



A Member of  
**AAADM**

American Association of Automatic Door Manufacturers

# AUTOMATIC SWINGING DOOR OWNER'S MANUAL

- ▲ Swingmaster® MP
- ▲ Swingmaster®
- ▲ Navig-Aider™

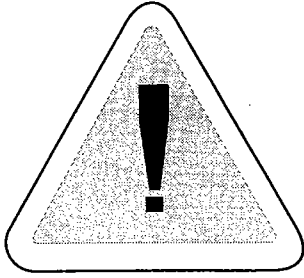
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81 Twin Rivers Drive  
Hightstown, NJ 08520-521  
Tel: (609) 443-5800  
Fax: (609) 443-3440



# CAUTION

**Improperly Adjusted Doors** can cause injury and equipment damage.

Inspect door operation daily using safety checklist in owner's manual and at door.

- ▲ Have door adjusted as described in Owner's Manual.
- ▲ Safety devices should be in place and operational.

Have door inspected at least annually by an AAADM certified inspector and after any adjustment or repair.

In the following manual, the word:

**Caution** means that injury or property damage can result from failure to follow instructions.

**Note** is used to indicate important steps to be followed or important differences in equipment.

# To Our Customers

The purpose of this manual is to familiarize you with your automatic door system. It is essential that you "know your system" and that you recognize the importance of maintaining your door system in compliance with the industry standards for safety.

**It is your responsibility**, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your invitees, customers, or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides the instructions for the Daily Safety Check.

Should the door fail to operate as prescribed in the Daily Safety Check, or at any other time for any other reason, **do not attempt to repair or adjust the door**. Call a qualified service technician. These technicians are trained to service your door in accordance with applicable industry safety standards.

## Service Availability

Besam products are distributed through a nationwide network of Besam authorized distributors for sales, installation, and service.

Should you need service on your door system, consult the yellow pages of your telephone directory under "Door-Opening Devices" for your local Besam authorized distributor or call

1-800-752-9290 for a local distributor.

## Compliance with Safety Standards

Your door system was designed to the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- ▲ Your door system be maintained in compliance with the standards of the industry.
- ▲ Proper decals and labels be applied and maintained on your doors. If decals are removed or cannot be read, request labels to be replaced when calling for service.
- ▲ Safety devices for all doors should be checked by an AAADM certified inspector annually and each time a door is serviced.

**AAADM**, the American Association of Automatic Door Manufacturers, has established a program to certify automatic door inspectors. Through this program, the inspectors check your door systems for compliance with the appropriate version of the American National Standards Institute standard ANSI A156.10.

### What You Should Know

Be sure that a Besam distributor has provided the following for each door:

1. Instruction on how to conduct the Daily Safety Check (to walk through example)
2. Location of junction, switches and instructions to their use
3. Circuit breaker or power disconnected location for each door system
4. Discussion of problems that could result from door being allowed to operate after a malfunction is observed

5. Name to call for service or questions about your system if you are unable to get resolution or situation

Note: If there are any problems, discontinue door operation immediately and secure in a safe manner. Call your local authorized Besam distributor for help.

6. AAADM compliance certificate signed by an AAADM certified automatic door inspector
7. Warranty information for each door

# Daily Safety Check - *Swing Doors*

Perform these safety checks daily on each automatic swinging door to ensure your customers' safety and your own protection:

## Motion Detector Actuation/Presence Detection Safety

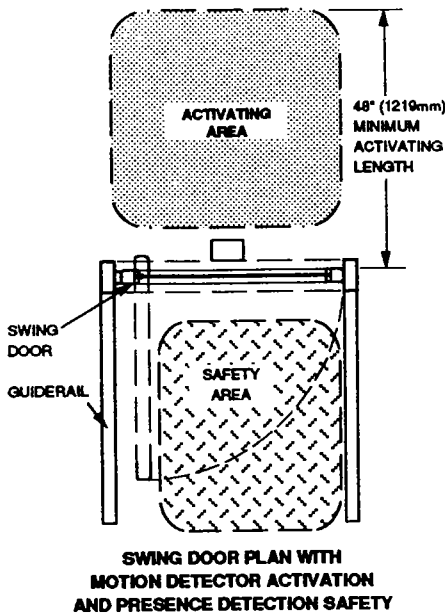


Figure 1

1. Check electronic sensor by walking toward the door opening. The door should start opening when you are about four feet from the door, and should swing open smoothly and stop without impact. Move slowly through the door (6 in. per second). The door should remain open.
2. Step out of the sensor zone. After a brief time delay (at least 1 1/2 seconds) the door should close to 10° from fully closed, then noticeably slow down and take at least 1 1/2 seconds for the final 10° closing.
3. Approach the safety side of the door first, then have someone else approach the activating side of the door, as long as you are in the safety area of the door it should not open. (See Figure 1)

Caution: If safety sensor is not working, door may swing at you without stopping.

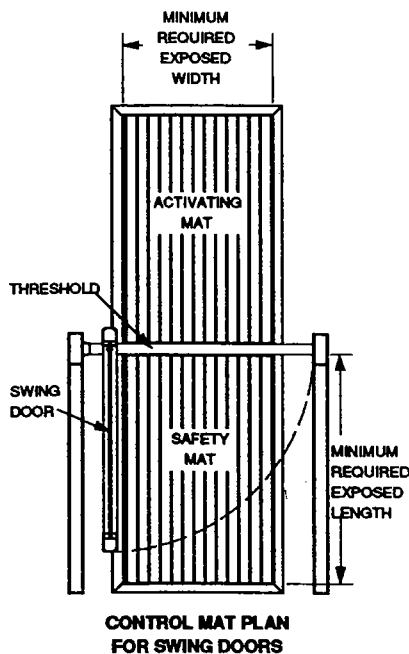


Figure 2

## Floor Mat Actuation/Floor Mat Safety

4. Step on the "opening" mat.
5. It is necessary to have a "Safety Mat" covering the entire area the door swings over. Step through the doorway onto the safety mat and remain motionless for four seconds. The door should remain open. Repeat at several locations on the mat. (See Figure 2)
6. Step off the "safety" mat. After a brief time delay (at least 1 1/2 seconds) the door should close to 10° from fully closed, then slow down. The last 10° of closing should be noticeably slower (at least 1 1/2 seconds).
7. With the door closed, step on the "safety" mat. Have someone step on the opening mat. Door should remain closed as long as someone remains on the "safety" mat.

