INSTALLATION MANUAL

besam®

PROGRAMABLE

VisionPulse™ T.M.

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Programable "VisionPulse"						
Installation Steps				Operator Type	Swing Path Function	Wiring Diagram	Control Board
				SWINGMASTER Series	HOLD (STOP)	B-18010	Single 621018 (Dwg. 18008) Dual 621017
				ECONO-SWING Series	NORMAL MAT	B-18014	620101 and Power Supply 624104
				COMPETITIVE Equipment	NORMAL MAT	B-18012	Power Supply 624104 (Dwg. A-90044)

1	x			Install jumpers 15 to 16 and 17 to 18. Impulse opening (jump 13 to 14). Tune operator - see adjustment (Dwg. D-18008). Adjust time delay for full cycle with a momentary impulse. "B" switch must be installed.
		x		Install and tune operator following Installation Manual US-012.
1			x	Check opening and backcheck speeds. Check safety functions. Install VisionPulse power supply, wire 110 volts. (See Note "B").
2	x	x	x	Install "Commander I" motion detectors. (See Note C). Adjust impulse field to overlap approach VisionPulse short range field. Short range will be approximately clear door opening width. All doors in close proximity to each other should be operated checking for unwanted impulses. Disconnect motion detectors until VisionPulse tune in is completed.
3	x	x	x	Prepare and drill door and frame for VisionPulse sticks, harness and switch "A" (see Dwgs. A-90032, A-90036, and B-90045. Note recommended height of VisionPulse is 33 1/2" from bottom of door.
4	x	x	x	Carefully install switch "A" (see drwgs. A-90032 single, A-90036 pairs). (See Note "D"). Check function with OHM meter. Closed contact with door at "0" degrees. For hollow metal steel doors or frames (See Note "E").
5	x	x		Install five conductor 22 GA stranded wires from operator control to VisionPulse terminal strip. (See Note "F").
5			x	Install five conductor 22 GA stranded wires from power supply to VisionPulse terminal strip. Install three conductor 18 GA stranded wire from power supply to operator control. (See Note "F").
6	x	x	x	Program approach and swing path VisionPulse sticks (see Dwg. A-80006). Prepare wires for switch "A" (see Dwg. B-90045). Adjust long and short range potentiometers to minimum setting.
7	x	x	x	Install and wire approach and swing path VisionPulse sticks. "B" switch should not be connected at this time.
8	x	x	x	Door zero degrees. Adjust desired approach long range with test pattern supplied (see Note "G"). Test range with body.
9	x	x	x	Door 90 degrees. Adjust desired approach short range with test pattern supplied.
10	x			Install jumper wire on swing path VisionPulse between terminal 2 (OV) and 4 (on/off) VisionPulse on mode is in effect. Door at "45" degrees, tape paper loosely across swing path VisionPulse, then across approach VisionPulse. Push door fully closed "0" degrees (long range now in effect), position 8" x 12" test pattern 12" from swing path VisionPulse. Remove taped paper and slowly move test pattern away until an opening impulse is obtained. Adjust long range and repeat procedure until desired field is obtained approximately 12" beyond sweep of door.
10		x	x	Follow Swingmaster Step #10 instructions with the exception that "B" switch should be installed at this time. It is an adjustable switch to override swing path VisionPulse function when sensing objects when near full open position, i.e., walls, rails and other traffic patterns. Temporarily install and wire switch "B" utilizing double sided tape provided according to Drawings B-90046 and B-90047 for center pivot or hinge hung doors to impulse at about 75° during closing cycle only - checking function with OHM meter at this time. NOTE: re-positioning of Switch "B" may be necessary during final steps of installation.
11	x			Remove one wire from "A" switch terminal strip, (short range now in effect). On approach VisionPulse side position test pattern to give an opening impulse with door at 5 degrees. During the opening cycle position a 8" x 12" test pattern at 60-70 degrees. Adjust swing path VisionPulse short range to impulse a safe (12" minimum) hold (stop) function. (See Note "H"). Replace "A" switch wire.
11		x	x	Tape paper to swing path VisionPulse and then approach VisionPulse. Adjust short range potentiometer 1/4 turn of range. Next install a wedge between the door and frame preventing the door from closing completely (short range will now remain in effect). Swing door to about 75°. Holding test pattern in front of swing path VisionPulse, remove taped paper of swing path and allow door to close away from it. Door should not impulse open. Repeat adjustments until the door can reach jamb without opening. This adjustment should always be at the very minimum possible but still provide safety. Optimum setting is during closing cycle; a person should be capable of stepping behind the door as close to fully open area as possible and not have door impulse open. Next allow door to close completely in long range and test swing path function again.
12	x			Cycle full door openings. Check for any unwanted hold functions caused by door opening against close objects, i.e., walls, rails, jambs and other traffic patterns. If this should occur, re-position door 5 degrees before hold function was impulsed. Lock motor coupling with thumb turn bolt. Remove operator and adjust "B" switch cam to open the normally closed (N.C.) switch contacts. Swing path (VisionPulse OFF mode is in effect). Re-install operator and wire in switch "B" (see Dwg. B-1810). "B" switch should be adjusted to impulse at 75 degrees on other applications (see Notes "H" and "I").

