, the Door(s) will begin to open.

5) Once the Closing Cycle is fully completed and the Door Carrier locking Bolt is again under the Flipper, the Door magnet will have activated a Door Closed Monitoring proximity switch that will signal the Lock Module to "release power" to the Solenoid.

After a half second delay, to ensure proper alignment, the Flipper will capture the Door Carrier locking Bolt in place.

FAIL SAFE

A Fail Safe Electric Lock will utilize a DC solenoid that will retract under spring tension when "power" is DE-energized and will set the plunger in place to lock when the "power" is applied to the solenoid.

A Fail Safe Electric Lock, when used with a system 1100 Whisper Slide will function in this manner. A Solid State Lock Module will provide all logic functions to the Electric Lock. The Module will disconnect the Holding Beams when the system is locked, change 24 VAC to 24 VDC, supply a hold open time delay feature, and supply terminal connections for all input and output devices.

1) The DC Solenoid and Flipper mechanism will be mounted Horizontally in the Slide Header, parallel to the travel of the Door(s).

2) A 1/2 inch thick Stainless Steel Hex Door Carrier Locking Bolt will be attached to the Door Carrier and will protrude perpendicular to the locking Flipper.

3) When the 1/2 inch Steel Solenoid Plunger is in the Lock mode, Energized (power applied), the Door Carrier lock Bolt will be captured by the locking flipper.

4) When an Activation signal is received by the Lock Module, the Solenoid Plunger will retract under spring tension, once the plunger has cleared and a half second delay, the Door(s) will begin to open.

5) Once the Closing Cycle is fully completed and the locking Bolt is again under the Flipper, the Door magnet will have activated a Door Closed Monitoring proximity switch that will signal the Lock Module to "power" the Solenoid forward. After a half second delay, to ensure proper alignment, the Flipper will capture the Door Carrier locking Bolt in place.

FIELD RETRO FITTING

Changing the old control system to the NEW Lock Module is very easy and will take very little time if ALL materials in this Manual are read before beginning any installation.

The New Lock Module has been designed to simplify installation and improve the operation of the Electric Lock. Several componets are no longer necessary and will be removed from the system.

COMPONENTS TO BE REMOVED

- 1) The Lock Adaptor
- 2) The Lock Harness
- 3) The Solenoid Harness
- 4) The Control Switch - located at back of Plunger

COMPONENTS TO REMAIN

- 1) The Electric Lock
- 2) The Proximity Switch
- 3) The Transformer

REMOVING ITEMS 1 thru 4

1) Disconnect and remove the lock adaptor. This adaptor (blue box with plug in relay) is located by the control box ALL harnesses should be pulled out and the adaptor removed from the Header.

2) Disconnect the Harness that runs from the lock adaptor to the electric lock. Save the wires and reuse them to make any new connections that will follow removal.

3) Disconnect and remove these wires from the Solenoid harness. Remove, by cutting the four (4) wires going to the little black switch (control switch) located at the back of the plunger. Do not remove the White Delrin block. This block will be used as a stop block to limit the plunger travel. Remove, by unplugging ALL wires connected to the Rectifier (black junction block on mounting plate). Leave the two (2) black wires connected to the solenoid, they will be used to reconnect the Lock. Unplug the rest of the Harness from the proximity switch plug. Save this plug, it can be reused to reconnect the switch.

CONNECTING NEW MODULE

To make ALL connections review the enclosed drawings. Use thoughts drawings that You will need to hook up Your particular system. Each variation has been covered by seperate drawings. If You should not see a drawing that will cover Your application please call the Sales department before beginning Your installation and Factory assistance will be provided.

INSTALLATION OF LOCK MODULE

Place the Module in close proximity to the Electric Lock. Using the mounting plate as a template, mark for drilling.

CAUTION: Remove the Module before any drilling is done, chips will cause extensive damage to the circuits.

Begin connections by hooking each indivigual component part one at a time. Varify each connection before going on to the next. This will help in avoiding incorrect connections. If possible follow the Factory color coding for wires.

NOTE: If You already have Motion detectors on a seperate transformer, leave that connection alone. Install only the Normally Open and Common wires to the Lock Module.

ELECTRIC LOCK MANUAL

By FIRST reviewing the materials covered in this MANUAL, setting up and operating the GYRO TECH Electric Lock, will be a simple, easy to understand procedure.

First let us refer to the Lock Module Block Diagram.

1) Apply power by connecting a 24 Volt 40VA or more transformer secondary to the Terminals, TB1 pins #1 and #2. This AC voltage will be converted to DC by means of an internal Full Wave Bridge Rectifier.

2) Installation of any kind of closing set of contacts is done by attaching tototerminals, TB1 -pins #3 and #4. When the activating device contacts close, a signal is picked and held by the Lock Module for a time which is adjustable. K1 will pull in and stay that way until it times out. To adjust this time, simply turn the timing pot until You have reached the desired time. TB2 - pins #13 and #15 will be the out put.

3) Connect TB2- pins #13 and #15 to the Automatic Control Box of Your system. For a GYRO TECH system connect to the Mat harness leads from the control box.

4) To lock the Lock, connect a switch that will send a signal, a closed set of contacts, to TB1 - pins #5 and #12. For a GYRO TECH system, a proximity switch is used. When the switch comes in close proximity of it's companion Magnet, the contacts will close activating the Lock Module time delay. After a short delay, approx. 1/2 second, the Lock will lock.

SOLENOID CONNECTIONS

Connection of a DC solenoid will be discussed in this section. The terminals of the solenoid must be connected to the TB2 side of the Lock Module. One side of the solenoid connections will go to TB2 -pin #14, this will be the LOW side of the 24VDC supply. The other side of the solenoid will connect to either TB2 -pin#6 or #7. These terminals will be the HIGH side of the 24VDC supply.

5) K2 RELAY. Connect the Solenoid terminals to the TB2 terminals of the K2 relay. You will notice that K2 has several sets of contacts. Lets briefly review these now.

Pins #6 and #7 These terminals control the DC power to the Lock Solenoid. Connect a Fail Secure solenoid to the contact that releases when "picked" pin #6. Connect a Fail Safe solenoid to the contact that closes when "picked" pin #7.

The other sets of contacts will work in conjunction with the "pick" and "release" functions of the relay. Any device that needs to be switched "in" or "out" with the LOCK can be connected to this relay ie..Holding Beams, indicator lights and sonic alarms.

6) K3 RELAY This relay can be used as an Auxilliary relay to perform any function you desire. It has been placed on the board for use with an Access Control Panel manufactured by GYRO TECH.

When using the Lock Module in conjunction with a GYRO TECH Electric Lock and Sliding Door Package, review the rest of the drawings. Each drawing will inform you of how to connect and trace the operation of ALL componet parts of a complete system.