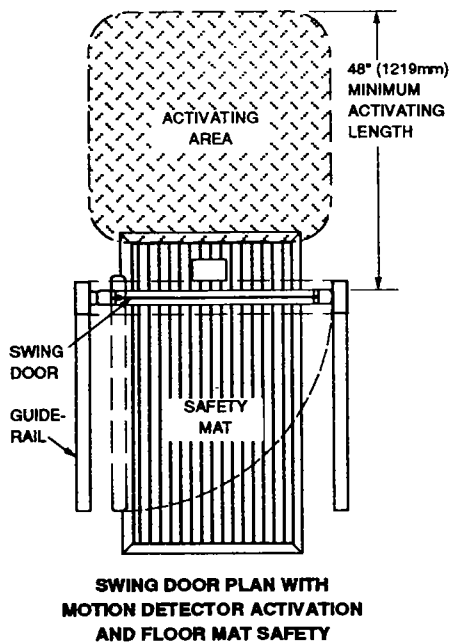


Figure 3

**Caution:** If safety sensor is not working, door may swing at you without stopping.

8. Check the mat molding and threshold. It should be complete and secured with all required screws.
9. If the door has motion detector activation and floor mat safety, one of the following three requirements must be met (See Figure 3).
  - A. Five inches of visible safety mat must extend through the door opening onto the approach side.
  - B. Provide a photo-electric (door hold open beam) across the door opening on the approach side.
  - C. The adjustable time delay in the door operator must be set to at least 4 seconds.
10. **Do Not** move very heavy objects over floor mats.



Figure 4



Figure 5



Figure 6

### General Safety

1. Breakout Stop - In-swing doors on center pivots can be supplied with a breakout stop that will allow the door to open to 90° in the opposite direction of normal traffic. Call your supplier for details. When the door is pushed into the breakout mode, the power to the operator is removed (except spring closer force).
2. Decals - The door should have traffic decals properly displayed as follows:
  - A. An arrow sign (See Figure 4) shall be visible from the approach side of a swinging door, mounted on the door at a height 58 in., ±5 in. (147 cm, ±13 cm) from the floor to the centerline of the sign. The sign shall be minimum of 6 in. (15.2 cm) in diameter, having a green circle surrounding a black arrow on a white background.
  - B. An international "DO NOT ENTER" sign (See Figure 5) shall be visible from the side that would swing toward pedestrians attempting to travel in the wrong direction. It should be mounted on the door at a height

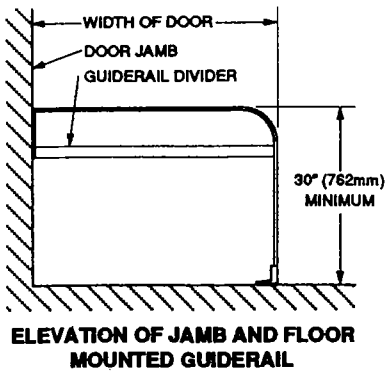


Figure 7

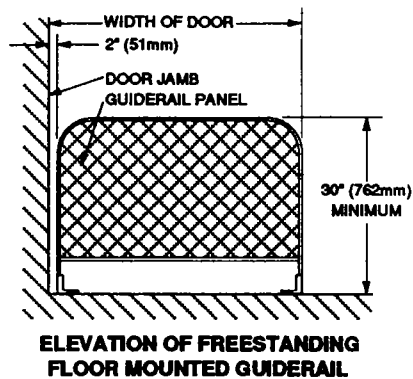


Figure 8

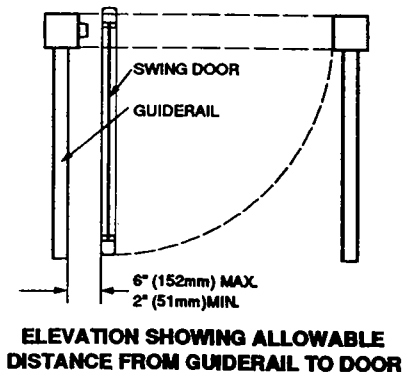


Figure 9

58 in.,  $\pm 5$  in. (147 cm,  $\pm 13$  cm) from the floor to the centerline of the sign. The sign shall be minimum of 6 in. (15.2 cm) in diameter, having a red circle with the wording, "Do Not Enter", in white letters in the red circle.

C. Swing doors serving both egress and ingress shall be marked with a decal, visible from both sides of the door, with the words "CAUTION, Automatic Door". (See Figure 6) The words "Automatic Door" must be at least 1/2 in. letters. It should be mounted on the door at a height 58 in.,  $\pm 5$  in. (147 cm,  $\pm 13$  cm) from the floor to the centerline of the sign. The sign shall be minimum of 6 in. (15.2 cm) in diameter and made with black lettering on yellow background.

If you need additional decals for your automatic doors, call your Besam distributor.

3. Guide Rails and Lock Stile - Check that guide rails or other barriers or separators are present (two per swing door side) and firmly anchored. (See Figures 7, 8, 9)

With door open, grasp lock stile of door and attempt to move vertically and horizontally. There should be no looseness in the door pivots or in connections between door and operator.

4. Housekeeping - Check the door area for tripping or slipping hazards.

Check all door panels for broken or cracked glass. Panels should be made of a safety type material. There should be no bulletin boards, literature racks, merchandise displays, or other attractions in the door area where people could be hit by the door.

5. Traffic Patterns - Observe traffic patterns . Plan routing so people enter and exit in a straight approach, directly on to the end of the mat.

6. Inspect finger guard to see that it is secure and in good repair.

REGARDLESS OF WHICH ACTIVATING DEVICE IS USED, IF YOU HAVE A PROBLEM YOU CANNOT CORRECT, TURN OFF THE DOOR OPERATING EQUIPMENT AND CALL YOUR SERVICE REPRESENTATIVE.

# Service Schedule

Although Besam's automatic door equipment has earned a reputation for world-class quality and reliability, all mechanical devices need service...just like your automobile. Your authorized Besam distributor can offer you a Planned Maintenance Agreement on the equipment you have just purchased. This agreement means the distributor will make planned maintenance calls to inspect, clean, lubricate, adjust, repair or replace worn components.

Frequency of maintenance visits will depend on factors such as traffic, climate, etc. Please ask your Besam distributor how often they recommend the following services:

1. Gaskets and Seals
2. Glass Protection Bars
3. Moldings and Thresholds
4. Pivots (Top and Bottom)
5. Door Control Operations

6. Condition of Door Frames
7. Opening and Closing Speeds
8. Function of Sensor
9. Guide Rails

Periodic maintenance will increase the life and performance of your Besam automatic door. We suggest you contact your authorized Besam Distributor to discuss a Planned Maintenance Agreement. Planned Maintenance Agreements differ between Besam distributors, and Besam has no control over the Agreement each distributor may offer.

## Limited Warranty

Besam, Inc. hereby warrants, subject to the provisions hereof, that the products and parts manufactured by Besam and its affiliates shall be free from defects in material and workmanship for a period of 1 year from the date of shipment from Besam's factory.

