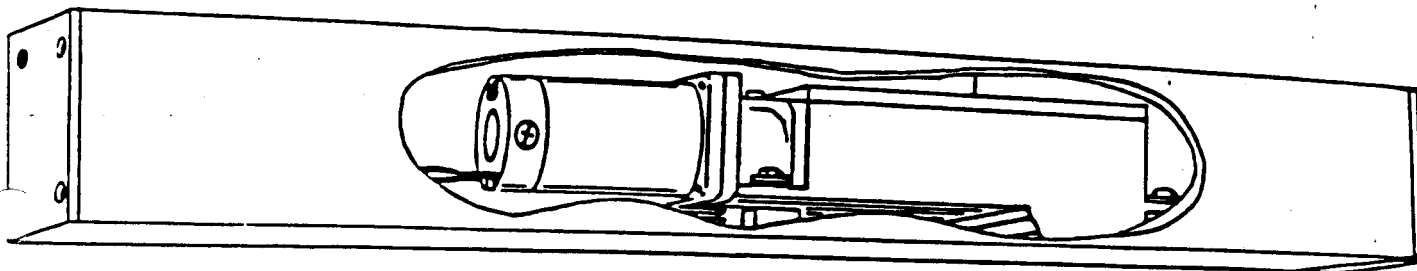


INSTALLATION INSTRUCTIONS FOR OVERHEAD CONCEALED UNIT



“GYRO-SWING” Door Operator



S82 W18717 Gemini Drive P.O. Box 906 Muskego, WI 53150
262-679-0045 Fax 262-679-2505
www.nabcoentrances.com

OHC
OVERHEAD CONCEALED SWING DOOR OPERATOR
BILL OF MATERIAL

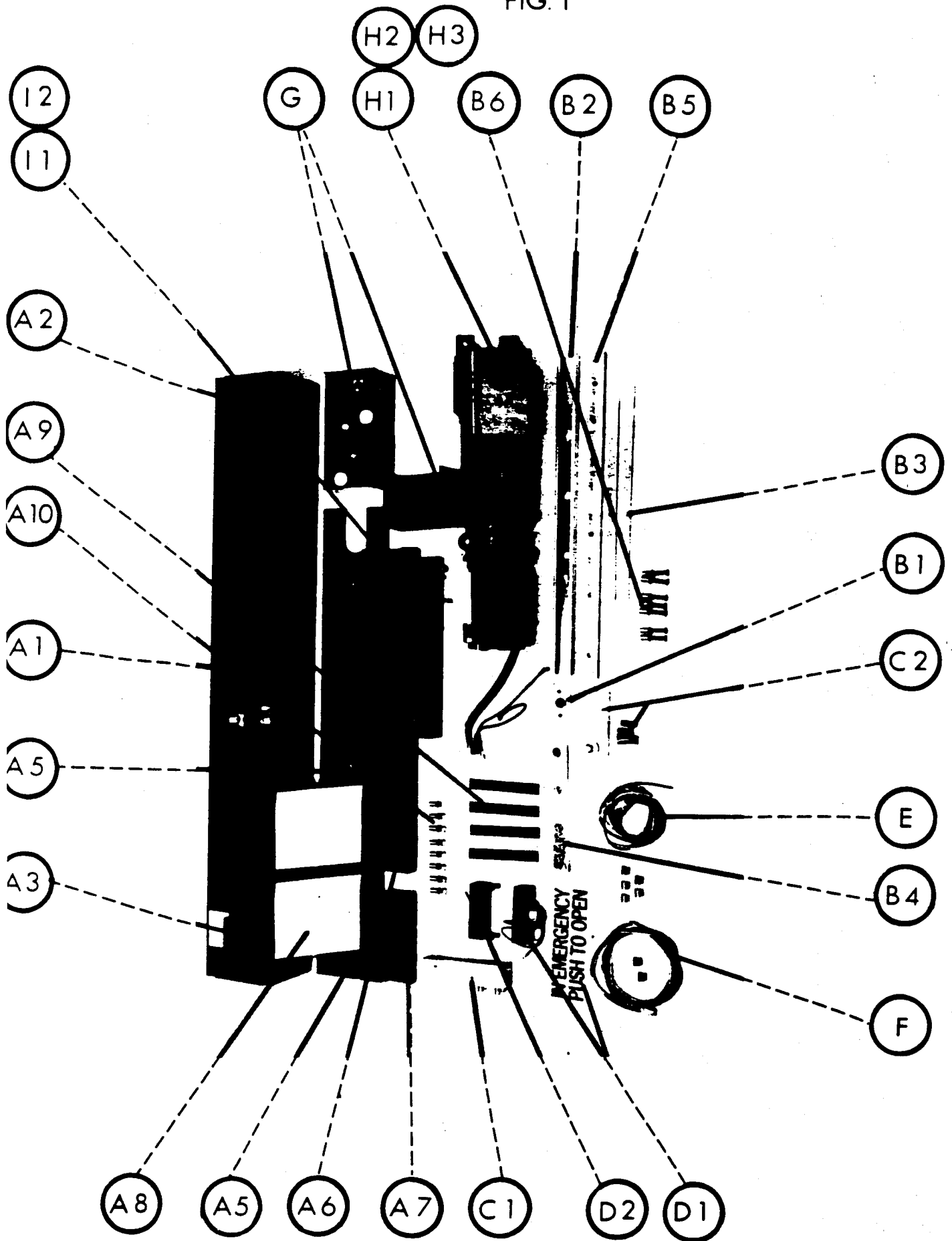
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PACKAGING</u>
A	O.H.C. Header Housing Assembly (1) Header Housing W/End Caps (2) Strike Base (Stop End) (3) Pivot Base (Pivot End) (4) Dress Plate Lock Clip's W/Screws (Not Shown) (5) Dress Plate (6) Filler Channel Strike Style (7) Filler Channel Hinge Style (8) Adhesive Backed Drilling Template (2) (9) End Cap Cover Piece (Tape) (4) (10) Screw Bag For Attaching O.H.C. Housing to Jamb Tubes. (8) 1/4-20 Hex. HD. Mach. Screws, (8) Star Washers, (8) Rivnuts, (8) Nutserts. (11) O.H.C. Header, Pivot & Wiring Instruction Template No. 00-1010. (Not Shown) Refer to Page 5 in Manual. (12) Pivot Base Assy. Template No. 00-1040 (Not Shown) Refer to Page 8 In Manual. (13) Adhesive Backed Instruction Label For Harness Installation. Already Positioned Inside Header For Your Convenience. (Not Shown)	Carton #1
B	Door Assy. (1) Slide Block (2) Door Track (3) Side Spacers (2) (4) Top Pivot Of Door Portion (5) Spacer Block (3/8" Thick) (6) Screw Bag For Door Track & Top Pivot Installation. (8) 1/4-20 x 1 1/2" LG. FL. HD. PH. Mach Scr., (8) 1/4-20 Rivnuts, (8) 1/4-20 Nutserts.	Carton #2
C	Bottom Pivot Assy. (1) Bottom Door Pivot Assy. W/Screws & Rivnuts Or Nutserts (2) Floor Pivot W/Cover, (2) 1/4 x 1 1/2" LG. FL. HD. Self Tapping Screws, (2) Plastic Anchors & (6) Shims. (3) Door Leaf Preparation Template 00-1020 (Not Shown) Refer to Page 6 in Manual. (4) Track & Pivot Installation Detail Template No. 00-1030 (Not Shown) Refer to Page 7 in Manual.	
D	Door Latching (1) Panic Latch W/Screws & Warning Decal. Panic Latch is used on Inswing Doors.	

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PACKAGING</u>
D (Con't)	(2) Door Stop W/Screws Door Stop is Used for Outswing Doors.	
E	Power Harness W/Wire Retaining Clips	
F	Mat Harness W/Wire Retaining Clips	
G	Control Box & Mounting Clip	
H	O.H.C. Operator Assy. (1) Motor (2) Operator (Gear Box) (3) Switch Harness	
I	O.H.C. Arm Assy. (1) Arm W/Shoulder Bolt, Set Screw, 1/2-20x1 1/2" LG. FL. HD. Soc. Mach. Screw (Pivot Screw). (2) Spacers	
J	International Symbol Decals for "IN" or "OUT" & "DO NOT ENTER" (Not Shown).	

NOTE: Any electrical device other than mat switches must be of the momentary contact type as opposed to maintained contact type and must be mounted within eyesight of the door.

For Location of all items see Figure 1.