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				COMPETITIVE Equipment	NORMAL MAT	B-18012	Power Supply 624104 (Dwg. A-90044)
12		x	x	Remove taped paper from both VisionPulse. Impulse door to fully open position. Allow it to close to about 70° and impulse to open. Door should recycle to 90° with no hesitation. If response is delayed adjust door indicator switch "B" (see Step 8). To activate about 65° -- repeat until door recycles with little delay. Permanently install and wire Switch "B" at this time. Recheck swing path function again. This adjustment is more critical when door is opening against very close object, i.e., walls, rails and other traffic patterns. (See Note "I")			
13	x	x	x	Re-install Commander I harness and check all door functions. If cart traffic - bumper bars should be considered to act as a rub rail with door fully open.			
14	x	x	x	Install end caps and security covers. IMPORTANT: Explain functions to responsible individuals.			

NOTES

A Power supply may also be used to retrofit "VisionPulse" to earlier Econo-Swing and Swingmaster operators. Follow competitive instructions.

B Some applications may require time delay. If Commander I Motion Detectors are not installed, time delay is recommended.

C Commander I will always be utilized as an approach opening impulse only for either single or two-way traffic.

D Magnetic jamb switch "A" should not be hammered into position. Sensitive glass enclosed switch could be damaged.

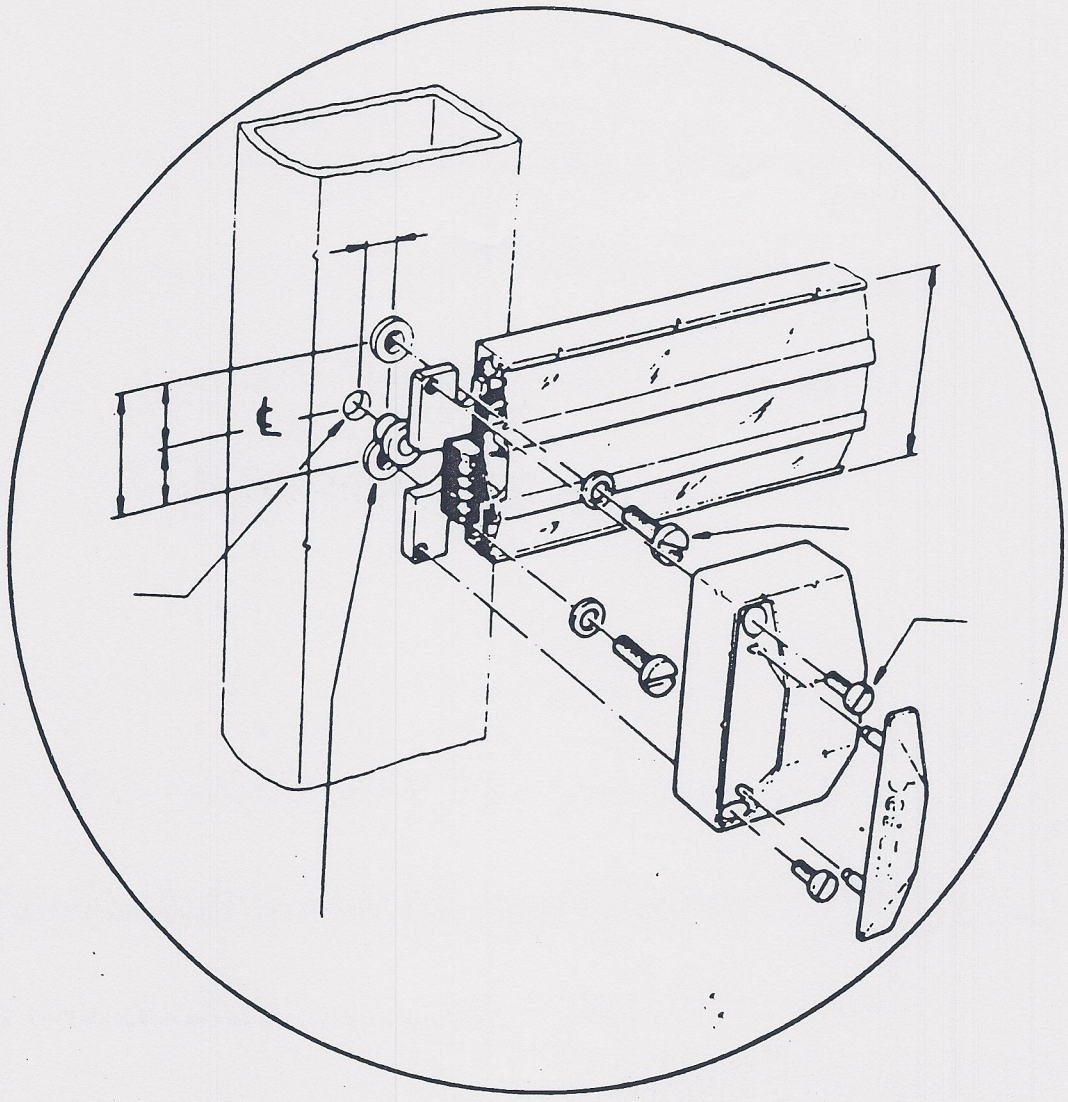
E Switch and magnets must have plastic isolators to prevent reduction of magnetic field due to steel doors or frame. Contact Besam Engineering Department.