# Operational Features

## Control Switch Functions

Two  
Position  
Switch



*Operator is disconnected (Door[s] can be locked manually).*

*Normal position -- the door can be opened with inner and/or outer opening devices (Normal business hour setting).*

Three  
Position  
Switch



(For  
Swingmaster  
Only)

*Operator is disconnected (Door[s] can be locked).*

*Normal position -- the door can be opened with inner and/or outer opening devices (Normal business hour setting).*

*Door(s) permanently open.*

# Door Locking Procedures

## To Lock

1. Stand clear of all opening detection fields and allow door(s) to close completely.
2. Turn door function switch to "off" position (See control switch functions).
3. For interior locking -- Door(s) can now be secured with lock mechanism.
4. For exterior locking -- manually open doors, exit, close manually and secure with key.

## To Unlock

1. Unlock door(s).
2. Manually open.
3. Turn door switch to desired function (See control switch function).

## Emergency Egress (Panic Opening)



In the event of an emergency, INswing doors are, in most cases, also capable of swinging outwards into a "Panic Breakaway" position by exerting force at the lock side of the door. The operator's function is normally shut off whenever positioned in this mode and may require manual resetting of all door leaves to their proper position.

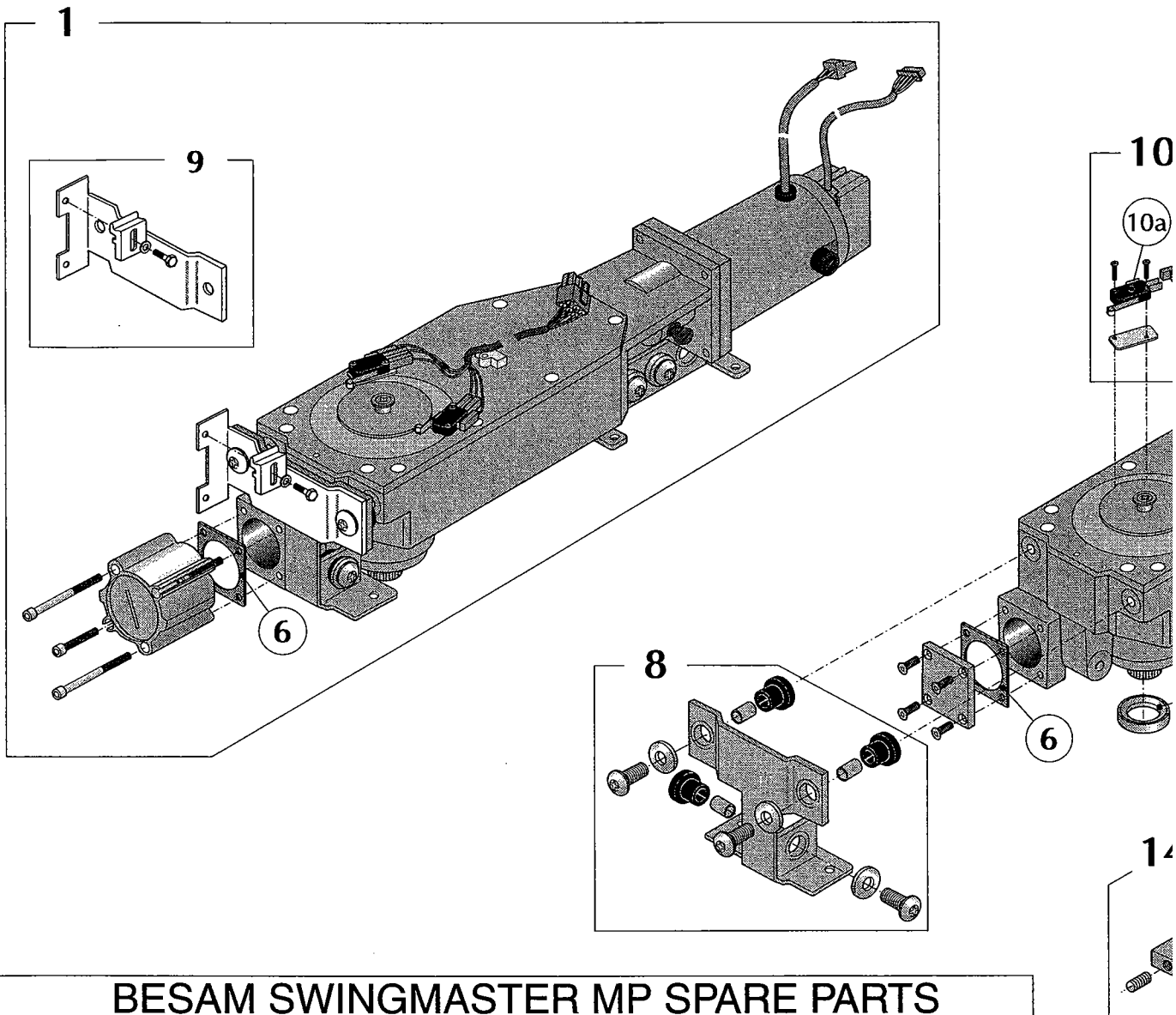
The resetting procedure is not difficult and will vary depending on operator type:

**Navig-Aider:** Switch operator to OFF position, manually close door, insert slide arm roller into track, and manually reset spring-loaded breakaway portion.