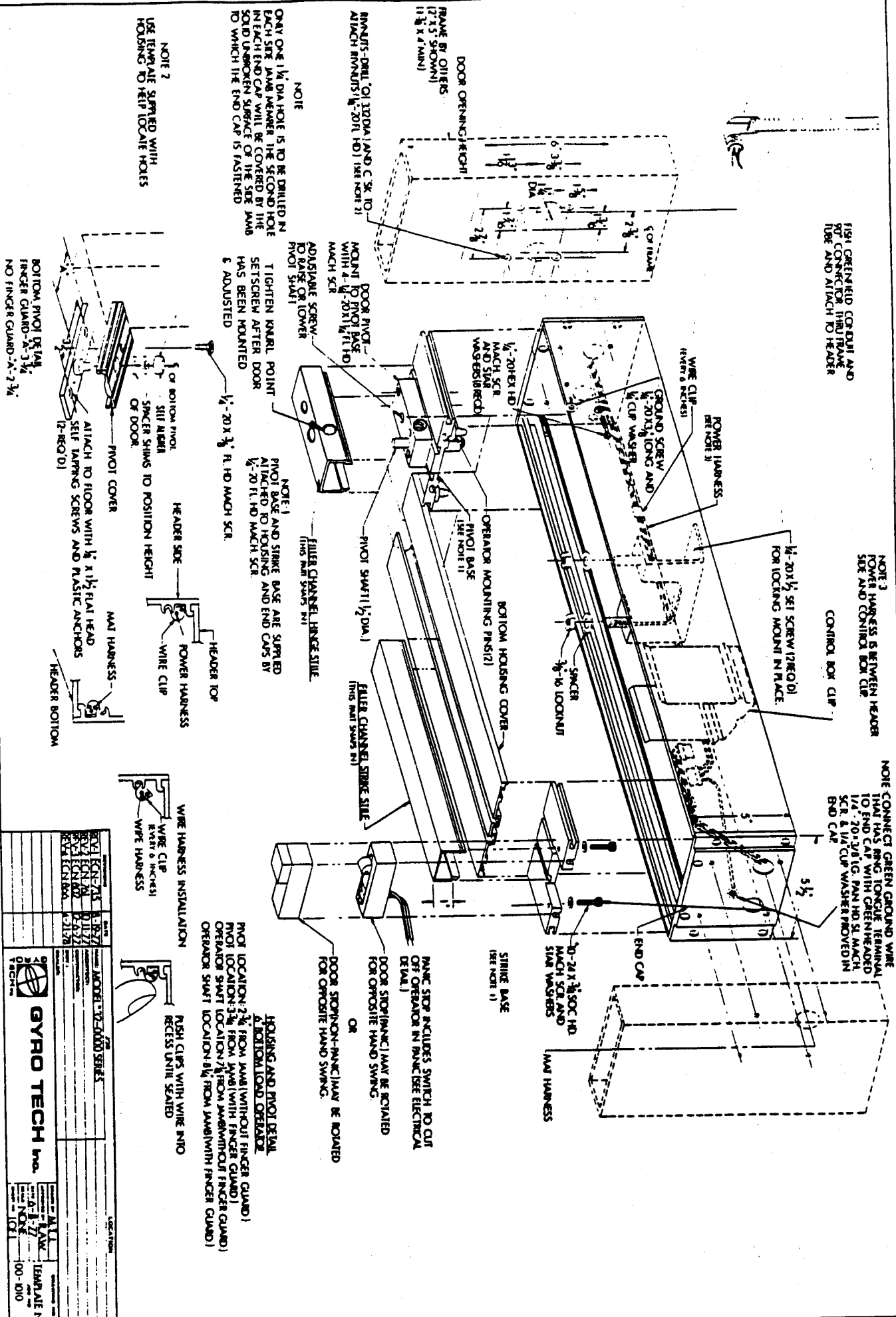
FIG. 1



FISH GREENFIELD CONDUIT AND POT CONNECTOR THRU FRAME TUBE AND ATTACH TO HEADER

NOTE 3 POWER HARNESS IS BETWEEN HEADER SIDE AND CONTROL BOX CLIP

NOTE 4 CONNECT GREEN GROUND WIRE THAT HAS RING TONGUE REMOVAL TO END CAP WITH GREEN HEADED 1/4" - 20 X 1/2" PAN HD SL MACH SCR & 1/4" CUP WASHER PROVIDED IN END CAP

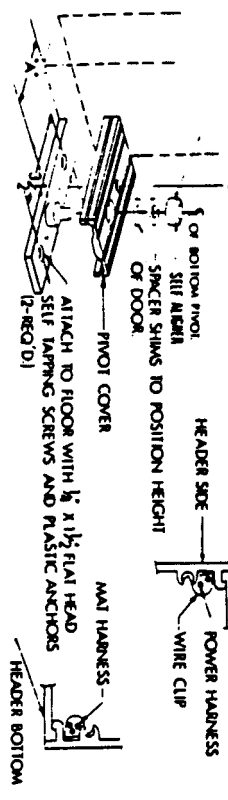


FRAME BY OTHERS (7'13\"/>

NOTE 1 PIVOT BASE AND STRIKE BASE ARE SUPPLIED ATTACHED TO HOUSING AND END CAPS BY 1/4\"/>

NOTE 2 USE REMAINE SUPPLIED WITH HOUSING TO HELP LOCATE HOLES

BOTTOM PIVOT DETAIL FINGER GUARD - A - 3 1/4\"/>



GT SYSTEM 300 Overhead Concealed (O.H.C.) Installation Detail

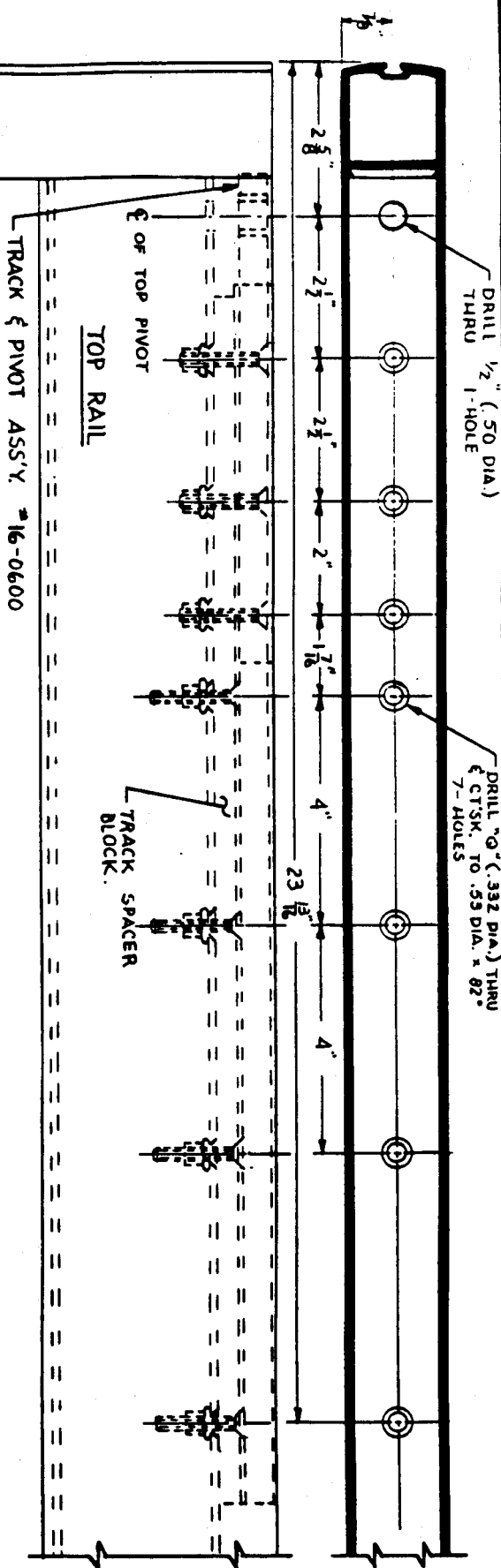
REV	DATE	BY	CHKD	DESCRIPTION
001	01/27	AW	AW	REVISED TO ADD FINGER GUARD
002	02/27	AW	AW	REVISED TO ADD FINGER GUARD
003	03/27	AW	AW	REVISED TO ADD FINGER GUARD
004	04/27	AW	AW	REVISED TO ADD FINGER GUARD
005	05/27	AW	AW	REVISED TO ADD FINGER GUARD
006	06/27	AW	AW	REVISED TO ADD FINGER GUARD
007	07/27	AW	AW	REVISED TO ADD FINGER GUARD
008	08/27	AW	AW	REVISED TO ADD FINGER GUARD
009	09/27	AW	AW	REVISED TO ADD FINGER GUARD
010	10/27	AW	AW	REVISED TO ADD FINGER GUARD
011	11/27	AW	AW	REVISED TO ADD FINGER GUARD
012	12/27	AW	AW	REVISED TO ADD FINGER GUARD

MODEL 300-2000 SERIES

GYRO TECH INC.