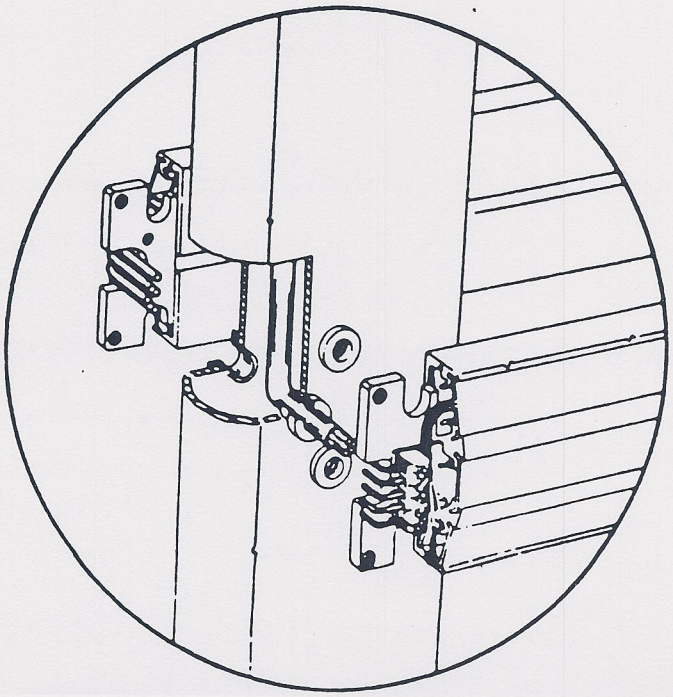
F Solid wire not recommended due to extreme flexibility requirements.

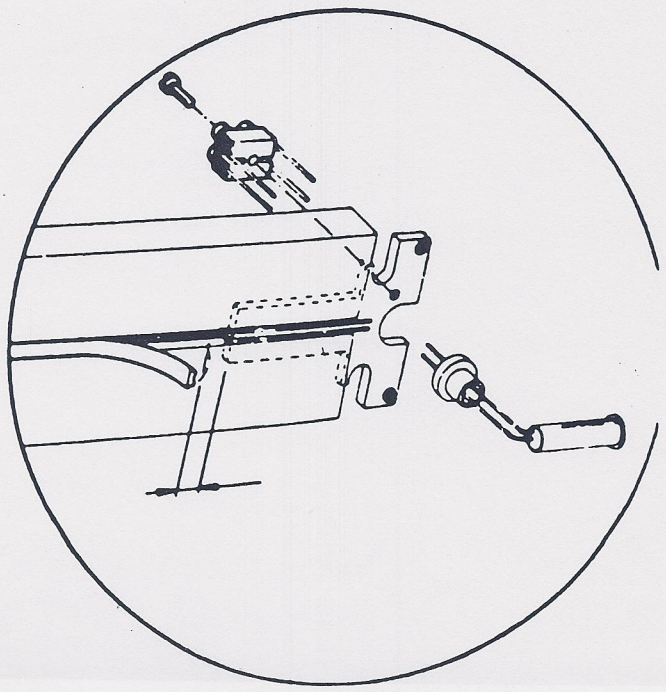
G VisionPulse shipping container is designed to be a free standing test pattern. Pattern is white 8" x 12" area.