**Swingmaster:** Manually push door from full panic position, past retractable door stop, to normal open position.

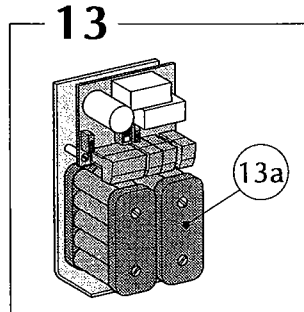
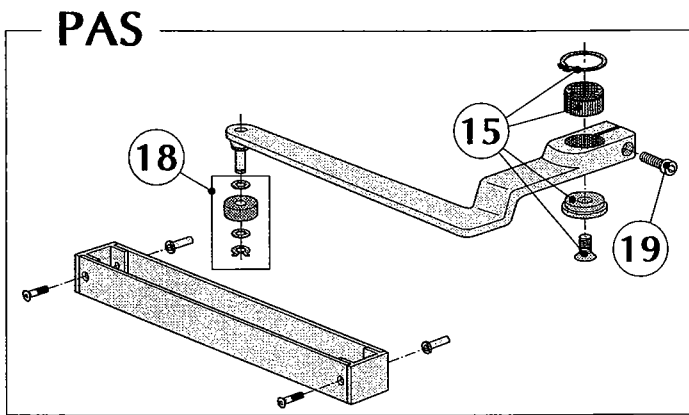
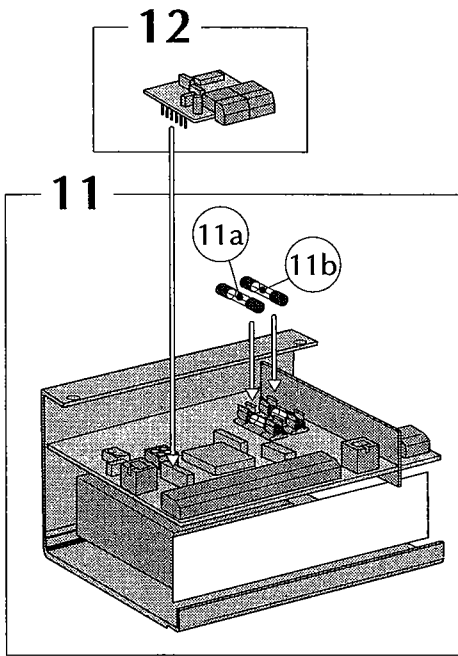
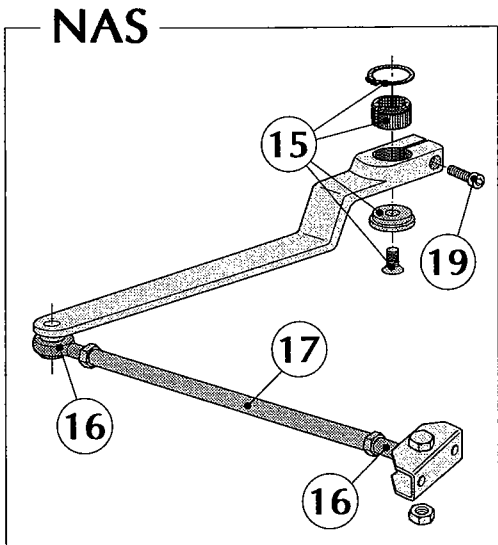
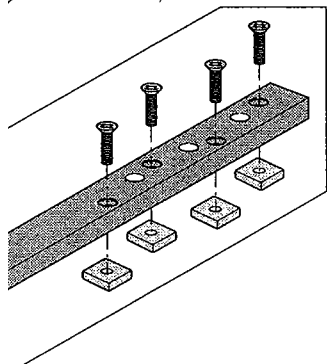
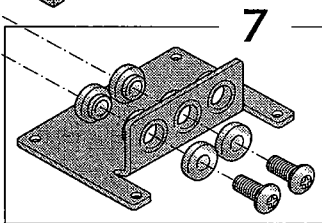
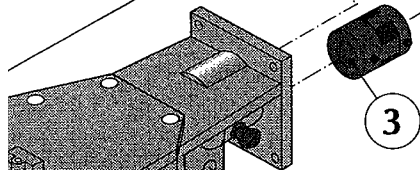
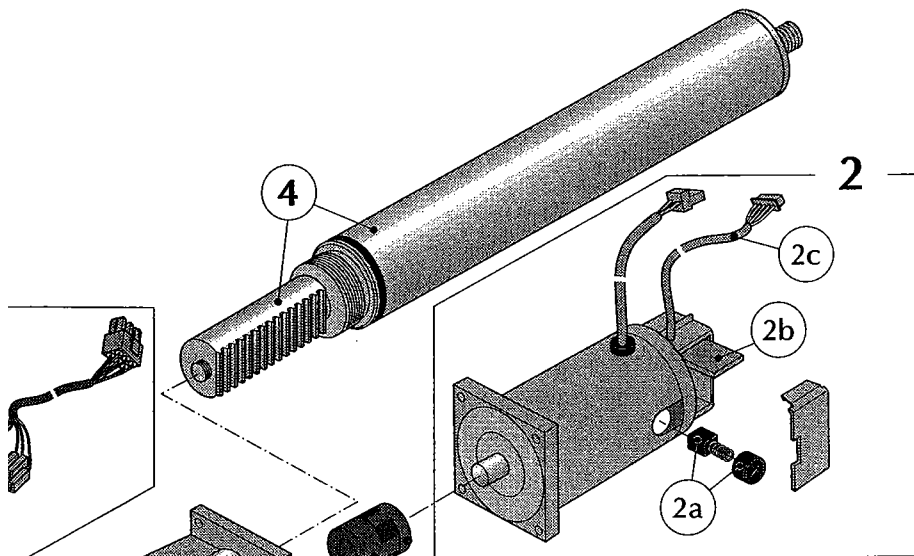