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ISSUE NO. 100-010



DRILL 1/2" (.50 DIA.) THRU 1-HOLE

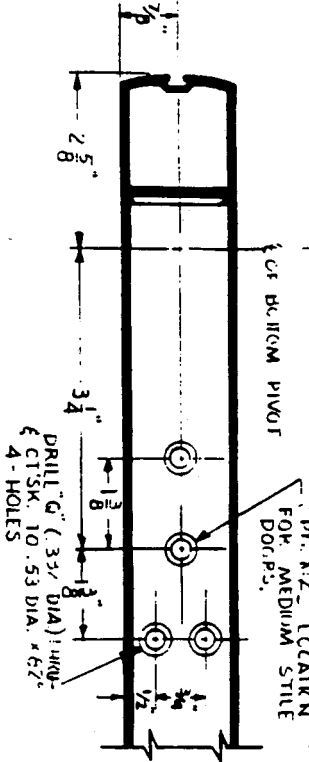
DRILL "G" (.332 DIA.) THRU 7-HOLES

NOTES:

- FOR RAIL REQUIREMENTS OTHER THAN THOSE SHOWN, CONTACT FACTORY FOR ENGINEERING DATA.
- ALL DOOR LEAFS SHOULD BE PREPPED AS SHOWN IN TOP & BOTTOM VIEWS.
- GYRO TECH SELF ALIGNING PIVOT REQUIRES A 1/8" MIN. WEB DEPTH IN TOP & BOTTOM RAILS

DOOR PIVOT LOCATIONS

WITHOUT FINGER GUARD: 2 3/4" FROM JAMB INCL. 1/8" CLEARANCE WITH FINGER GUARD: 3 1/4" FROM JAMB INCL. 1/8" CLEARANCE



PT. A:2 - LOCATION FOR MEDIUM STILE DOOR P.S.

OF BOTTOM PIVOT

DRILL "G" (.332 DIA.) THRU 4-HOLES

REVISIONS	DATE	BY
A	11-20-84	1749

DATE: 3-13-85
SCALE: HALF
DRAWN BY: RFL
APPROVED BY:

TOLERANCES (UNLESS NOTED):
FRACTIONAL: 2/100
DECIMAL: 2/100
ANGLES: 2'

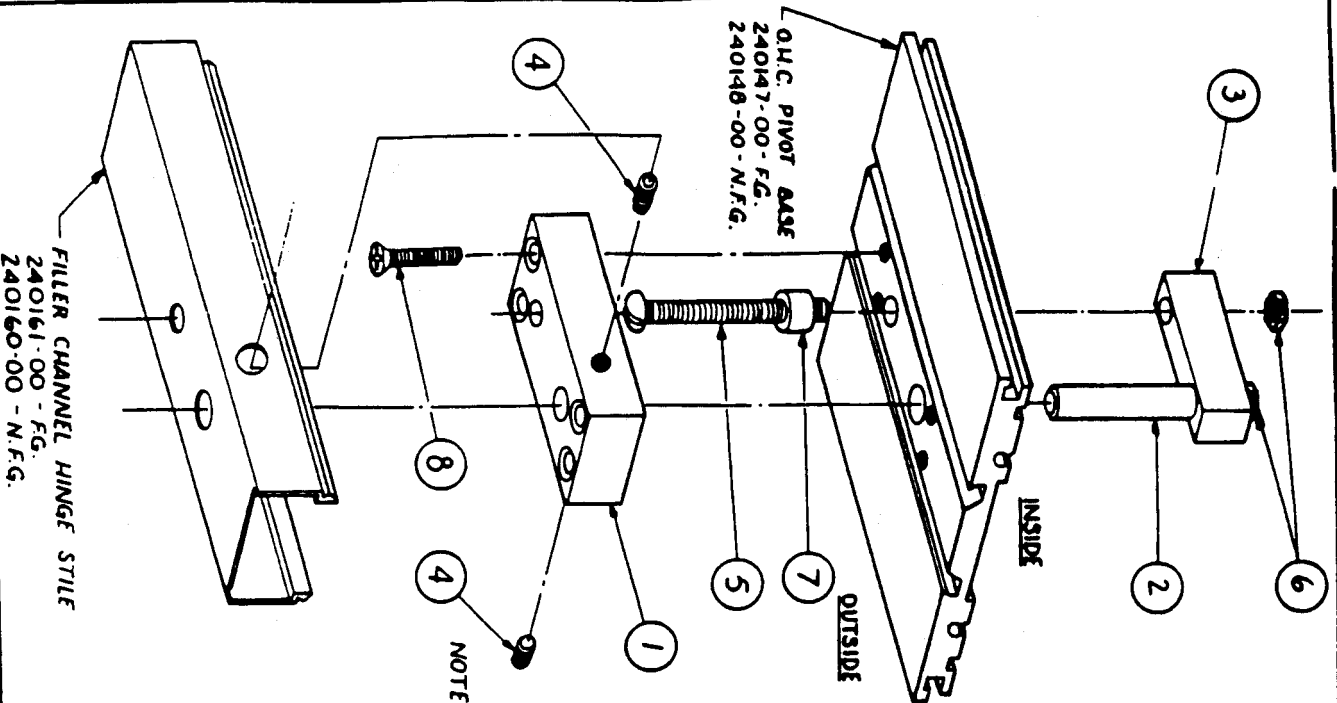
PART NAME: DOOR LEAF PREP FOR 6" BOTTOM LOAD SYS.
MODEL NR. 32-0000 SERIES

1" WEB DEPTH TRACK - #16-0600 WITH TRACK SPACER
5/8" WEB DEPTH TRACK - #16-0600

GYRO TECH Inc.

PART NO. 00-1020

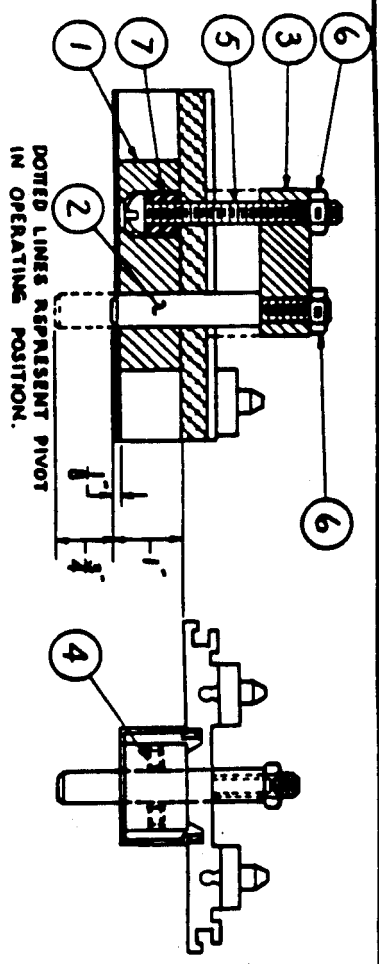
DRAWING NO.



O.H.C. PIVOT BASE
240147-00 - F.G.
240148-00 - N.F.G.

FILLER CHANNEL HINGE STILE
240161-00 - F.G.
240160-00 - N.F.G.