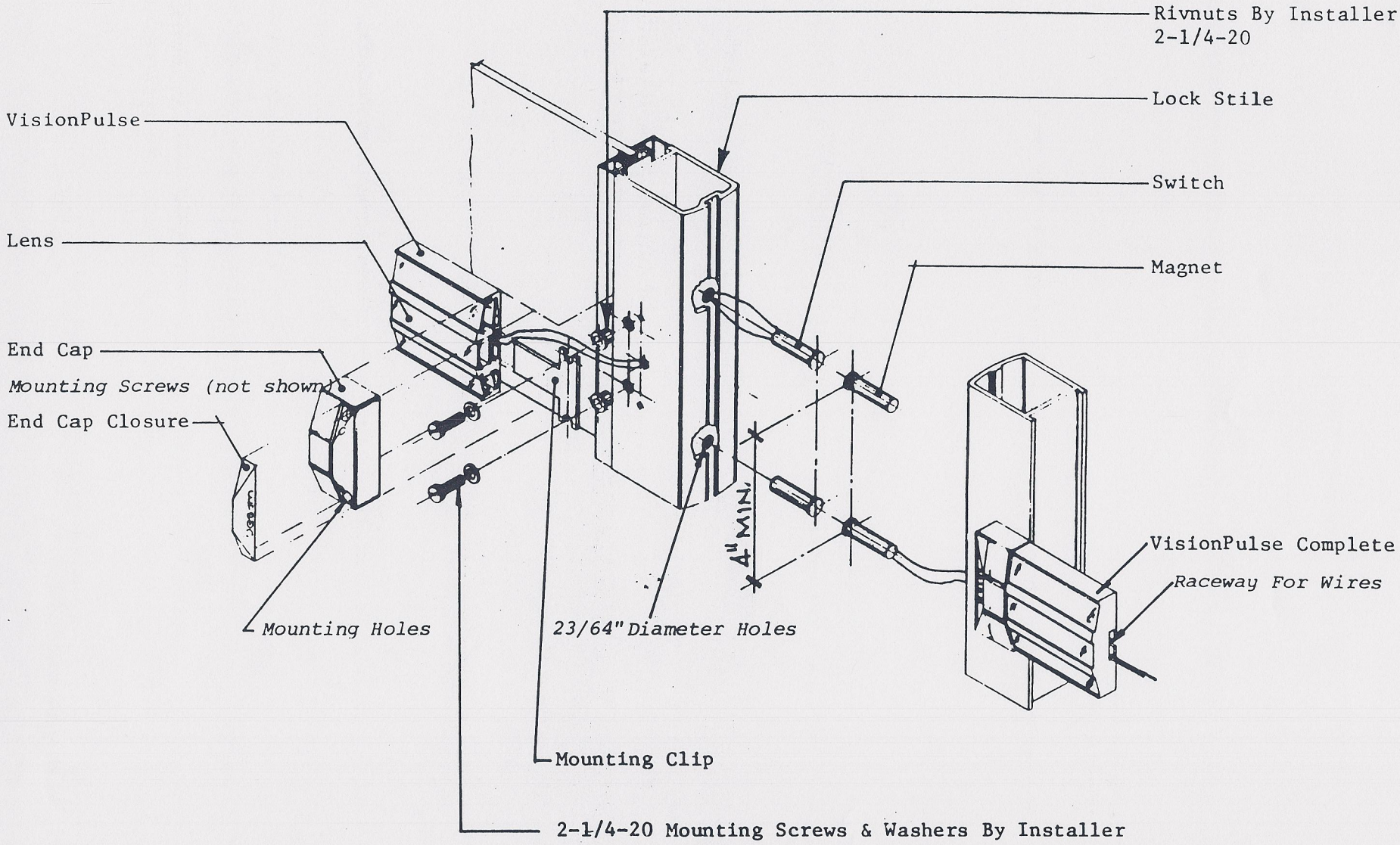
H Swing path short range impulse field will vary depending on door weight and opening speed.