# NOTES



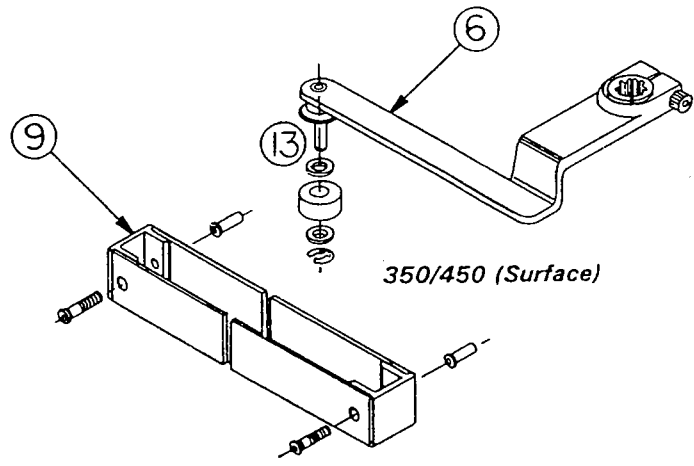
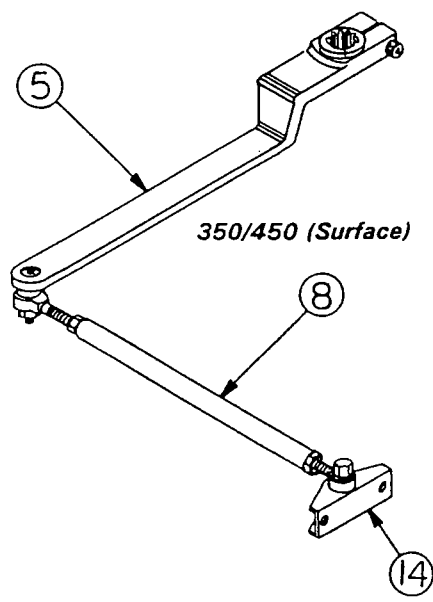
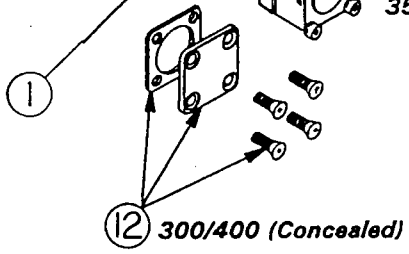
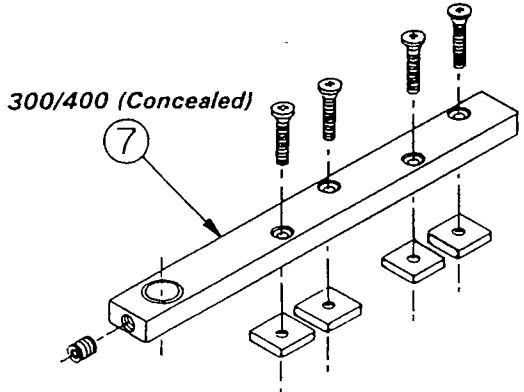
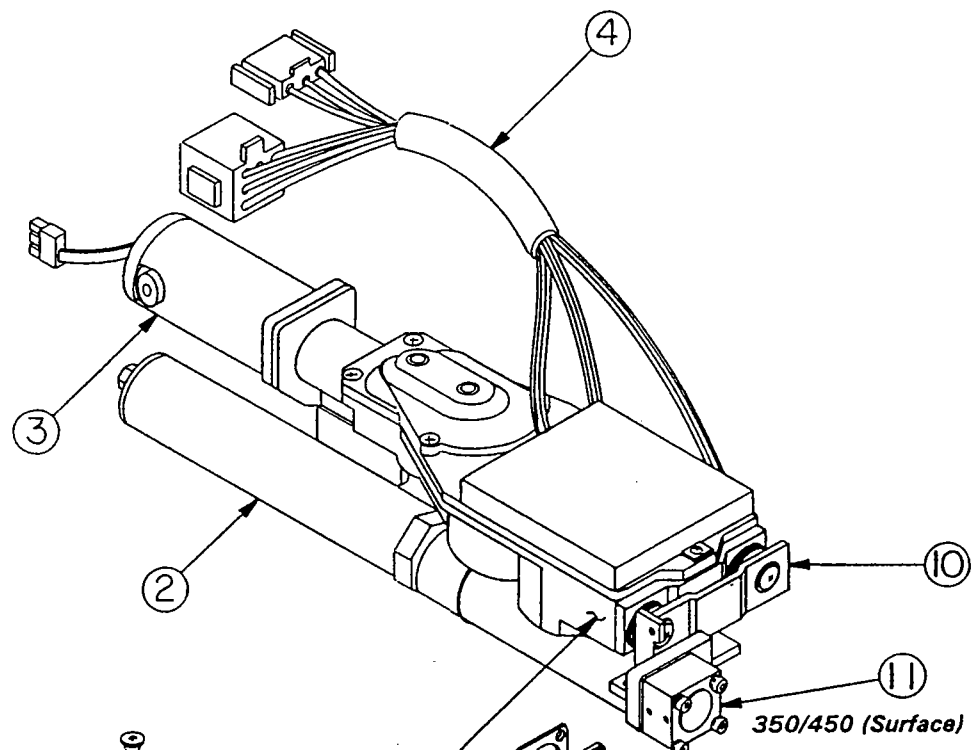
## BESAM SWINGMASTER MP SPARE PARTS

1	30-10-100092	SWINGMASTER, CONC.	13a	30-02-654745	BATTERY PK., 12V, 600mah
	30-10-100106	SWINGMASTER, SURFACE	14	30-06-101	ASSY, CENTER PIVOT ARM
2	30-15-173664	MOTOR ASSY.	15	30-15-202	KIT, SHAFT ADAPTER
2a	30-02-231	BRUSH KIT, (2x)	16	30-06-208	MALE ROD END
2b	30-02-652684	P.C. BOARD	17	30-06-201	CONN. ROD, CLR. 12 1/4"
2c	30-02-655635	WIRING ASSEMBLY		30-06-112	CONN. ROD, BLK. 12 1/4"
3	30-04-735334	LOVEJOY COUPLING		30-06-110	CONN. ROD, CLR. 14 1/4"
4	30-15-180	SPRING TUBE, CONCEAL.		30-06-113	CONN. ROD, BLK. 14 1/4"
	30-15-190	SPRING TUBE, SURFACE		30-06-107	CONN. ROD, CLR. 16 1/4"
5	30-20-207	OIL SEAL		30-06-114	CONN. ROD, BLK. 16 1/4"
6	30-20-203	GASKET		30-06-109	CONN. ROD, CLR. 18 1/4"
7	30-04-006	MTG. BRACKET, MOTOR		30-06-115	CONN. ROD, BLK. 18 1/4"
8	30-04-005	MTG. BRACKET, HINGE		30-06-108	CONN. ROD, CLR. 20 1/4"
9	35-15-201	KIT, STABILIZING		30-06-116	CONN. ROD, BLK. 20 1/4"
10	30-02-655638	WIRING HARNESS	18	30-15-224	KIT, INSWING ROLLER
10a	30-02-709091	MICROSWITCH	19	30-09-252	7/16-20 X 1 3/4" SHCS
11	30-02-655449	CONTROL UNIT, CUP			
11a	24-02-654658	FUSE, 2 AT, 120 VAC			
11b	04-02-714556	FUSE, 10 AT, 120 VAC			
12	30-02-655630	ACCESSORY P.C. BD., EXS			
13	30-02-600126	BATTERY UNIT, EUS			



# NOTES

Naturally, to make sure this equipment continues to function properly for years to come, you will want to purchase only Replacement Parts that are designed to function with the original equipment. Genuine Replacement Parts from Besam are the finest parts money can buy. We do not cut corners. They are manufactured to exacting specifications and are not just designed to "fit" — they are made to function just as the original components. Genuine Besam Replacement Parts have been tested to ensure that they perform properly and reliably. Genuine Besam Replacement Parts are only available through an authorized Besam distributor.