NOTE:
LOCATE SET SCREW (ITEM 4) ON
APPROACH SIDE OF HEADER



INSTALLATION INSTRUCTIONS

TO INSTALL THE PIVOT ASSEMBLY AS SHOWN, PLACE SPACER (ITEM 7) ONTO CENTER PIVOT RISER SCREW (ITEM 5) AND INSERT THRU 7/16" DIA. HOLE IN THE O.H.C. HOUSING BASE. NEXT, GREASE BOTH PIVOT AND RISER SCREW HOLES IN CENTER PIVOT SUPPORT BLOCK (ITEM 1) AND ATTACH TO THE O.H.C. HOUSING BASE USING FOUR (4) 1/4 - 20 X 1-1/4" LG. SOC. FL. HD. MACH. SCREWS (ITEM 3). INSERT PIVOT SHAFT ASS'Y (ITEMS 2, 3 & 6) THRU THE 9/16" DIA. HOLE IN THE O.H.C. HOUSING BASE. AT THE SAME TIME ROTATE CENTER PIVOT RISER SCREW (ITEM 5) SO THAT IT SCREWS INTO CENTER PIVOT RISER BAR (ITEM 3). BY ROTATING RISER SCREW (ITEM 5) CLOCKWISE, THE PIVOT SHAFT ASS'Y WILL LOWER UNTIL IT PROJECTS 1/8" BELOW SUPPORT BLOCK (ITEM 1) AS SHOWN. USING A SCREWDRIVER, HOLD PIVOT SCREW (ITEM 5) FROM BOTTOM AND THREAD ON LOCK NUT (ITEM 6) UNTIL IT MAKES CONTACT AGAINST PIVOT SHAFT ASS'Y (ITEM 3).

INSTALL FILLER CHANNEL BY SWAPPING INTO BOTTOM OF O.H.C. HOUSING BASE AS SHOWN AND LOCATE DOOR INTO POSITION. USING A SCREWDRIVER, ROTATE RISER SCREW (ITEM 5) CLOCKWISE TO LOWER PIVOT SHAFT ASS'Y (ITEM 2) INTO THE DOOR POSITION OF PIVOT. LOCK PIVOT SHAFT ASS'Y (ITEM 2) BY TIGHTENING SET SCREW (ITEM 4) WITH AN ALLENBENCH.

TO REMOVE DOOR, LOOSEN SET SCREW (ITEM 4) AND ROTATE RISER SCREW (ITEM 5) WITH A SCREWDRIVER COUNTER CLOCKWISE TO RAISE PIVOT SHAFT ASS'Y (ITEM 2). OUT OF DOOR PIVOT. THE LOCKNUT (ITEM 6) ON RISER SCREW (ITEM 5) WILL PREVENT THE PIVOT FROM BEING RAISED TOO FAR.

ITEM	QTY	PART NO.	DESCRIPTION
8	1	240011-71	1/4-20 x 1 3/4" LG. SOC. FL. HD. MACH. SCR.
7	1	143543	SPACER
6	2	240021-02	3/8" - 16 HEX LOCK NUT
5	1	240015-44	CENTER PIVOT RISER SCR. 3/8" - 16 - 3" LG.
4	1	240016-48	1/4 - 20 - 3/4" LG. SET SCR. KNURL POINT W/ NYLOCK
3	1	240707	CENTER PIVOT RISER BAR
2	1	240517	CENTER PIVOT SHAFT
1	1	243541	CENTER PIVOT SUPPORT BLOCK

REVISIONS	DATE	SCALE	BY	APPROVED BY
ECN 735	9-19-77	SCALE	HALE	
ECN 1500	1-8-82			
ECN 1901	1-7-85			

TOLERANCES UNLESS NOTED:
FRACTIONAL .010
DECIMAL .008
ANGLES

GYRO TECH INC. **GYRO TECH Inc.**

PART NO. 00-1040

DRAWING NO. PIVOT ASSEMBLY DETAIL 6 BOTTOM LOAD SYS MODEL NO. 16-0501

PHYSICAL INSTALLATION OF O.H.C. HEADER

1. Determine which tube is the hinged side of the header and which tube is the strike side (see definitions below).
2. Affix templates (Part #a-8) to jamb tubes. Locate the bottom of the template on the inside of the tube at the top of the door opening Frame height (Refer to Figure #2).
3. Drill installation holes according to the back of the drilling template (Part #A-8). Drill (4) holes marked "A" in each jamb tube. For rivnuts drill #Q (.332 Dia.) hole and countersink .531 Dia. x 100° for nutserts drill #3/8 (.375 Dia.) hole. Drill one 1 1/4" Dia. Hole marked "B" in each jamb for electrical service (refer to figure #2 and #3).
4. Notch bottom of strike jamb 1 3/4" wide by 1/4" to 3/8" high at threshold line for feeding mat wires up strike jamb to header.
5. Install panic latch at lock jamb end if its a inswing door or a fixed door stop for a outswing door. (Note direction of arrow on panic latch).
6. Frame may be installed in building. Be sure frame is plumb and square and that the opening width for the door is equal top and bottom.
7. Install the O.H.C. header. Attach the O.H.C. housing to the strike and hinged jamb tubes with the (8) 1/4-20 x 3/4" LG. Hex. HD. Mach. Screws. Star washers provided. (Refer to figure #3 and #4)
8. Install bottom pivot (see template #00-1010). If the frame has no fingerguard, dimension of center of bottom pivot post to hinge jamb is 2 3/4". If frame has a fingerguard, dimension from the center of bottom pivot post to hinge jamb is 3 3/4". Install with 1/4" x 1 1/2" FL. HD. Sheet metal screws, and plastic anchors provided. Install pivot cover to bottom pivot base with 1/4"-20 x 3/8" LG. FL. HD. Mach. Screw provided.

DEFINITIONS:

Hinged Side: Side from which door pivots;
Strike Side: Side from which door locks;

Figure 2

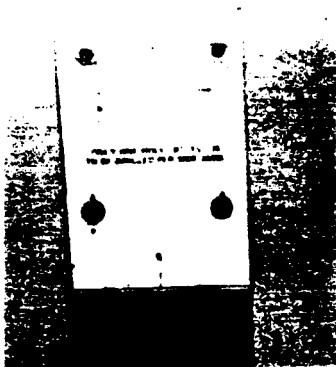
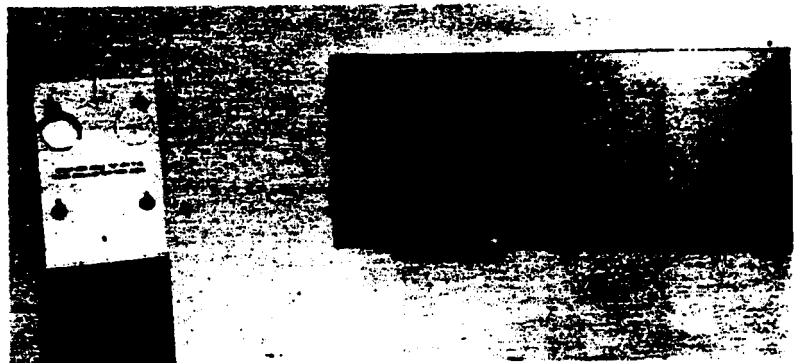


Figure 3



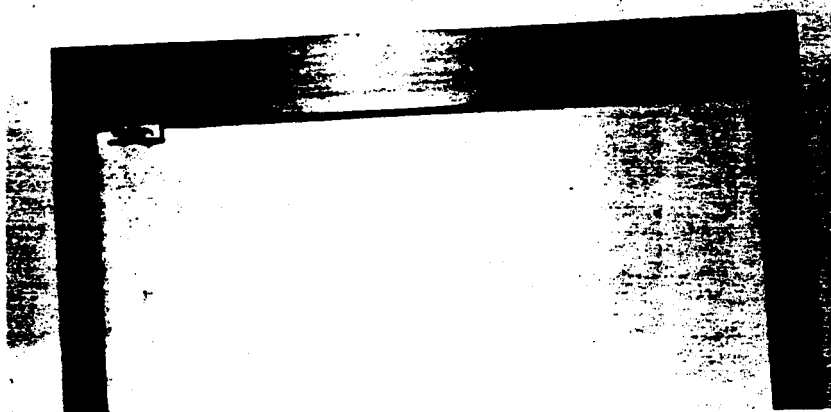
DOOR PREPARATION

1. All door hardware is packed in one carton together with:
 - A. Door preparation template #00-1020.
 - B. Track & Pivot installation template #00-1030 and fastening accessories.
2. Drill seven (7) holes in the top rail as indicated on template #00-1020, for nutserts drill $3/8"$ (.375) dia. hole, for rivnuts drill #Q (.332) dia. hole and countersink .531 dia. x 100° .
3. Drill three (3) holes in bottom rail as indicated on template #00-1020, for nutserts drill $3/8"$ (.375) dia. hole, for rivnuts drill #Q (.332) dia. hole and countersink .531 dia. x 100° .
4. Mill out wall of door stile where it abuts the rail(s) as indicated on template #00-1020.