I In some applications it is recommended to mask off (blocking out of transmitted infrared light) to maintain optimum approach and swing path functions. Please contact Besam Engineering Department.





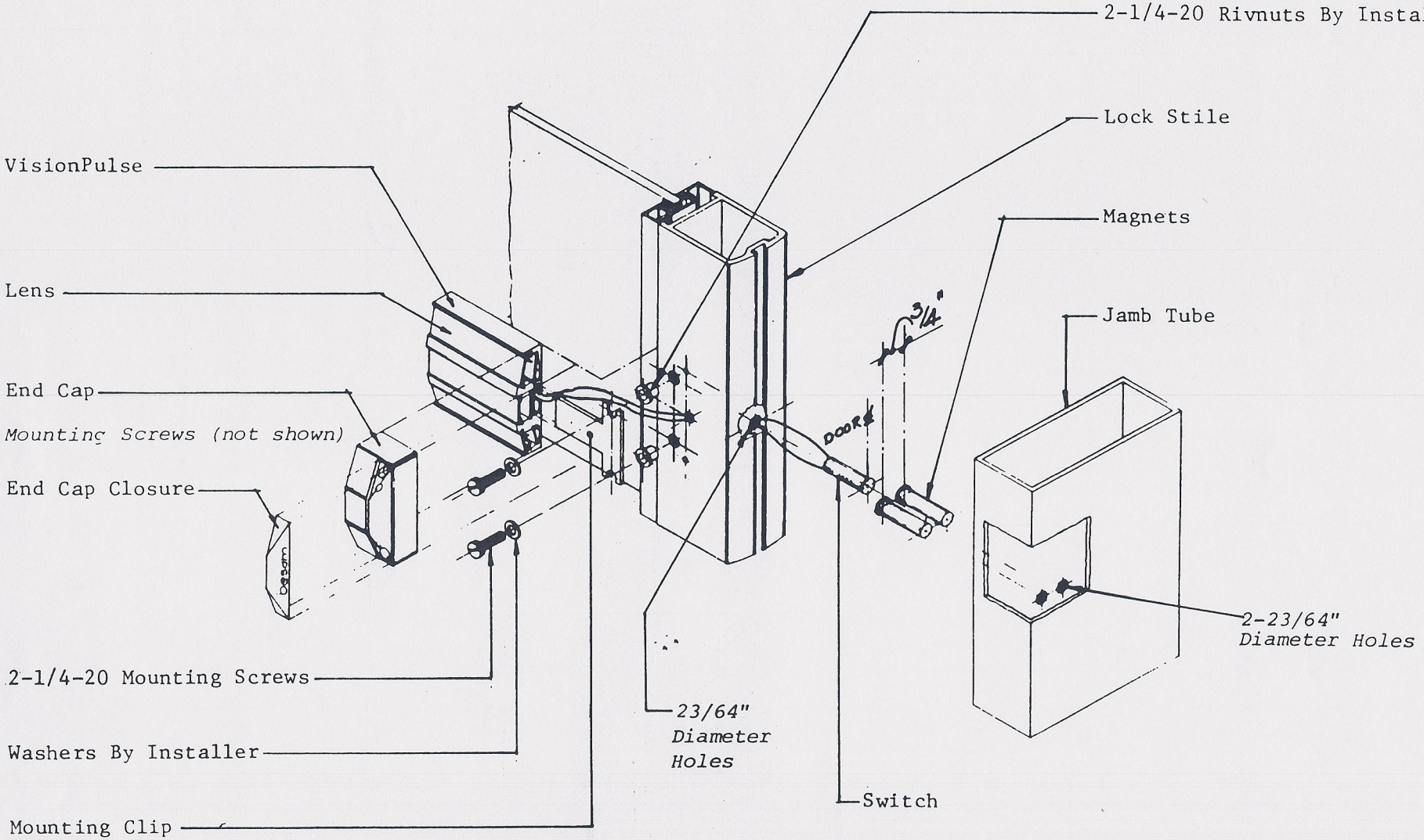




Switch "A"