# SWINGMASTER 300/305, 350/355, 400/405, 450/455

SPARE PARTS LIST FOR SWINGMASTER															
PG. 1 OF 3															
ITEM NO.	DESCRIPTION	PART NO.	300	305	400 RH	400 LH	405 RH	405 LH	350	355	450 RH	450 LH	455 RH	455 LH	REMARKS
1	OPERATOR COMPLETE	30-10-001	X												
1	OPERATOR COMPLETE	30-10-002		X											
1	OPERATOR COMPLETE	35-10-001			X										
1	OPERATOR COMPLETE	35-10-002				X									
1	OPERATOR COMPLETE	35-10-003					X								
1	OPERATOR COMPLETE	35-10-004						X							
1	OPERATOR COMPLETE	30-10-051							X						
1	OPERATOR COMPLETE	30-10-052								X					
1	OPERATOR COMPLETE	35-10-051									X				
1	OPERATOR COMPLETE	35-10-052										X			
1	OPERATOR COMPLETE	35-10-053											X		
1	OPERATOR COMPLETE	35-10-054												X	
2	SPRING TUBE ASSEMBLY	30-15-101	X												
2	SPRING TUBE ASSEMBLY	30-15-102		X											
2	SPRING TUBE ASSEMBLY	30-15-106			X										
2	SPRING TUBE ASSEMBLY	30-15-107				X									
2	SPRING TUBE ASSEMBLY	30-15-108					X								
2	SPRING TUBE ASSEMBLY	30-15-109						X							
2	SPRING TUBE ASSEMBLY	30-15-104							X						
2	SPRING TUBE ASSEMBLY	30-15-105								X					
2	SPRING TUBE ASSEMBLY	30-15-110									X				
2	SPRING TUBE ASSEMBLY	30-15-111										X			
2	SPRING TUBE ASSEMBLY	30-15-112											X		
2	SPRING TUBE ASSEMBLY	30-15-113												X	
3	ELECTRIC MOTOR	30-02-101	X	X	X	X	X	X	X	X	X	X	X	X	
4	SWITCH HARNESS	30-02-203	X	X	X	X	X	X	X	X	X	X	X	X	

**SWINGMASTER 300/305, 350/355, 400/405, 450/455**

# SWINGMASTER 300/305, 350/355, 400/405, 450/455

## SPARE PARTS LIST FOR SWINGMASTER

ITEM NO.	DESCRIPTION	PART NO.	300	305	400 RH	400 LH	405 RH	405 LH	350	355	450 RH	450 LH	455 RH	455 LH	REMARKS
5	OUTSWING ARM (WELDED)	30-06-211							X	X	X	X	X	X	CLEAR
5	OUTSWING ARM (WELDED)	30-06-223							X	X	X	X	X	X	BRONZE
6	INSWING ARM (WELDED) R.H.	30-06-103							X	X	X				CLEAR
6	INSWING ARM (WELDED) R.H.	30-06-226							X	X	X				BRONZE
6	INSWING ARM (WELDED) L.H.	30-06-104							X	X	X				CLEAR
6	INSWING ARM (WELDED) L.H.	30-06-215							X	X	X				BRONZE
6	INSWING ARM (CAST) R.H.	30-06-213							X	X	X				CLEAR
6	INSWING ARM (CAST) R.H.	30-06-224							X	X	X				BRONZE
6	INSWING ARM (CAST) L.H.	30-06-216							X	X	X				CLEAR
6	INSWING ARM (CAST) L.H.	30-06-225							X	X	X				BRONZE
7	CENTER PIVOT ARM ASSY	30-06-101	X	X	X	X	X	X							
8	CONNECTING ROD (STD)	30-06-200							X	X	X	X	X	X	CLEAR
8	CONNECTING ROD (STD)	30-06-199							X	X	X	X	X	X	BRONZE
9	INSWING TRACK (STD)	30-06-202							X	X	X	X	X	X	CLEAR
9	INSWING TRACK (STD)	30-06-236							X	X	X	X	X	X	BRONZE
10	MOUNTING KIT	30-15-202							X	X	X	X	X	X	
10	MOUNTING KIT	30-15-211	X	X	X	X	X	X							
11	EXTENSION KIT	30-15-217							X	X	X	X	X	X	
12	RACK GEAR STOP KIT	30-15-216	X	X	X	X	X	X							
13	INSWING ROLLER KIT	30-15-224							X	X	X	X	X	X	CLEAR
14	DOOR BRACKET	30-06-209							X	X	X	X	X	X	BRONZE
14	DOOR BRACKET	30-06-222							X	X	X	X	X	X	(NOT SHOWN)
*	OIL SEAL	30-20-206	X	X	X	X	X	X	X	X	X	X	X	X	(NOT SHOWN)
*	OIL SEAL	30-20-207	X	X	X	X	X	X	X	X	X	X	X	X	(NOT SHOWN)
*	RUBBER MOUNTS	30-20-201	X	X	X	X	X	X	X	X	X	X	X	X	SET OF 5 (NOT SHOWN)
*	COVER	30-04-231	X	X	X	X	X	X	X	X	X	X	X	X	
*	SWITCH "B" KIT	30-02-221							X	X	X	X	X	X	

\* NOT PICTURED





# Troubleshooting for Swingmaster

## Fault

Door won't open

## Possible Reasons Why

Switch in off mode.  
Door locked or jammed closed.  
Main power off.  
Safety mat (shorted) defective.  
Approach mat defective.  
Control fuse(s) blown.  
Motor fuse(s) blown.  
Defective motor/pump.

## Remedies/Explanations

Switch to automatic mode.  
Unlock or remove obstruction.  
Check main power breaker and turn on.  
Turn door off, secure and consult Besam distributor.  
Turn door off, secure and consult Besam distributor.  
Turn door off and consult Besam distributor.  
Turn door off and consult Besam distributor.  
Turn door off and consult Besam distributor.

Door holds open

Door jammed open.  
Approach mat/motion detector (shorted) defective.  
Mechanical problem with operator.  
Broken closing spring.  
Defective control.  
Switch in hold open.

Remove obstruction.  
Turn door off, secure and consult Besam distributor.  
Turn door off, secure and consult Besam distributor.  
Turn door off, secure and consult Besam distributor.  
Turn door off, secure and consult Besam distributor.  
Switch to automatic mode.

Door closes while standing in its path

Defective safety mat.

Turn door off, secure and consult Besam distributor.

Door recycles open and closed

Defective approach mat/motion detector.

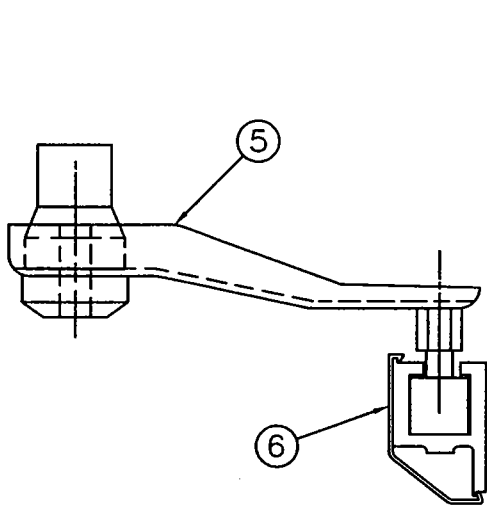
Turn door off, secure and consult Besam distributor.

NOTE: Door and detection device functions must comply with applicable safety standards. Repairs should be performed by an authorized Besam distributor. For safety standards information, consult Besam Inc.