TRACK AND PIVOT AND DOOR INSTALLATION (Refer to Templates #00-1030 and #00-1040)

1. Insert 1/4-20 rivnuts or nutserts provided in top and bottom rails with rivnut setter.
2. Install door portion of bottom pivot (part #C-1) use shim spacers so that the pivot block is just short of rail edge of bottom rail.
3. Install track (with slide block in place) and door portion of top pivot in top rail - shim sides and shim up (with shims provided) so that the track and door portion of top pivot are just below ($1/16"$ to $1/8"$) of leg edges of top rail of door.
4. Check alignment of top pivot and bottom pivot with a plumb bob.
5. Door may now be hung.
 - A. Run top pivot up into the pivot shaft.
 - B. Set door on floor portion of bottom pivot, aligning door portion of bottom pivot with floor portion pivot post. Use spacer shims on floor portion of bottom pivot to adjust door for proper clearance - top ($1/8" \pm 1/16"$) and bottom ($3/16" + 1/16"$) above carpet surface.
 - C. Completely tighten center pivot riser screw (part #5 from template #00-1040) until center pivot shaft is secure in center pivot support block.

Figure 4



INSTALLATION OF MAT HARNESS AND POWER HARNESS

1. MAT HARNESS

- A. Three colored wires (black, red and white).
- B. Red wire has a connector (pin housing) and (socket housing) for panic latch and panic switch.
- C. The panic latch (figure #5) has a pin housing connector and a socket housing connector for any easy hook-up with the red wire of the mat harness.
- D. Connect panic latch wires to matching clips of red wire from mat harness (figure #5).
- E. If non-panic door stop is used, do not disconnect red wire pin and socket connector.

2. POWER HARNESS

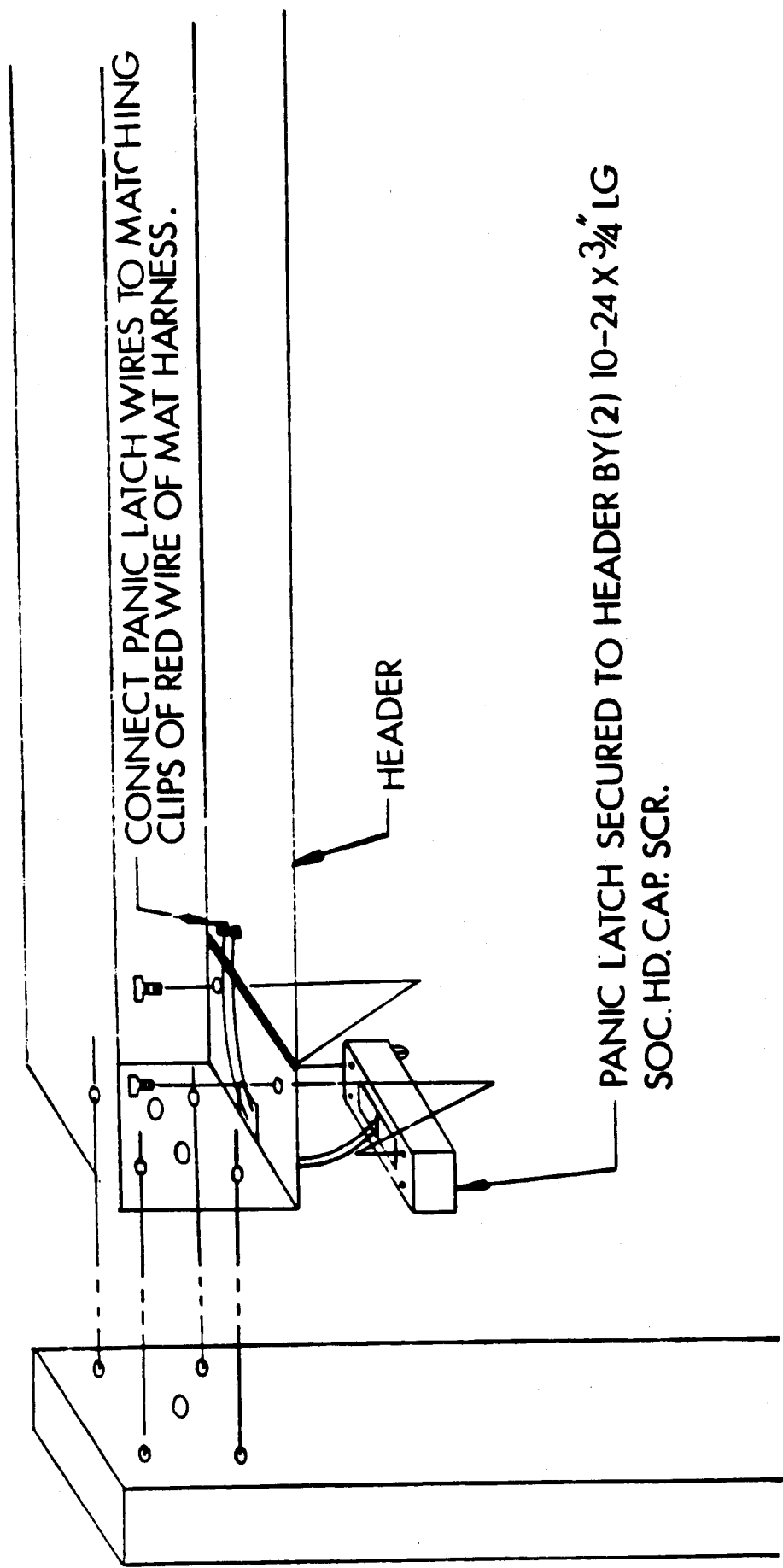
- A. Three colored wires (black, white and green).
- B. Connect these wires to a standard power source of 120 VAC at 60 HZ.
- C. A ground screw is threaded in the end cap for grounding the power harness.

NOTE: On-off switch should be added in common mat lead circuit (24V), to turn off prior to locking door.

CAUTION! DO NOT ALLOW CHILDREN TO PLAY WITH OR RIDE ON ANY AUTOMATIC DOOR AT ANYTIME.

MUNTIN BARS

All doors and sidelights to contain horizontal muntin bars in compliance with U.L. 305 specifications.



PANIC LATCH SECURED TO HEADER BY (2) 10-24 X 3/4" LG
SOC. HD. CAP. SCR.

CONNECT PANIC LATCH WIRES TO MATCHING
CLIPS OF RED WIRE OF MAT HARNESS.

HEADER

FIG. 5

HARNES INSTALLATION INSTRUCTIONS

1. Install the control box mounting clip by squeezing the two legs together pushing up, with legs down until "V" projections at top will fit into top channel recess of header sides. Mounting clip should be mounted approximately 4" to 5" in front of operator/motor assembly. This must be installed prior to installing header wiring of power harness.
2. Power and mat harnesses must be in place before operator assembly or control box are installed. See instructions inside of header and template #00-1010, page #5.
3. Install power harness in one top corner of header. (Line voltage connections at pivot end of header (with wire retaining clips, packed with power harness every six (6) inches. Route wires around control box mounting clip, fasten green (ground) wire ring terminal to ground screw located inside of header, threaded into end cap.
4. Install mat harness in bottom corner of header diagonally from power harness, mat wires are fed from lock jamb end, with wire retaining clips, packed with mat harness.

NOTE: See Page #14 for wiring details of high voltage harness.