REVISIONS		DATE
1 ERN 413		2-10-86

ELECTRIC LOCK

SOLID STATE LOCK MODULE

TRANSFORMER

CONTROL BOX

DOOR POSITION SWITCH

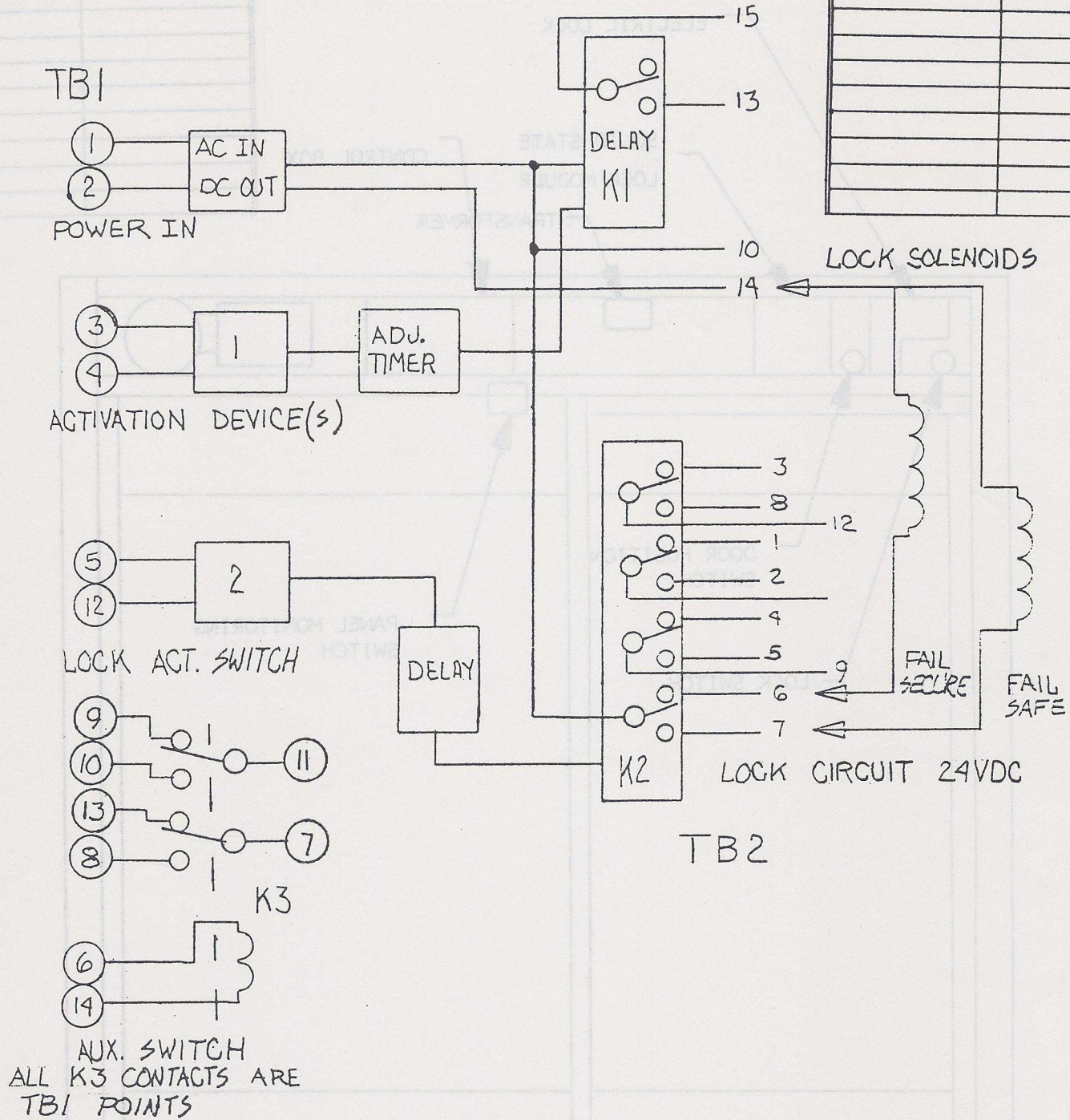
LOCK SWITCH

PANEL MONITORING SWITCH

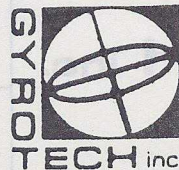
DATE: 1-17-86	PART NAME: DEVICE LOCATIONS
SCALE:	MATERIAL:
DRAWN BY: LOBOE	SPECIFICATIONS: REPRESENTATIONS ONLY
APPROVED BY:	
TOLERANCES (UNLESS NOTED)	GYRO TECH inc.
FRACTIONAL . . . ± 1/64	
XX ± .010	
XXX ± .005	
ANGLES ± 1/2°	DRAWING NO.
	PART NO. 155200