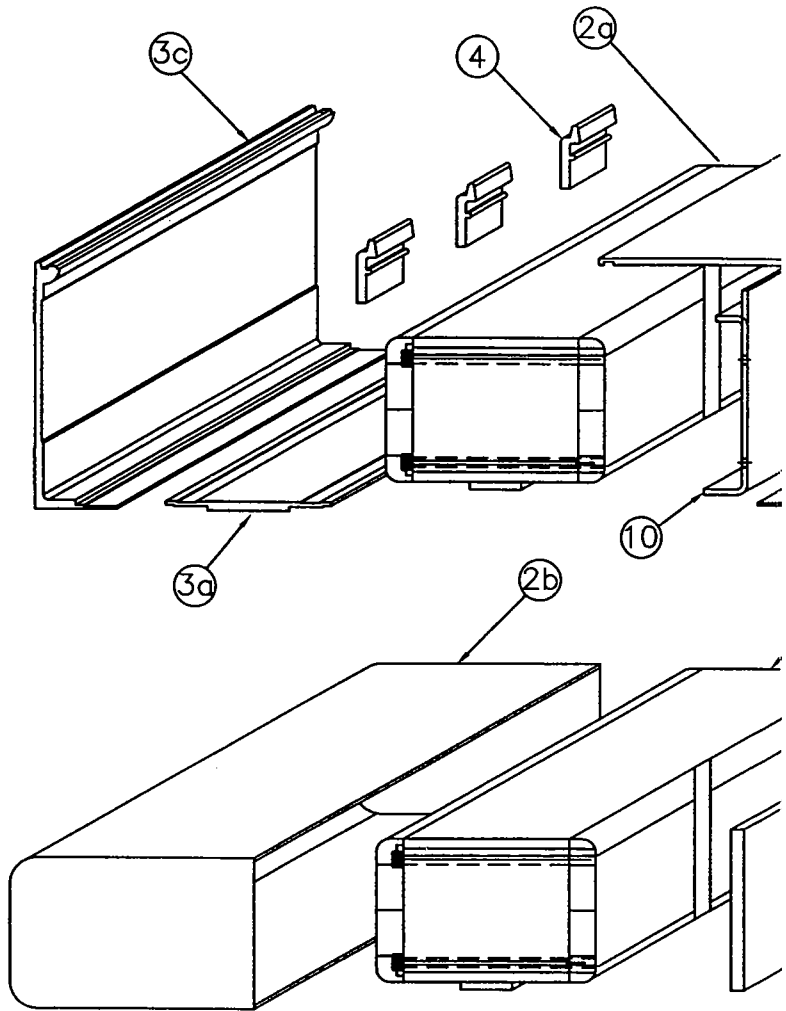
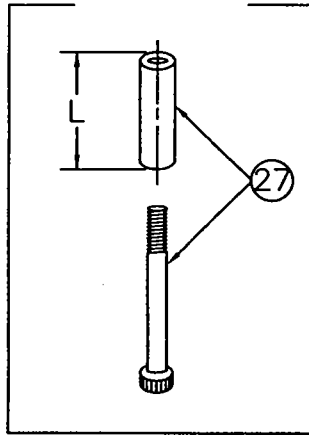
# Troubleshooting for Navig-Aider/Activating Devices

Fault	Possible Reasons Why	Remedies/Explanations
Door won't open.	Switch in off mode. Door locked or jammed closed. Main power off. Safety device (shorted) defective, if equipped. Approach activating device/motion detector defective. Control fuse(s) blown. Motor fuse(s) blown. Defective motor/pump drive train.	Switch to automatic mode. Unlock or remove obstruction. Check main power breaker and turn on. Turn door off, secure and consult Besam distributor. Turn door off, secure and consult Besam distributor. Turn door off and consult Besam distributor. Turn door off and consult Besam distributor. Turn door off and consult Besam distributor.
Door holds open.	Door jammed open. Approach activating device/motion detector (shorted) defective. Mechanical problem with operator. Broken closing spring. Defective control.	Remove obstruction. Turn door off, secure and consult Besam distributor. Turn door off, secure and consult Besam distributor. Turn door off, secure and consult Besam distributor. Turn door off, secure and consult Besam distributor.
Door opens too slowly.	Electronic/mechanical problem.	Turn door off, secure and consult Besam distributor.
Door closes too slowly.	Electronic/mechanical problem.	Turn door off, secure and consult Besam distributor.
Door closes too quickly.	Electronic/mechanical problem.	Turn door off, secure and consult Besam distributor.
Door won't open all the way.	Electronic/mechanical problem.	Turn door off, secure and consult Besam distributor.
Door closes while standing in its path.	Defective safety device, if equipped.	Turn door off, secure and consult Besam distributor.
Door opens while standing in its path on swing side.	Defective safety device, if equipped.	Turn door off, secure and consult Besam distributor.
Door recycles open and closed.	Misadjusted motion detector. Electronic/mechanical problem.	Turn door off, secure and consult Besam distributor. Turn door off, secure and consult Besam distributor.

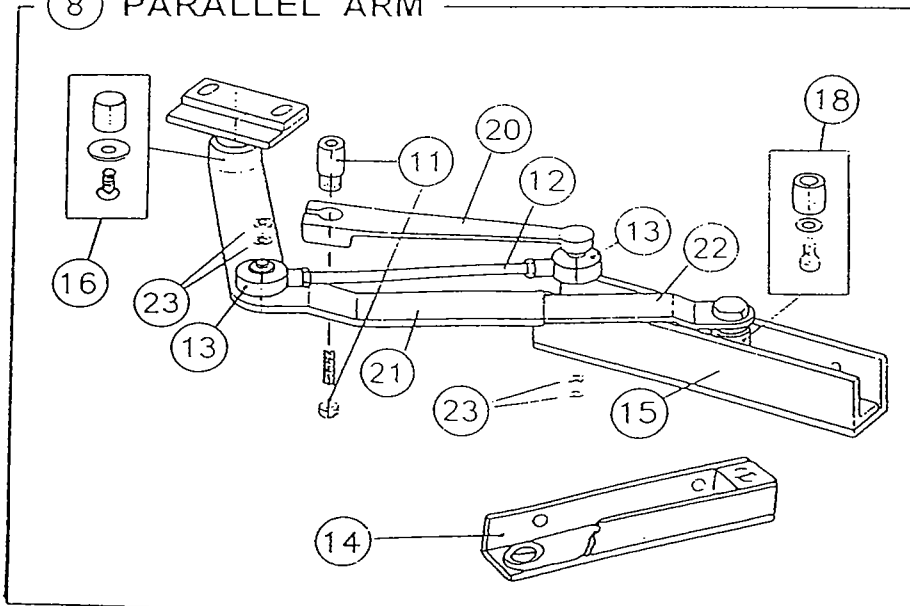
**NOTE:** Door and detection device functions must comply with applicable safety standards. Repairs should be performed by an authorized Besam distributor. For safety standards information, consult Besam Inc.