Simultaneous Pairs

A-90036

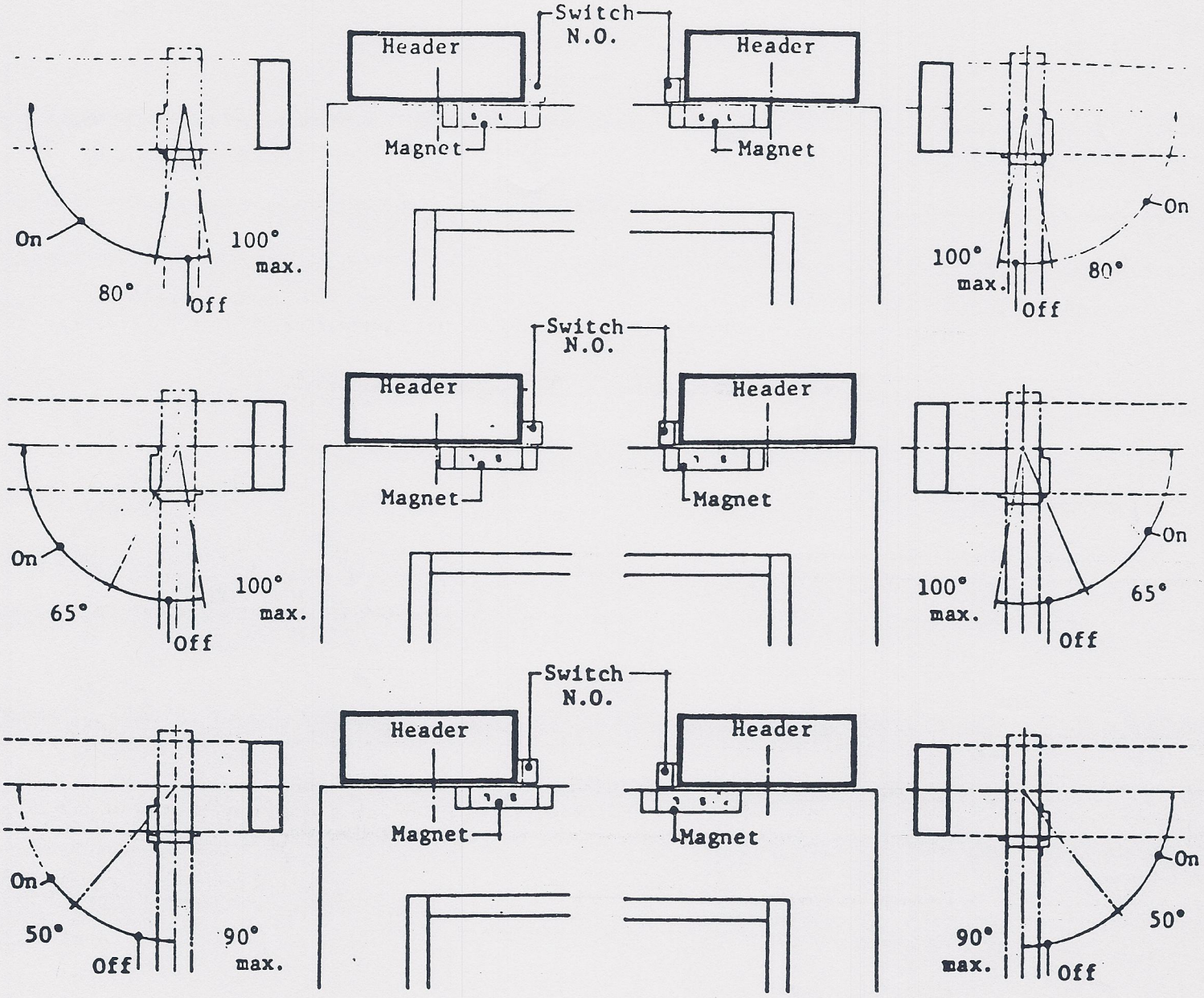


Switch "A"