CONTROL BOX ACTIVATION

REVISIONS	DATE
ΔERN 413	2-10-86



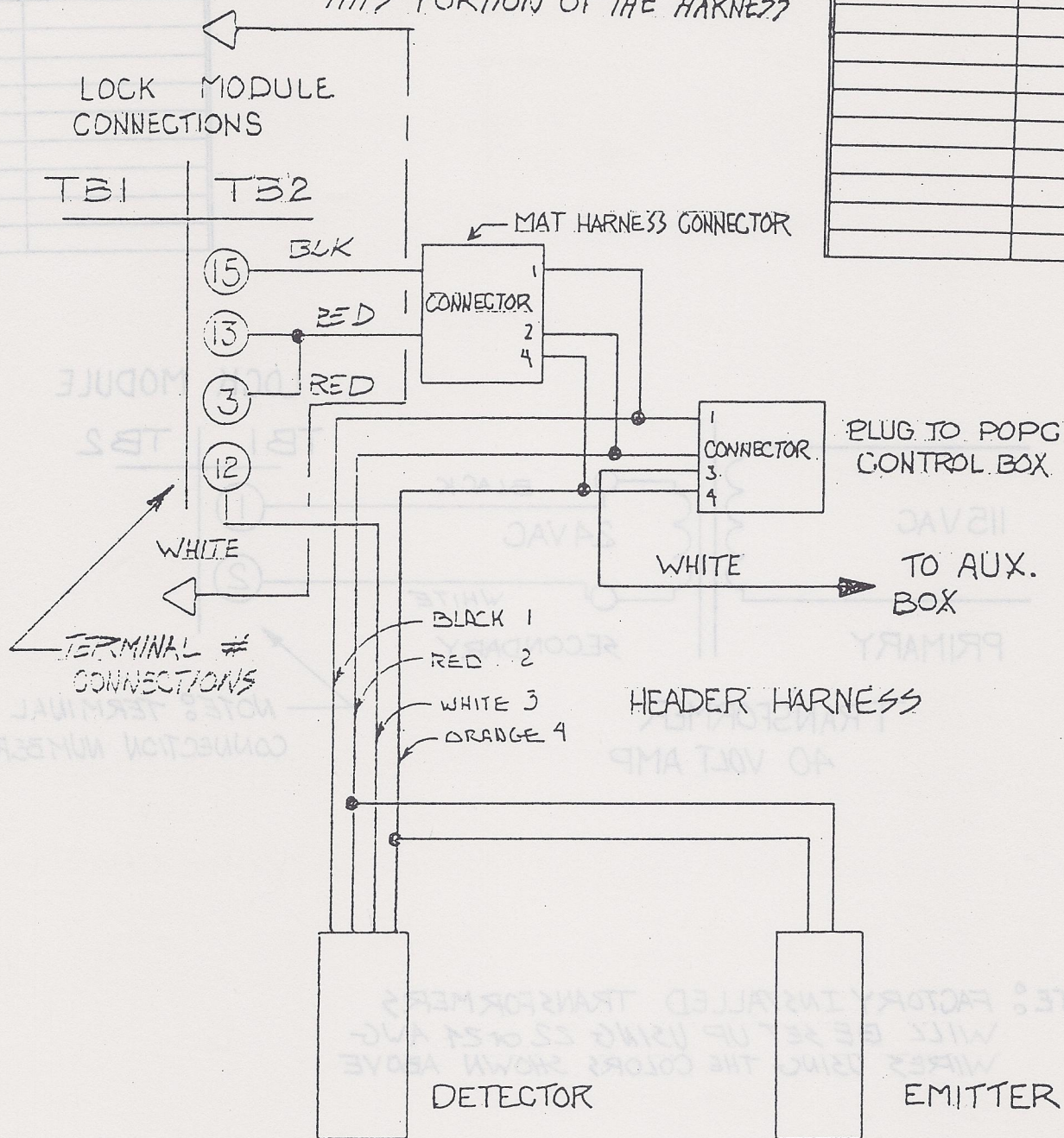
DATE: 1-17-86	PART NAME: LOCK MODULE BLOCK DIAGRAM	
SCALE:	MATERIAL:	
DRAWN BY: LOBUE	SPECIFICATIONS:	
APPROVED BY: <i>ML</i>		
TOLERANCES (UNLESS NOTED) FRACTIONAL ... $\pm 1/64$ XX ... $\pm .010$ XXX ... $\pm .005$ ANGLES ... $\pm 1/2^\circ$	DRAWING NO.	
	PART NO. 155202	



GYRO TECH inc.

INSTALLER TO MANUFACTURE
THIS PORTION OF THE HARNESS

REVISIONS	DATE
VERN 413	2-10-86



DATE: 1-17-86

PART NAME: HEADER HARNESS CONNECTIONS

SCALE:

MATERIAL:

DRAWN BY: LOBUE

SPECIFICATIONS: USED WITH LOCK MODULE ONLY

APPROVED BY:

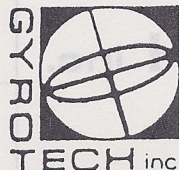
TOLERANCES
(UNLESS NOTED)

FRACTIONAL $\pm 1/64$

.XX $\pm .010$

.XXX $\pm .005$

ANGLES $\pm 1/2^\circ$

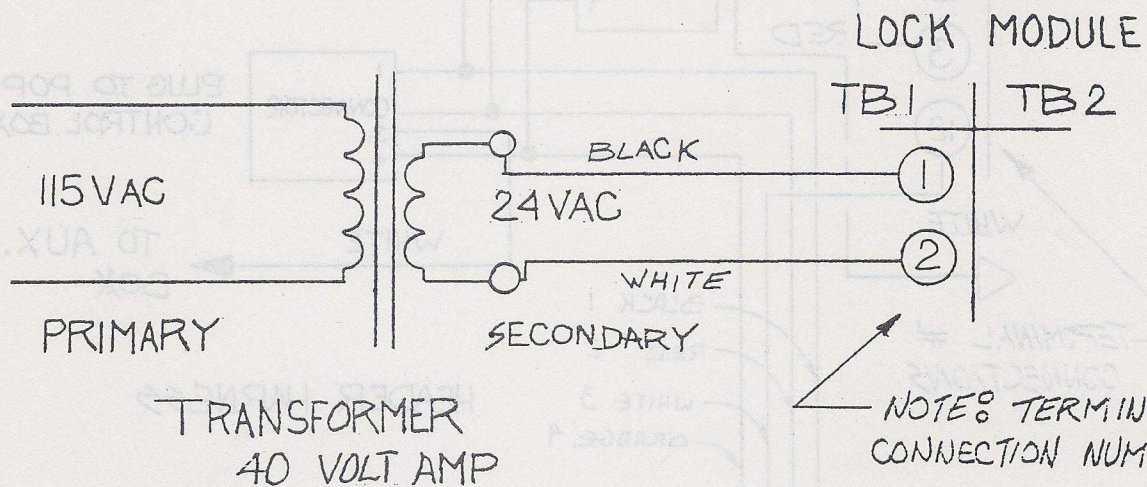


GYRO TECH inc.

DRAWING NO.