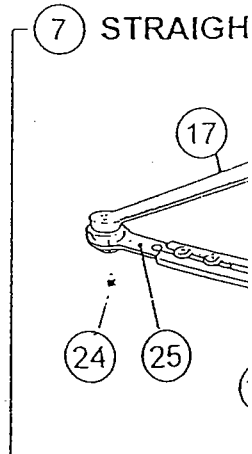
SPINDLE  
EXTENSION

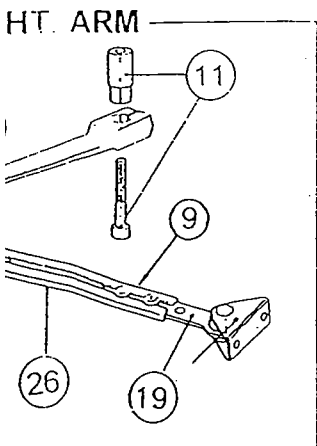
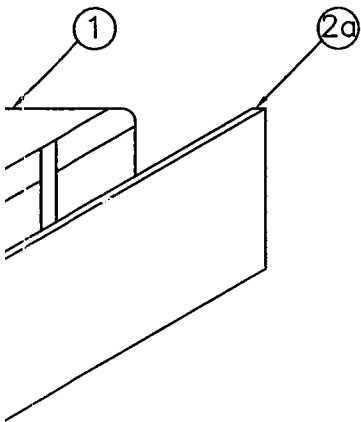
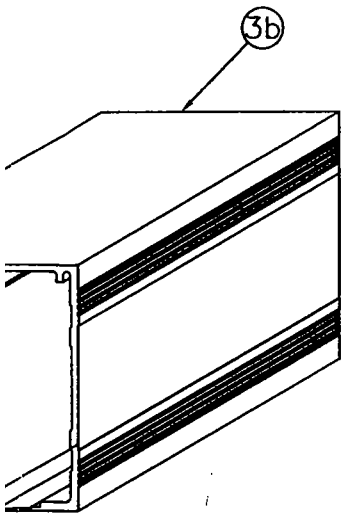


8 PARALLEL ARM



7 STRAIGHT





ITEM #	DESCRIPTION	PART NUMBER	REMARKS
1	NAVIG-AIDER 50	P/N 24-10-173233	
1a	NAVIG-AIDER 50 JR. CONTROL UNIT, NAV-50	P/N 24-10-173364 P/N 24-02-654897	NOT SHOWN NOT SHOWN
2a	BACKPLATE, MTG.	P/N 24-04-173240	
2b	COVER, NAV-50	P/N 24-21-173218	
3a	SM CENTER COVER	P/N 30-01-413	CLEAR
	SM CENTER COVER	P/N 30-01-414	BRONZE
3b	SM FIXED COVER	P/N 30-01-601	CLEAR
	SM FIXED COVER	P/N 30-01-602	BRONZE
3c	SM REMOVABLE COVER	P/N 30-01-607	CLEAR
	SM REMOVABLE COVER	P/N 30-01-608	BRONZE
4	MTG. CLAMP	P/N 21-04-003	
4a	SCREW, 1/4-20 X 5/8 HHCS	P/N 21-09-004	NOT SHOWN
4b	WASHER, NEOPRENE	P/N 24-20-001	NOT SHOWN
4c	WASHER, FLAT	P/N 24-09-001	NOT SHOWN
5	INSWING ARM, NAVIG-AIDER	P/N 24-06-173125	SILVER
	INSWING ARM, NAVIG-AIDER	P/N 24-06-173126	BLACK
6	KIT, STL PANIC BREAKOUT	P/N 24-15-832430	SILVER
	KIT, STL PANIC BREAKOUT	P/N 24-15-832431	BLACK
7	ARM, STRAIGHT, OUTSWING	P/N 21-06-173382	SILVER
	ARM, STRAIGHT, OUTSWING	P/N 21-06-173383	BLACK
8	ARM SYSTEM PARALLEL, R.H.	P/N 20-06-103	COMPLETE
	ARM SYSTEM PARALLEL, L.H.	P/N 20-06-104	COMPLETE
9	EXTENSION BAR, SPLICE CONN.	P/N 21-06-173191	
10	MTG. BRACKET	P/N 24-03-005	
11	SPINDLE SHAFT	P/N 21-03-010	
12	BAR FOR L.H. & R.H.	P/N 20-06-152	STATE COLOR
13	ROD END, MALE	P/N 30-06-208	CLEAR
	ROD END, MALE	P/N 30-06-221	BRONZE
14	SLIDE TRACK, PANIC, R.H.	P/N 20-06-105	STATE COLOR
	SLIDE TRACK, PANIC, L.H.	P/N 20-06-106	STATE COLOR
15	SLIDE TRACK, BUTT HINGE	P/N 20-06-201	STATE COLOR
16	ARM BUSHING	P/N 21-20-012	
17	ARM, STRAIGHT TYPE	P/N 20-06-170927	SILVER
	ARM, STRAIGHT TYPE	P/N 20-06-173385	BLACK
18	ROLLER FOR SLIDE ARM	P/N 20-20-207	STATE COLOR
19	END MOUNTING SHOE	P/N 21-06-173296	SILVER
	END MOUNTING SHOE	P/N 21-06-173297	BLACK
20	DRIVE ARM FOR L.H. & R.H.	P/N 20-06-153	STATE COLOR
21	MAIN ARM, L.H.	P/N 20-06-157	STATE COLOR
	MAIN ARM, R.H.	P/N 20-06-155	STATE COLOR
22	SLIDE ARM, L.H. & R.H.	P/N 20-06-154	STATE COLOR
	SLIDE ARM, REV. MORE 1-9/16"	P/N 20-06-203	STATE COLOR
23	ARM WASHER SET	P/N 20-08-8503	SET OF 4
24	SCREW, ARM	P/N 21-09-008	
25	JOINT, ARM	P/N 21-06-172994	SILVER
	JOINT, ARM	P/N 21-06-172995	BLACK
26	TELESCOPIC PART, 250MM	P/N 21-06-173002	SILVER
	TELESCOPIC PART, 375MM	P/N 21-06-173003	SILVER
	TELESCOPIC PART, 250MM	P/N 21-06-173004	BLACK
	TELESCOPIC PART, 375MM	P/N 21-06-173005	BLACK
27	SHAFT EXTENSION, 20MM	P/N 21-03-172962	W/SCREW
	SHAFT EXTENSION, 50MM	P/N 21-03-172788	W/SCREW

## NAVIG-AIDER 50 SERIES