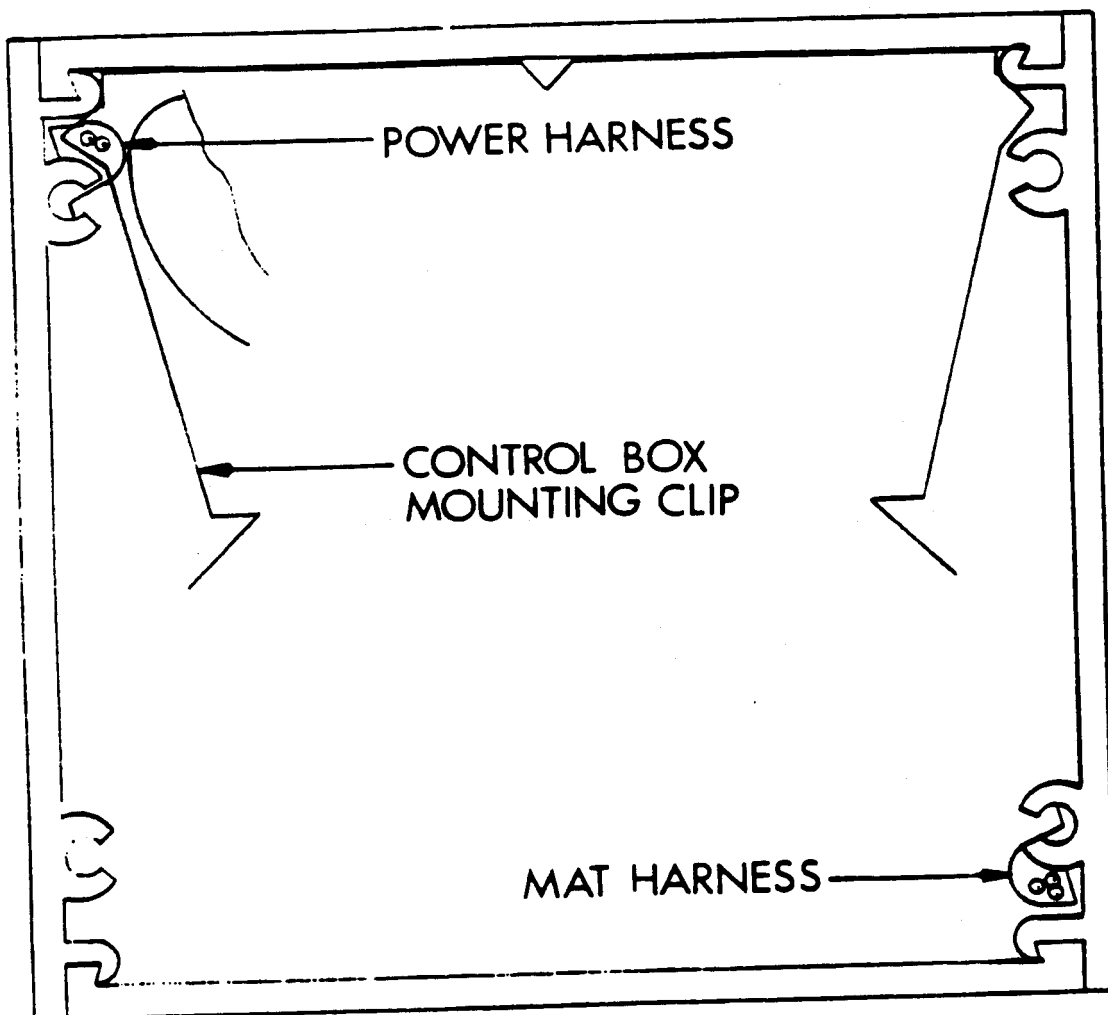


FIGURE 6

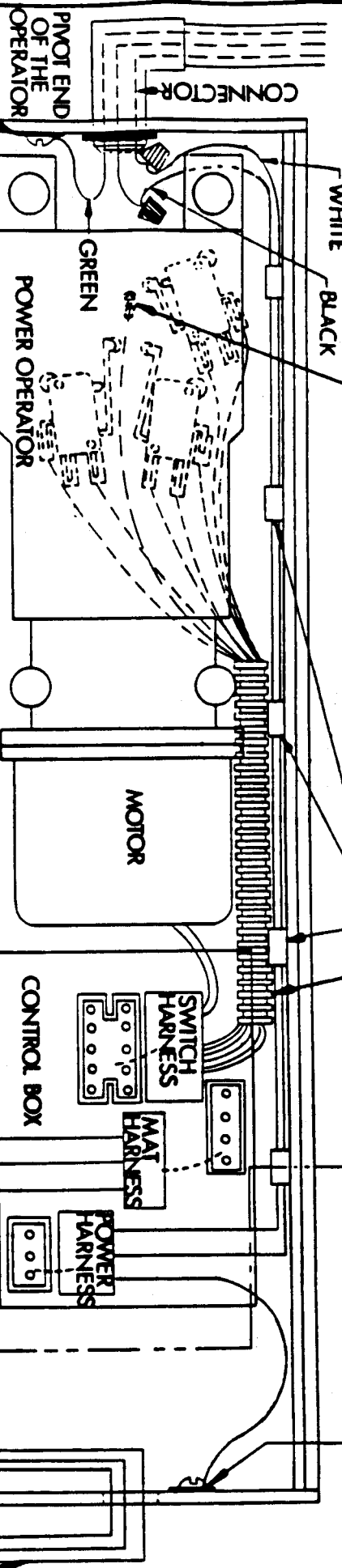
CONNECT LINE INPUT POWER TO HEADER THROUGH A GREENFIELD CONNECTOR. CONNECT THE POWER HARNESS WITH WIRE NUTS, MATCHING WIRE COLORS.

OPERATOR GROUNDED BY AMP TERMINAL #41052 & 10-24 X 1/2 IG. RD HD.PH MACH SCR.

POWER HARNESS WIRES TO BE SECURED EVERY 6 WITH WIRE HARNESS CLIP SNAPPED INTO PLACE BY FIELD INSTALLER

SWITCH HARNESS MUST BE LOCATED ON SIDE OF OPERATOR NOT BETWEEN BOLTS OF SUPPORT.

CONNECT GREEN GROUND WIRE THAT HAS RING TONGUE TERMINAL TO END CAP WITH GREEN HEADED 1/4-20X 3/8 IG. PAN HD SL MACH SCR & 1/4" CUP WASHER PROVIDED IN END CAP.



GREEN GROUND SCREW AND CUPPED WIRE WASHER FOR HIGH VOLTAGE GROUND

HEADER TOP
LINE VOL. WIRES ALONG TOP
(power harness)

HEADER SIDE

24 VOLT AC WIRES ALONG BOTTOM BY INSTALLER.
(mat harness)

SECTION 'A-A'
HEADER BOTTOM

PUSH CLIPS WITH WIRE HARNESS INTO RECESS UNTIL SEATED.

24V AC HARNESS INSTALLED BY FIELD INSTALLER. CONNECT ONE MAT LEAD FROM ONE MAT TO BLACK. ONE MAT LEAD FROM OTHER MAT TO WHITE. CONNECT SECOND LEAD FROM BOTH MATS TO RED. WITH WIRE NUTS.

NOTE: WIRES EXTEND DOWN THRU THE JAMB.
BLACK
RED
WHITE

REVISIONS	DATE	DATE	SCALE	PART NAME
REV. 1	8-17-77	8-17-77	NONE	OHHC HEADER INTERIOR VIEW FROM BOTTOM
REVISED	12-4-77			

APPROVED BY: [Signature]

MATERIAL: [Blank]
SPECIFICATIONS: [Blank]

TOLEANCES (UNLESS NOTED)	FRACATIONAL	2 1/16
	DEC	2 0/100
	MM	2 0/100
	ANGLES	2 N

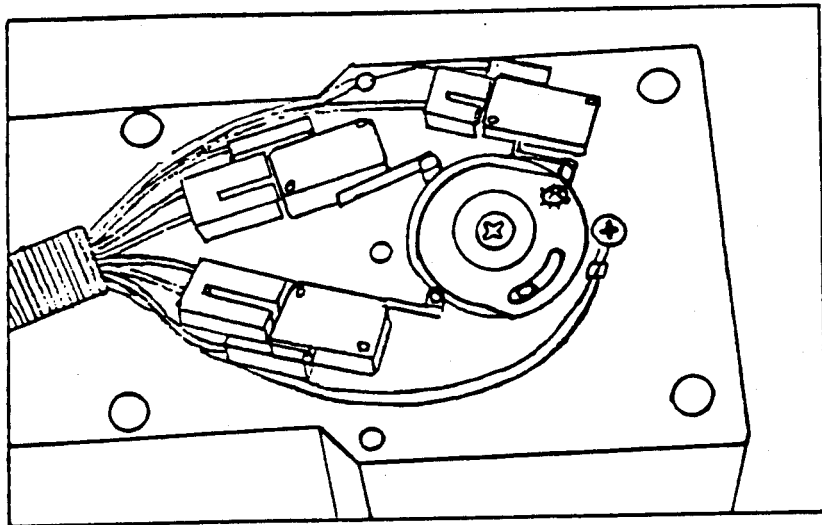
GYRO TECH Inc.