PART NO.
155206

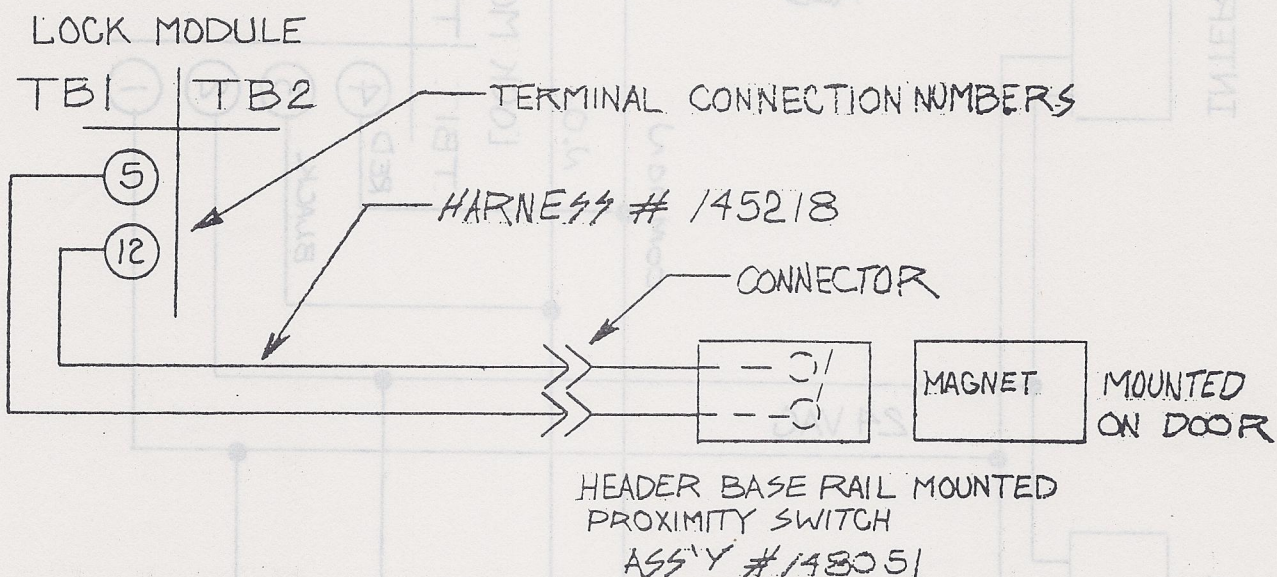
REVISIONS	DATE
1. REV 413	2-10-86




NOTE: FACTORY INSTALLED TRANSFORMERS
WILL BE SET UP USING 22 or 24 AWG
WIRES USING THE COLORS SHOWN ABOVE

DATE: 1-17-86	PART NAME: POWER CONNECTIONS - LOCK MODULE	
SCALE: 1"	MATERIAL:	
DRAWN BY: LOBUE	SPECIFICATIONS:	
APPROVED BY:		
TOLERANCES (UNLESS NOTED) FRACTIONAL ... $\pm 1/64$ XX ... $\pm .010$ XXX ... $\pm .005$ ANGLES ... $\pm 1/2^\circ$	 GYRO TECH inc.	DRAWING NO.
		PART NO. 155205

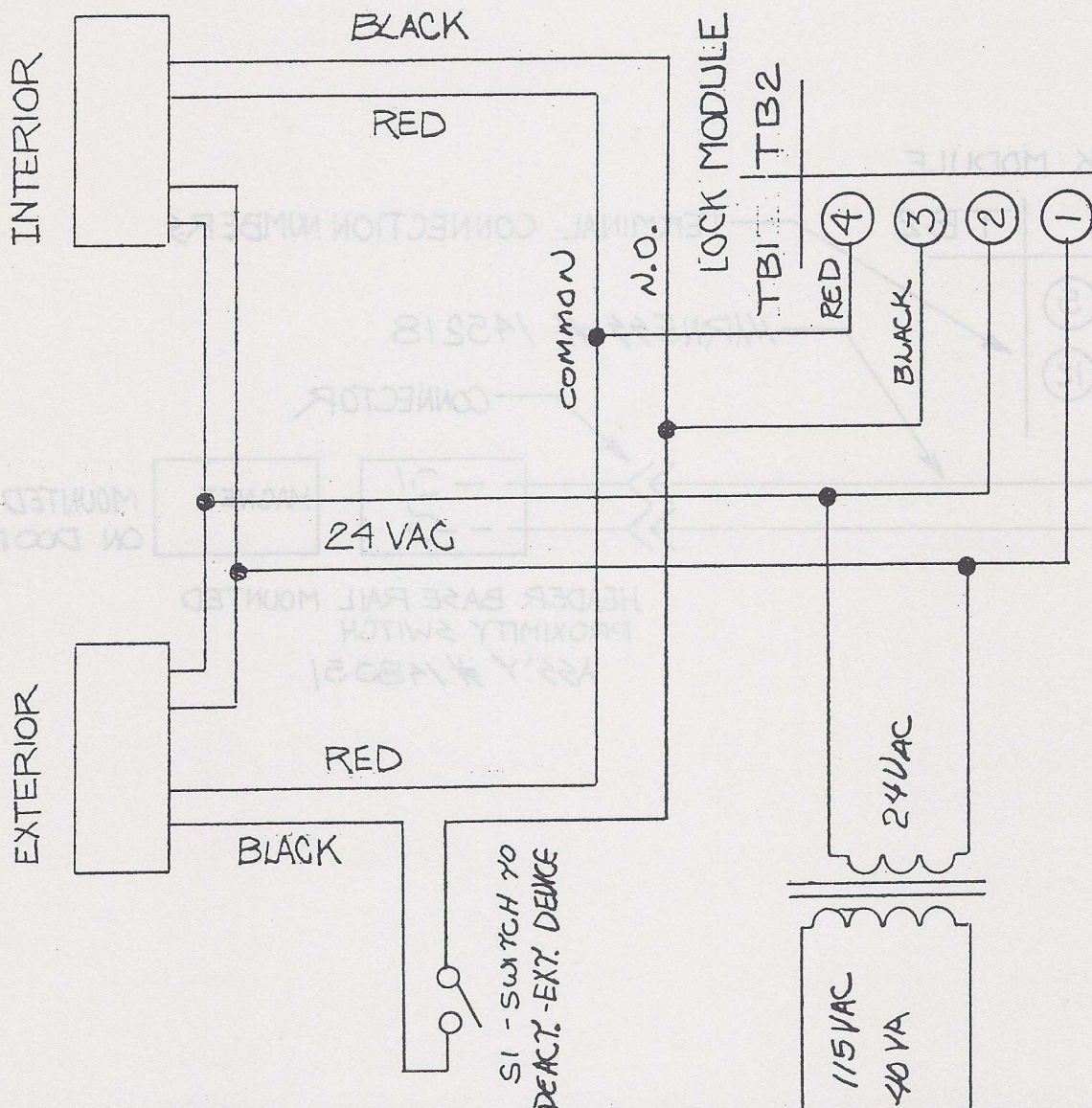
REVISIONS	DATE
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DATE: 1-17-86	PART NAME: LOCK SWITCH CONNECTIONS	
SCALE:	MATERIAL:	
DRAWN BY: LOBUE	SPECIFICATIONS:	
APPROVED BY:		
TOLERANCES (UNLESS NOTED) FRACTIONAL ... ± 1/64 XX ... ± .010 XXX ... ± .005 ANGLES ... ± 1/2°	 GYRO TECH inc.	DRAWING NO.
		PART NO. 155207

- 1) THIS A TYPICAL REPRESENTATION FOR GYRO TECH MOTION SENSOR - 24 V CONNECTIONS ARE NOT NECESSARY FOR WALL SWITCHES
- 2) INSTALLER MUST MANUFACTURE ALL HARNESSSES

REVISIONS	DATE
ΔERN 413	2-10-86



DATE: 1-17-86	PART NAME: MOTION DETECTOR CONNECTIONS	
SCALE:	MATERIAL:	
DRAWN BY: LOBUE	SPECIFICATIONS:	
APPROVED BY:		
TOLERANCES (UNLESS NOTED) FRACTIONAL ... $\pm 1/64$ XX ... $\pm .010$ XXX ... $\pm .005$ ANGLES ... $\pm 1/2^\circ$	 GYRO TECH inc.	DRAWING NO.
		PART NO. 155208

ELECTRIC LOCKS

This section will cover the different types and uses of the Locks.