Single Doors

A-90032

SWITCH "B" - CENTER PIVOT DOORS



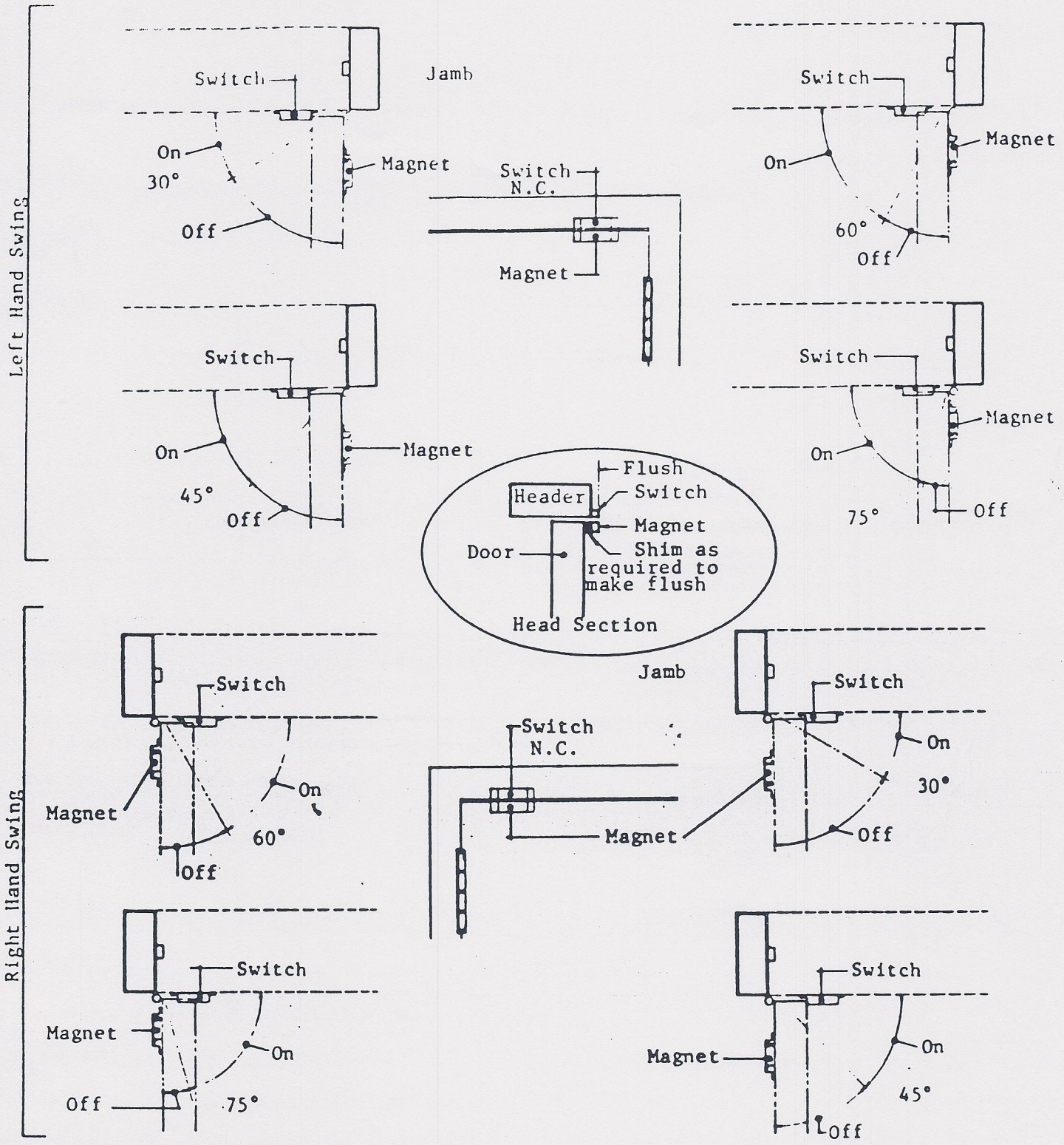
Left Hand Swing

Right Hand Swing

1. With door in full open position (90°) temporarily install switch on center line of door as shown with double sided tape as provided.
2. Wire the common and normally open contacts of switch. Connect to OHM meter for testing.
3. Position magnet and letters of manufacturer's name (S L) (T S) to desired ranges as shown. Always start with largest <u>on</u> area in door swing.
4. Test with OHM meter in closing cycle only. Meter will show a continuity reading in full open position (90°). Slowly close the door until meter reading is disconnected. This will be the approximate <u>on</u> area as shown.
5. Wire to system and test. Repositioning magnet may be necessary. Secure permanently only when satisfied with swing path function of door.