DRAWING NO. [Blank]

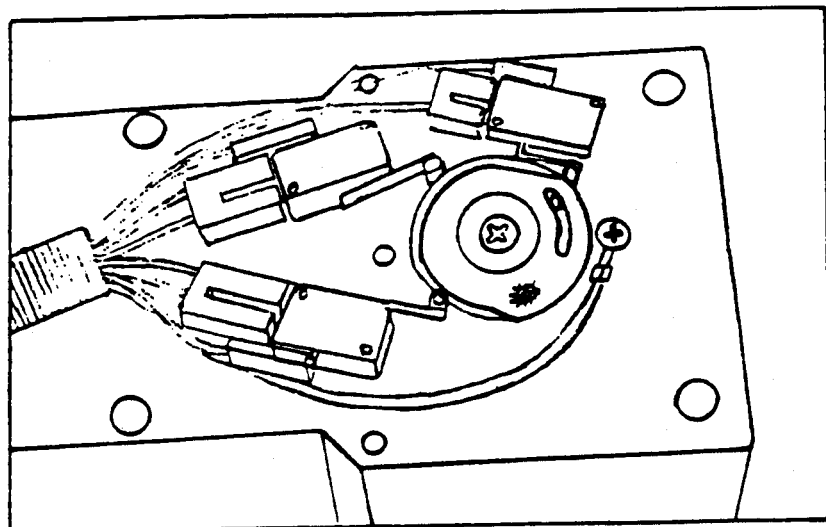
PART NO. 241838

Before placing operator in header, remove switch cover plate from top of operator. Cams should be in the fixed position as shown in figure #7. The proper backcheck point may be obtained by removing the screw from the fixed position (Figure #7) to the adjustable position shown in figure #8. You now may adjust for the best point of backcheck. When you have completed this, tighten the screw in figure #8. Verify that the ground (green wire with ring terminal) of switch harness is grounded to the operator case. REPLACE SWITCH COVER Be careful that the switch harness flexible conduit end is locked in place with switch cover plate.

#7 Operator in Fixed Position



#8 Operator Adjustable



PREPARATION OF AN O.H.C. OPERATOR FOR INSTALLATION

1. Ascertain that you have properly handed the operator for your job (right hand or left hand). If you are uncertain about the hand of the operator look at the serial number on the swinger operator. The first digit will tell you "L" for left hand "R" for right hand. If uncertain about a P.A.C. operator the first three digits should read ACL for left hand, and ACR for right hand.
2. Place the operator upside down with the shaft facing up. A center line is scribed on the shaft (Figure #9).
3. Place the O.H.C. arm on the shaft, aligning the scribed center line and the center line of the arm (Figure #9).
4. Right hand O.H.C. operator; preset arm 210° counter-clockwise. Insert a 5/16-18 x 1 3/4" LG. SOC HD. cap screw in the operator to hold the arm with the correct preload.
5. Left hand O.H.C. operator; preset 210° clockwise. Insert a 5/16-18 x 1 3/4" LG. SOC. HD. cap screw in the operator to hold the arm with the correct preload. (Figure #11).

Figure 9

Figure 10

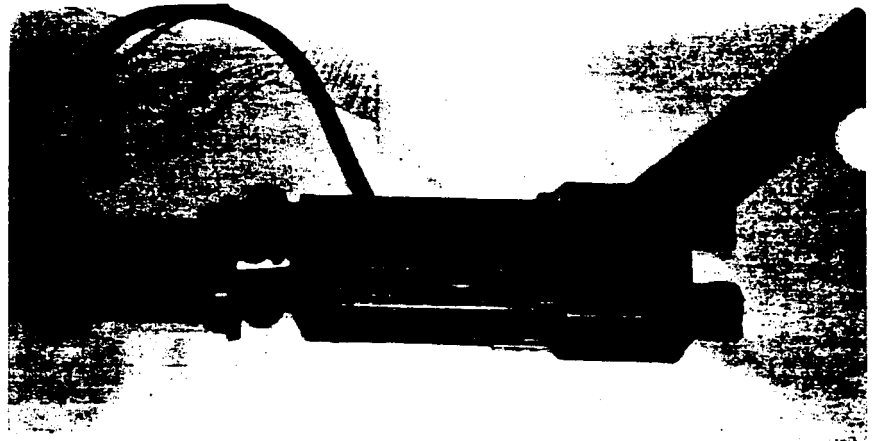
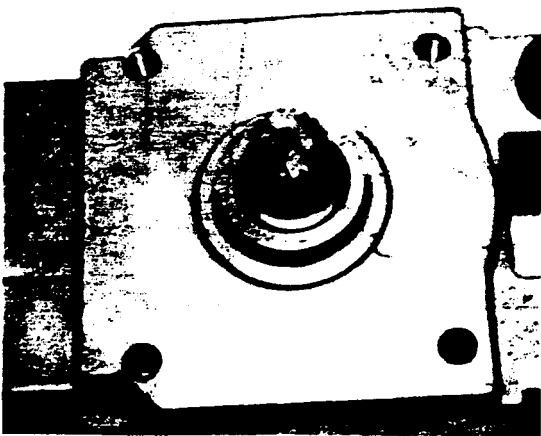
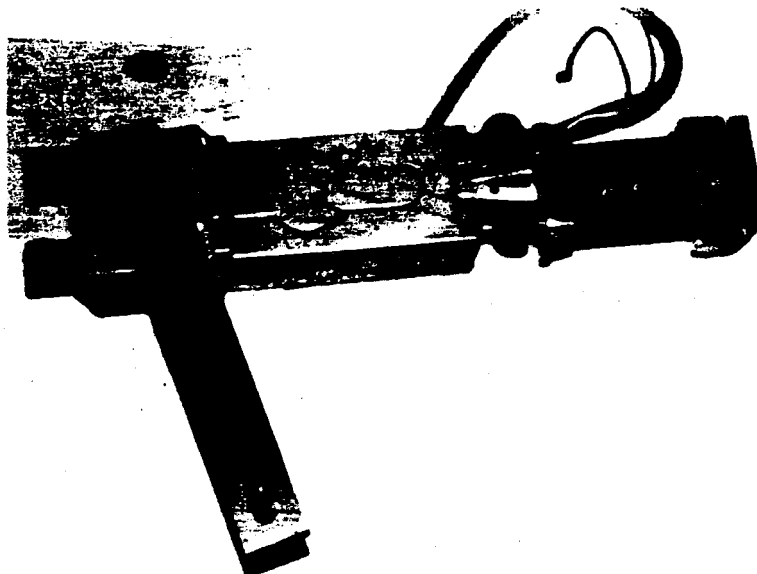


Figure 11



INSTALLATION OF ANY O.H.C. OPERATOR (RIGHT HAND & LEFT HAND)

1. Connect operator motor wires from the switch harness on to the base of motor. (Right hand - match colors, left hand - mismatch colors). Refer to circular instruction sticker on each motor.
2. Elevate operator into O.H.C. header housing angling above the pivot base (Figure #12). Secure rear operator feet over pivot base operator pins (Figure #13) and front operator feet on operator frame mount - motor end.
3. Attach (1) special washer and 3/8-16 hex jam nut on each of (2) frame mount posts - motor end. Tighten hex jam nuts until they are snug.
4. CAUTION: Do NOT allow switch harness to be installed between operator feet. The switch harness must be beside operator.

Figure 12

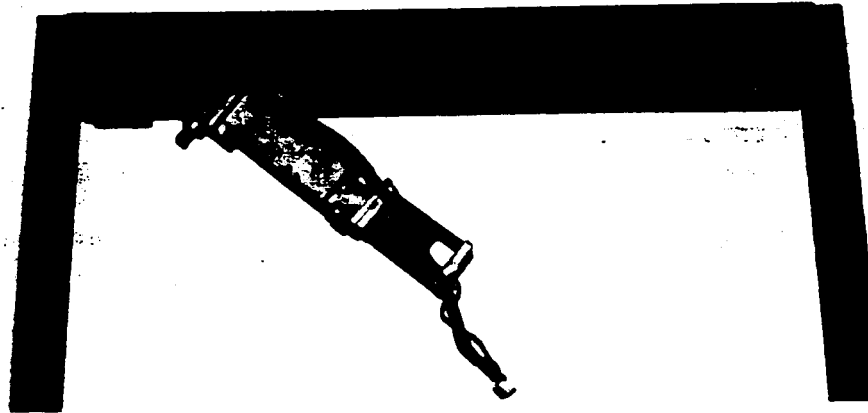
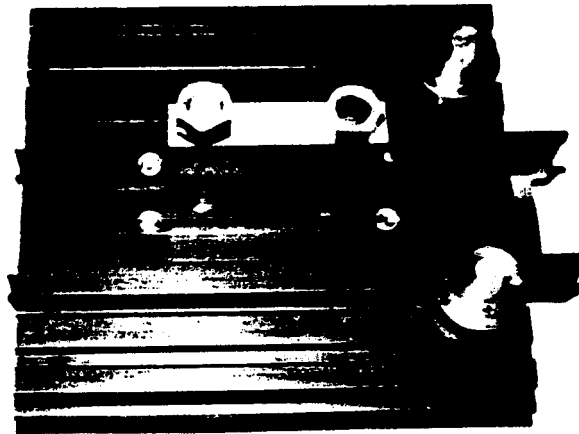


Figure 13



ATTACHMENT OF OPERATOR ARM TO DOOR

1. Align door so that hole in arm is in alignment with the busing in slide block.
2. Install spacer washers (3 for 3/16" clearance door, 2 for 1/8" clearance door, 1 for 1/16" clearance door) over smooth end of pivot screw.
3. Thread (Arm to Slide) pivot screw into arm with smooth end of screw fitting into the bushing of slide block.