Bill of Materials

- 1) Electric Lock
- 2) Lock Module
- 3) Proximity Switch
- 4) Transformer

Review these drawings :

FAIL SAFE LEFT HAND

FAIL SAFE RIGHT HAND and BIPARTS

FAIL SECURE LEFT HAND

FAIL SECURE RIGHT HAND and BIPART

A Fail Secure Electric Lock will lock the door when the Solenoid is De-energized. A Fail Safe Electric Lock will lock the door when the Solenoid is Energized.

INSTALLATION and SET UP

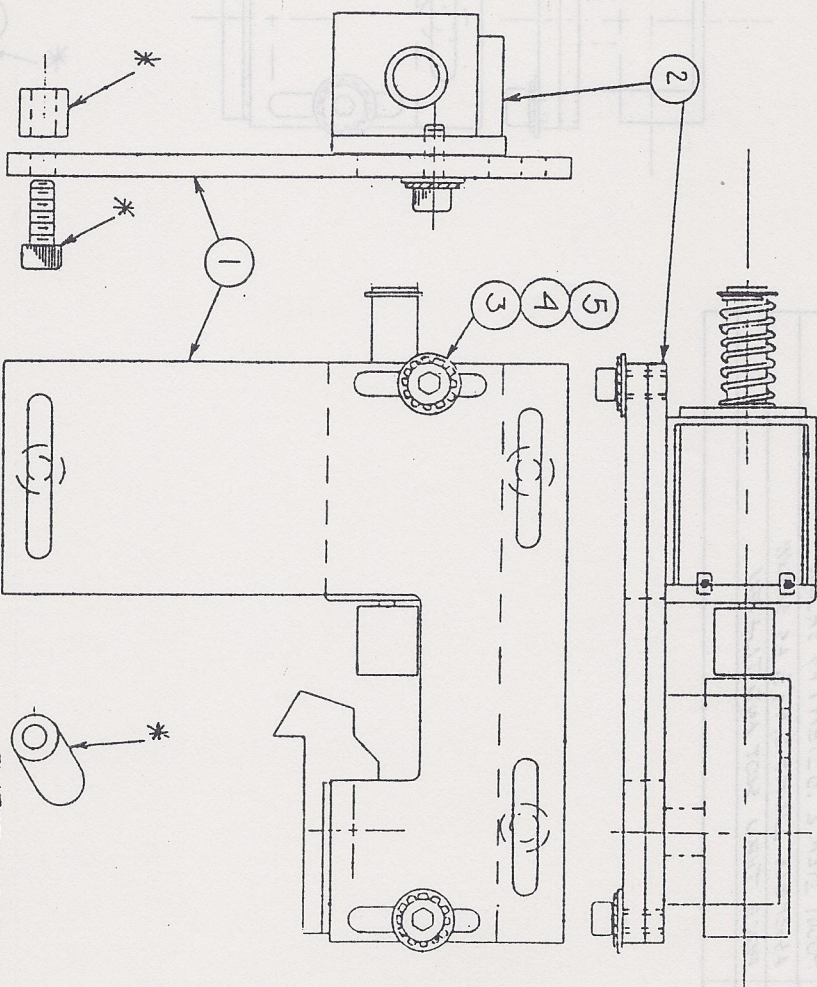
1) With the door(s) in the fully closed position, install the Lock Bolt into the door roller located directly under the lock flipper. Adjust the height of the lock by loosening the Two (2) socket head cap screws holding the lock to it's mounting plate.

2) Let the locking flipper rest approximately 1/16 to 1/8 inch above the Bolt, in the Verticle direction. Slide the Mounting Plate, by loosening the Three (3) socket head cap screws, holding it to the Header. Place the Lock so that it is approximately 1/16 to 1/8 inch from the Bolt in the Horizontal direction. Tighten ALL screws.

3) After All connections have been made, activate system and make any minor adjustments that are necessary.

MANUFACTURING ROUTING

1	ASSEMBLY TO ITEM 1 AS SHOWN
2	ASSEMBLY TO ITEM 2 AS SHOWN
	NO FLARE THRU SLOT AND TIGHTEN



* ITEMS APPEAR ON B.O.M.

REVISIONS		DATE	DATE	DATE:	PART NAME: ELECTRIC LOCK ASSY LEFT HAND
REV 413		8-10-02		SCALE:	MATERIAL:
				DRAWN BY: JDB/UE	SPECIFICATIONS: FAIL SAFE
				APPROVED BY:	
				TOLERANCES (UNLESS NOTED)	
				FRACTIONAL... ± 1/64	
				DEC... ± .010	
				ANGLES... ± .005	

DESIGN PRODUCTS CO.