A-90033

SWITCH "B" - HINGE HUNG DOORS



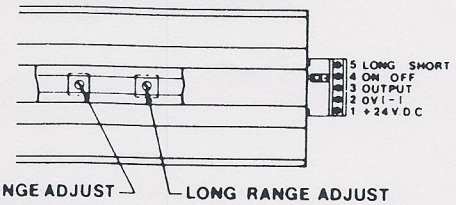
1. With door in full open position (90°) temporarily install switch on header to give largest <u>on</u> area in door swing as shown. Double sided tape provided.
2. Wire common and normally closed contacts of switch. Connect to OHM meter for testing.
3. Position magnet with letters of manufacturer's name (S L) (T S) on magnet as shown.
4. Test with OHM meter on closing cycle only. Meter will show a reading at full open position (90°). Slowly close the door until there is no meter reading. This will be the approximate <u>on</u> area as shown.
5. Wire to system and test. Repositioning of switch and magnet may be necessary. Secure permanently only when satisfied with swing path function of door.

ev. 3/15/82

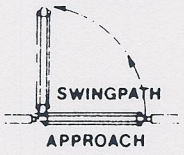
A-90034

EXPLANATORY TEXT TO CONNECTION DRAWINGS

ADJUSTING POTENTIOMETERS CONNECTION BLOCK

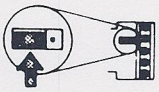


FUNCTIONS



PRE-PROGRAMING

IFD WITH SWINGPATH FUNCTION

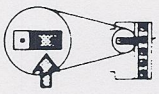


POSITION OF THE PROGRAM JUMPER

SWINGPATH FUNCTION

CONNECTION	IFD STATUS	OUTPUT STATUS
① PRE-PROGRAMING	NOT ACTIVATED	LOW (-)
	ACTIVATED	OPEN
② ON/OFF "B" SWITCH		
SWITCH OPEN	IFD DISCONNECTED	CONSTANT LOW over act.comman
SWITCH CLOSED	IFD CONNNECTED	NO EFFECT
③ SHORT/LONG RANGE "A" SWITCH		
SWITCH OPEN	SHORT RANGE	NO EFFECT
SWITCH CLOSED	LONG RANGE	NO EFFECT

IFD WITH APPROACH FUNCTION



POSITION OF THE PROGRAM JUMPER

APPROACH FUNCTION

CONNECTION	IFD STATUS	OUTPUT STATUS
① PRE-PROGRAMING	NOT ACTIVATED	OPEN
	ACTIVATED	LOW (-)
② ON/OFF		
JUMPED	NO EFFECT	NO EFFECT
③ SHORT/LONG RANGE "A" SWITCH		
SWITCH OPEN	SHORT RANGE	NO EFFECT
SWITCH CLOSED	LONG RANGE	NO EFFECT

GENERAL NOTES:

IFD = *VisionPulse stick*
"A" = N.O. MAGNETIC JAMB SWITCH
"B" = ADJUSTABLE SWINGPATH SWITCH
LOW = 0V (-)
OPEN = NO OUTPUT --
(TRANSISTOR OUTPUT WITH OPEN COLLECTOR)

TECHNICAL DATA:

LOW DRIVE CAPABILITY - 150 mA
CURRENT CONSUMPTION - 65 mA PER STICK
SUPPLY VOLTAGE - 24 VDC ±3 VDC (REGULATED)
MAX. RIPPLE - 0.15 V

ITEM	QTY	PART NAME	MATERIAL	DWG/DET NO	NOTE

DWN BY E.R. | CHKD BY | SCALE

TOLERANCE EXCEPT AS NOTED

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PROGRAMABLE *VisionPulse* TECHNICAL INFORMATION

REPLACES D-80006 | REPLACED BY

DATE 11/30/82

DWG NO A-80007

REF. 652 252

THE PROPER WAY TO MEASURE A VISION PULSE STICK IS TO FIRST REMOVE THE BLACK PLASTIC END CAPS. THEN MEASURE JUST THE ALUMINUM EXTRUSION. WE ALSO NEED TO KNOW THE COLOR.

IT IS VERY IMPORTANT THAT THIS BE DONE ACCURATELY, AS EACH STICK IS CUSTOM CUT AND STICKS ARE IN SHORT SUPPLY.