INSTALLATION OF CONTROL BOX (FIG. 15)

1. Push control box into mount.
2. Plug in switch harness to ten (10) Pin socket next to active relay.
3. Plug mat harness to four (4) Pin socket next to safety relay after mat wires are hooked up.
4. Plug in power harness (after line voltage is connected) into three (3) Pin socket in corner of control box marked "120 volt 60 HZ".

Figure 14

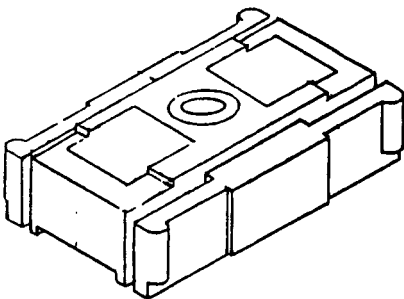
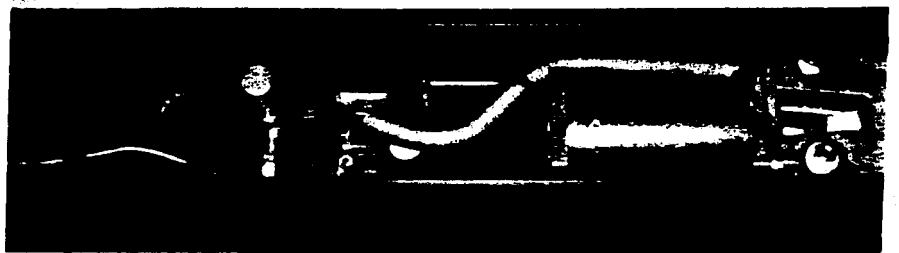


Figure 15



5. Move, "three position selector switch" into (1) sw. safe or (2) std. safe. position.

(1) When door is activated after holding mat is activated door creeps open or when door is activated it opens at normal speed and then an object activates the holding mat it continues opening but at a creeping speed.

(2) When door is activated and an object has previously activated the holding mat the door remains closed or when door is activated and an object then activates the holding mat door continues opening at normal speed.

NOTE: NEVER MOVE "SELECTOR SWITCH" INTO SLIDE POSITION!

6. Main opening and backcheck speeds are adjustable via (2) three position selector switches.

TROUBLE SHOOTING PROCEDURE - GYRO TECH SWING DOOR OPERATOR, SPRING CLOSED

ITEM:

1. Door will not open.

CHECK ITEMS:

1.1 Check power line switch to make sure it is ON and line power is entering operator control box.

1.2 Check activating circuit, low voltage switch in common mat lead (24V. circuit) to make sure it is in the ON position.

1.3 Check fuse in control box to make sure it is good.

NOTE:

If check items 1.1, 1.2 and 1.3 are OK, then start trouble shooting procedure.

1.4 Check to see that all plug-in relays and plug-in harness connections are making contact.

1.5 Remove mat harness plug from control box and insert a mat lead test harness. (available from Gyro Tech. Enables serviceman to activate operator at control box and bypass all other activating devices.)

1.6 If unit operates properly when energized with test harness, then check activating leads or activating devices themselves for open circuit. Also check panic breakaway.

1.7 If unit doesn't operate when energized with test harness, then check and/or change the following:

1.7.1 Control box

1.7.2 Operator harness wires

1.7.3 Not making contact in control box and/or micro switches.

1.7.4 Motor

ITEM:

2. Door stays open with no power to motor.

CHECK ITEM:

- 2.1 Check to see that door is free of debris, binding in opening or bad and loose hinges.

NOTE:

If check item 2 is OK, then start trouble shooting procedure.

- 2.2. See if door can be closed by applying a reasonable amount of hand pressure.

- 2.3 If door can be closed by a small amount of hand pressure you may assume the following:

- 2.3.1 Snap rings missing on gear shafts - This will allow the shafts to move up and down and bind gear train. Snap ring may be replaced in field.
- 2.4.2 Broken or jammed gear train internally - replace operator.
- 2.4.3 Check slide block adjustment in door.
- 2.4.4 Possible bad motor replace.

ITEM:

3. Door stays open with power on motor.

CHECK ITEMS:

- 3.1 Check all activating devices to see that they are free of objects which might cause them to maintain contact.

NOTE:

If check item 3.1 is OK then start trouble shooting procedure:

- 3.2 Remove mat or other activating leads from Control Box.
- 3.3 If operator times out and shuts off, check activating leads or activating devices themselves for short circuit.
- 3.4 If operator continues to run with activating circuit disconnected, check the following:
 - 3.4.1 Relays points stuck closed - replace relays.
 - 3.4.2 Shorted circuit in Control circuit board - Change control box.

ITEM:

4. Door opens slow - bounces at open position, closes more rapidly.

CHECK ITEM:

- 4.1 Make sure all harnesses and relays are plugged in tightly.
- 4.2 Replace all micro switches and check operation.
- 4.3 Replace control box and check all switches as described previously.

ITEM:

5. Door slams when closing.

CHECK ITEM:

- 5.1 Faulty Resistors: There are two (2) resistors in the control box that control the speed of the door during closing and latching. The smaller resistor is 20 OHMS and is standard for all size doors for latching.

The following maximum door weights (total glass weight plus door and carrier) are permissible with the corresponding maximum resistor size in order to limit closing kinetic energy to 2.5 FT. LB.
(Each control box will contain the resistor size to corresponding door size.)

<u>DOOR LEAF SIZE</u>	<u>MAXIMUM DOOR WEIGHT</u>	<u>MET MOTOR RESISTOR SIZE</u>	<u>RAE MOTOR RESISTOR SIZE</u>
30"	86 LBS.	175 OHMS	600 OHMS
36"	103 LBS.	150 OHMS	550 OHMS
42"	131 LBS.	125 OHMS	500 OHMS
48"	148 LBS.	125 OHMS	450 OHMS

ITEM:

6. Door starts to open and stops halfway.

CHECK ITEM:

- 6.1 Check switch harness for shorts and check switches (refer to 3.4, page 20).

ITEMS TO CHECK ON NEW INSTALLATIONS

1. Brush Retainer Caps tight on Motor.
1.1 Retianer Caps may work loose in shipment or during installation.
2. Operator Harness - Make sure operator harness connectors are secured tightly on micro switches.
2.1 Harness connectors may be disconnected from micro switches during shipment or during installation.
3. Control Box Relays - Check relay plug-in contacts - make sure they are not broken off or pushed up in relay housing.
3.1 These relays may jar loose in shipment and plug in contacts become loose or damaged.
4. Motor runs operator will not open door - Check screws on motor coupling for tightness.
4.1 Vibration during shipment may cause these to loosen. Coupling will spin on shaft when installed or shortly after a few cycles.

ITEMS REQUIRING SPECIAL ATTENTION ON OHC INSTALLATIONS

While Gyro Tech units require very little specific maintenance work on a regular basis, it is recommended that a check of the installation be made at least once every six months. This will assure the units are performing at top efficiency. Jobs should be checked for the following:

1. Loose Top Pivot
(A) Check all screws to be sure they have not loosened up.
(B) Check that walking beam pivot is all the way down and tight.
2. Lubricate Track
(A) Check lubrication in slide track - if necessary lubricate with light grease or vaseline.
3. Loose or Noisy Slide Block
(A) Adjust set screws for smooth operation.
4. Loose Bottom Pivot
(A) Check mounting screws to assure none have loosened up.
(B) Check floor portion of pivot to make sure the mounting screws have not loosened up.
5. Loose Operator
(A) Remove operator and replace rubber pressure pads on cam cover.
6. Check for proper back check and latching. If adjustment is required, remove operator and adjust cams. Also refer to Paragraph 5.1.
7. Tighten all visable screws and set screws including the set screw in the arm. Care should be taken to make sure everything is tight and operating smoothly.