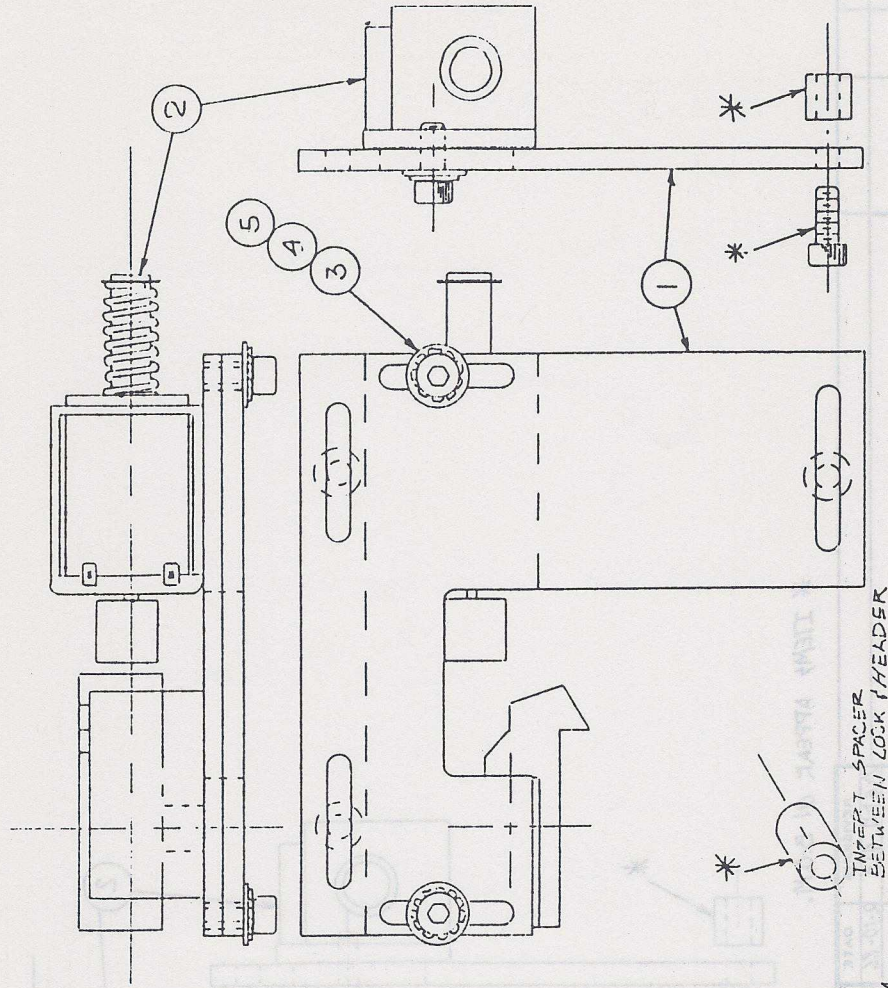


GYRO TECH INC.

PART NO.
215011

MANUFACTURING ROUTING

1	MOUNT ITEM 2 TO ITEM 1 AS SHOWN
2	ASSEMBLE ITEMS 3, 4 & 5 AS SHOWN
	PLACE THRU SLOT AND TIGHTEN



* ITEM 4 APPEAR ON BOM.

PART NAME: ELECTRIC LOCK ASSY - RIGHT HAND -		DATE: 2-1-83	DATE: 2-1-83	REVISIONS: 1
MATERIAL: FAIL SAFE		SCALE: 1/4" = 1"	SCALE: 1/4" = 1"	SCALE: 1/4" = 1"
SPECIFICATIONS:		DRAWN BY: JDE	DRAWN BY: JDE	DRAWN BY: JDE
		APPROVED BY:	APPROVED BY:	APPROVED BY:
		TOLERANCES (UNLESS NOTED)	TOLERANCES (UNLESS NOTED)	TOLERANCES (UNLESS NOTED)
		FRACTIONAL ... ± 1/64	FRACTIONAL ... ± 1/64	FRACTIONAL ... ± 1/64
		XX ... ± 0.010	XX ... ± 0.010	XX ... ± 0.010
		XXX ... ± 0.005	XXX ... ± 0.005	XXX ... ± 0.005
		ANGLES ... ± 1°	ANGLES ... ± 1°	ANGLES ... ± 1°
ITEM	QTY	PART NO	DESCRIPTION	
5	2	240017-04	1/4" WASHER	
4	2	240019-05	1/4 STAK WASHER EXTERNAL	
3	2	240010-05	1/4-20x1/2" LG SCS. HD. CR. SCR.	
2	1	225212	SOLENOID FLIPPER MOUNTING PLATE	
1	1	244971	LOCK MOUNTING PLATE	
			DESCRIPTION	

DRAWING NO.

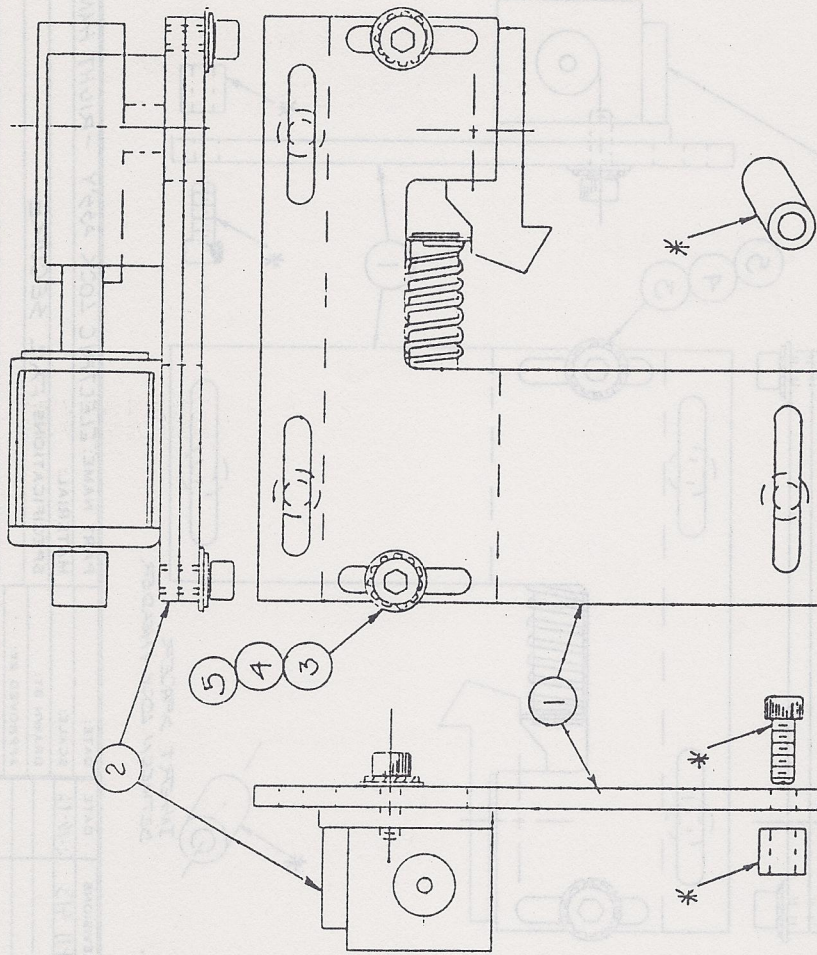
GYRO TECH Inc.



PART NO.

215010

MANUFACTURING ROUTING	
1	MOUNT ITEM 2 TO ITEM 1 AS SHOWN
2	ASSEMBLE ITEMS 3, 4 & 5 AS SHOWN
	AND FORCE THRU SLOTS AND TIGHTEN

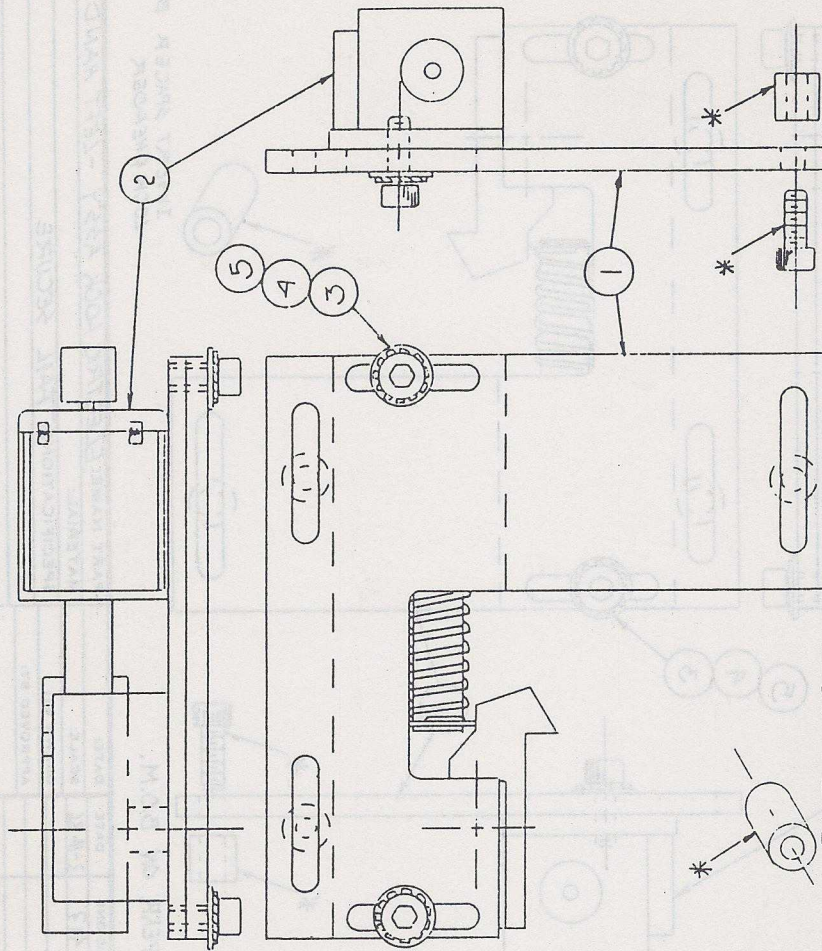


* ITEMS APPEAR ON B.O.M.

INSERT SPACER BETWEEN LOCK & HEADER

ITEM	QTY	PART NO.	DESCRIPTION	REVISIONS	DATE	DATE	SCALE	DRAWN BY:	APPROVED BY:	TOLERANCES (UNLESS NOTED)	FRACTIONAL ... ± 1/64	DECIMAL ... ± .010	ANGLES ... ± 1/2°
5	2	240017-09	1/4" WASHER	1	1/1/84	2-1/84							
4	2	240019-05	1/4" STAR WASHER										
3	2	240010-05	1/4-20 x 1/2" LL. SOC. HD. CAP. SCR.										
2	1	225211	FLIPPER / SOLENOID SUB ASSY (RH) F SECURE										
1	1	244971	LOCK MOUNTING PLATE										
ITEM	QTY	PART NO.	DESCRIPTION										
				PART NAME: ELECTRIC LOCK ASSY - LEFT HAND -									
				MATERIAL:									
				SPECIFICATIONS: FAIL SECURE									
				DRAWING NO.									
				PART NO. 215215									
				GYRO TECH Inc.									
				GYRO TECH Inc.									

MANUFACTURING ROUTING	
1	MOUNT ITEM 2 TO ITEM 1 AS SHOWN
2	ASSEMBLE ITEMS 3, 4, 5 AS SHOWN.
	AND PLACE THRU SLOT AND TIGHTEN

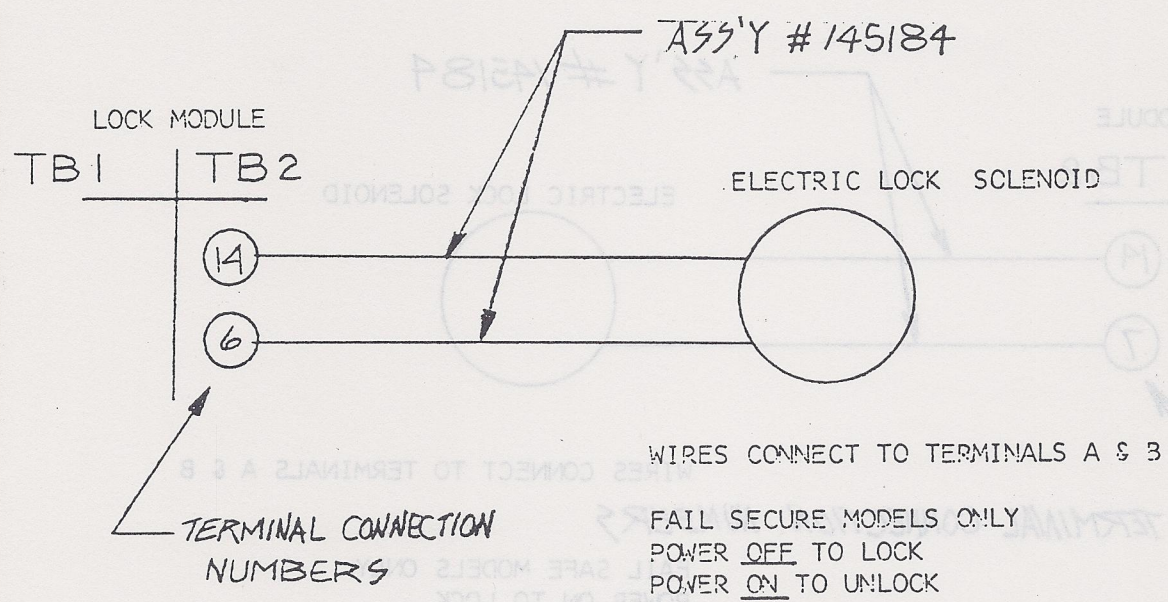



* ITEMS APPEAR ON E.O.M.

ITEM	QTY	PART NO	DESCRIPTION	REVISIONS	DATE	DATE	DATE	PART NAME: ELECTRIC LOCK ASSY - RIGHT HAND -
5	2	240017-04	1/4" WASHER	1	4/13	2-10-14		MATERIAL:
4	2	240019-05	1/4 STAR WASHER EXTERNAL TOOTH					SPECIFICATIONS: FAIL SECURE
3	2	240010-03	1/4-20 x 1/2" LG. SOC. HD. CAP. SCR.					
2	1	225213	SOLENOID & FLIPPER SUB ASSY (RH) F. SECURE					
1	1	244971	LOCK MOUNTING PLATE					
ITEM	QTY	PART NO	DESCRIPTION					
				TOLERANCES (UNLESS NOTED) FRACTIONAL ... ± 1/64 XX ... ± 0.10 AX ... ± 0.08 ANGLES ... ± 1/2°				
				DRAWING NO. GYRO TECH Inc. GYRO TECH Inc.				
				PART NO. 215216				

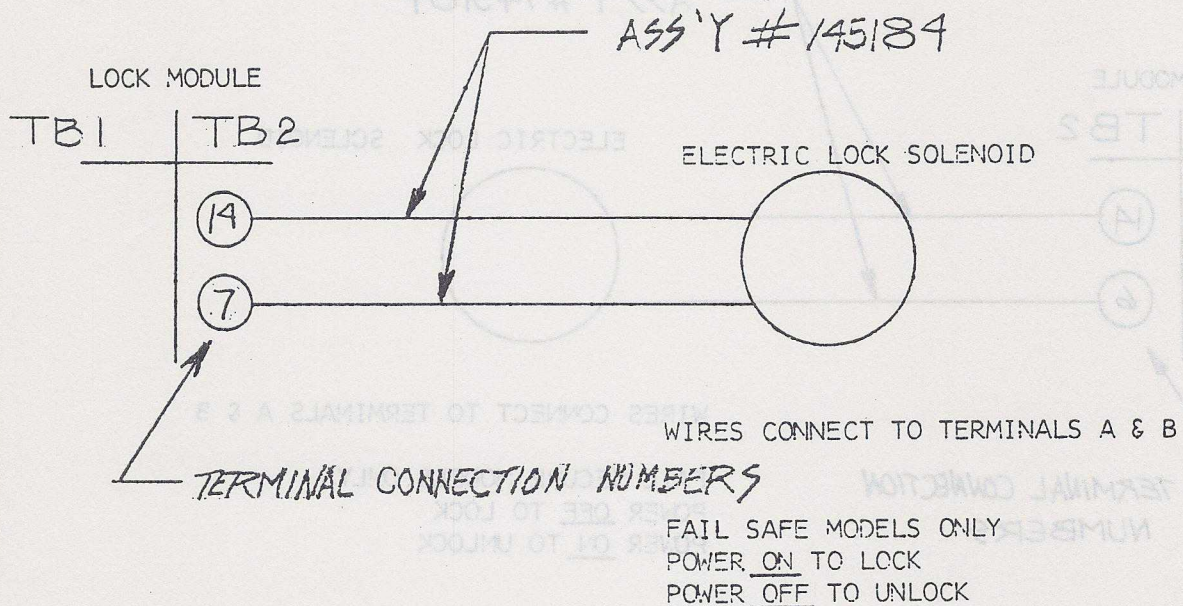
DATE	REVISIONS
2-10-86	VERN 413

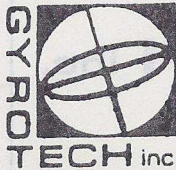
REVISIONS	DATE
VERN 413	2-10-86

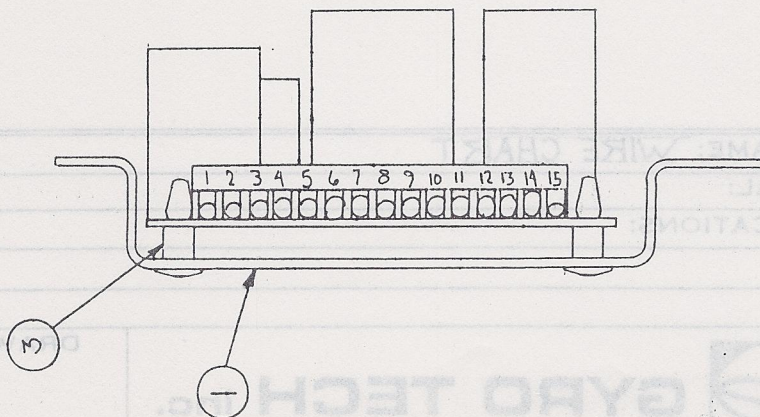


DATE: 1-17-86		PART NAME: SOLENOID CONNECTIONS - FAIL SECURE	
SCALE:		MATERIAL:	
DRAWN BY: LOBUE		SPECIFICATIONS:	
APPROVED BY:			
TOLERANCES (UNLESS NOTED) FRACTIONAL .. ± 1/64 .XX ± .010 .XXX ± .005 ANGLES ± 1/4°		DRAWING NO. PART NO. 155204	
 GYRO TECH inc.			

REVISIONS	DATE
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DATE: 1-17-86	PART NAME: SOLENOID CONNECTIONS - FAIL SAFE	
SCALE:	MATERIAL:	
DRAWN BY: LOBUE	SPECIFICATIONS:	
APPROVED BY:		
TOLERANCES (UNLESS NOTED) FRACTIONAL $\pm 1/64$ XX $\pm .010$ XXX $\pm .005$ ANGLES $\pm 1/2^\circ$	 GYRO TECH inc.	DRAWING NO.
		PART NO. 155203

[illegible]

REVISIONS	DATE
① ERN 413	2-10-86

FACTORY INSTALLATIONS -----

- 1) USE THE PROPER COLOR WIRE FROM THE 143197 GROUP
- 2) CUT ALL WIRES TO SIZE PER LOCK POSITION IN HEADER
- 3) STRIP AND CONNECT TO PROPER TERMINALS AS SHOWN ON WIRING DIAGRAM
- 4) USE DRAWINGS 155203 THRU 155209 CONNECT AS REQUIRED FOR EACH TYPE OF LOCK SYSTEM.

DRAWING # COLOR -----

USE 155203 TO ATTACH SOLENOID FAIL SAFE

USE 155204 TO ATTACH SOLENOID FAIL SECURE

USE 155205 TO ATTACH TRANSFORMER TO LOCK MODULE

USE 155206 TO ATTACH HEADER HARNESS

USE 155207 TO ATTACH LOCK SWITCH TO LOCK MODULE

USE 155208 TO ATTACH ACTIVATING DEVICES = USUALLY NOT
FACTORY INSTALLED =

USE 155209 TO ATTACH SWING PANEL BREAKOUT SWITCHE (S)

FIELD INSTALLATIONS -----

USE THE DRAWINGS CALLED OUT ABOVE.

USE 22 OR 24 AWG WIRING TO MAKE CONNECTIONS.

DATE: 1-17-86

PART NAME: WIRE CHART

SCALE:

MATERIAL:

DRAWN BY: LOBUE

SPECIFICATIONS:

APPROVED BY:

TOLERANCES
(UNLESS NOTED)

FRACTIONAL ... ± 1/64

XX ... ± .010

XXX ... ± .005

ANGLES ... ± 1/4°



GYRO TECH inc.

DRAWING NO.

PART NO.

155217