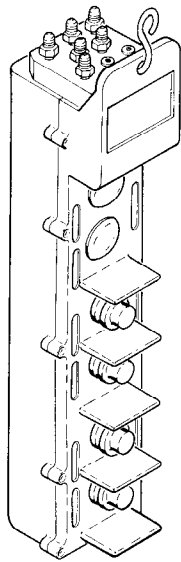
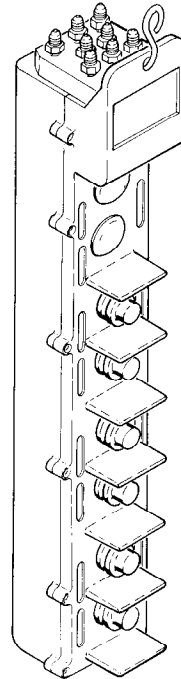


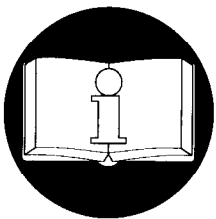
# PARTS, OPERATION and MAINTENANCE MANUAL for ACCU-TROL™ AIR PENDANTS



**2/4 Button**



**6 Button**



**READ THIS MANUAL BEFORE USING THESE PRODUCTS.** This manual contains important installation, operation and maintenance information. Make this manual available to all persons responsible for the operation, installation and maintenance of these products.

**Refer all communications to the nearest Ingersoll-Rand Material Handling Products Office or Distributor.**

Form MHD56014  
Edition 2  
January 1993  
71037121

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**INGERSOLL-RAND®**  
**MATERIAL HANDLING**

# SPECIFICATIONS

There are two model code types for ACCU-TROL Pendants depending upon the purchase date. To determine the installed features of pendants purchased before November 1989 refer to the model code chart for "Early Model Codes". For pendants purchased after November 1989 refer to the "Current Model Codes" chart.

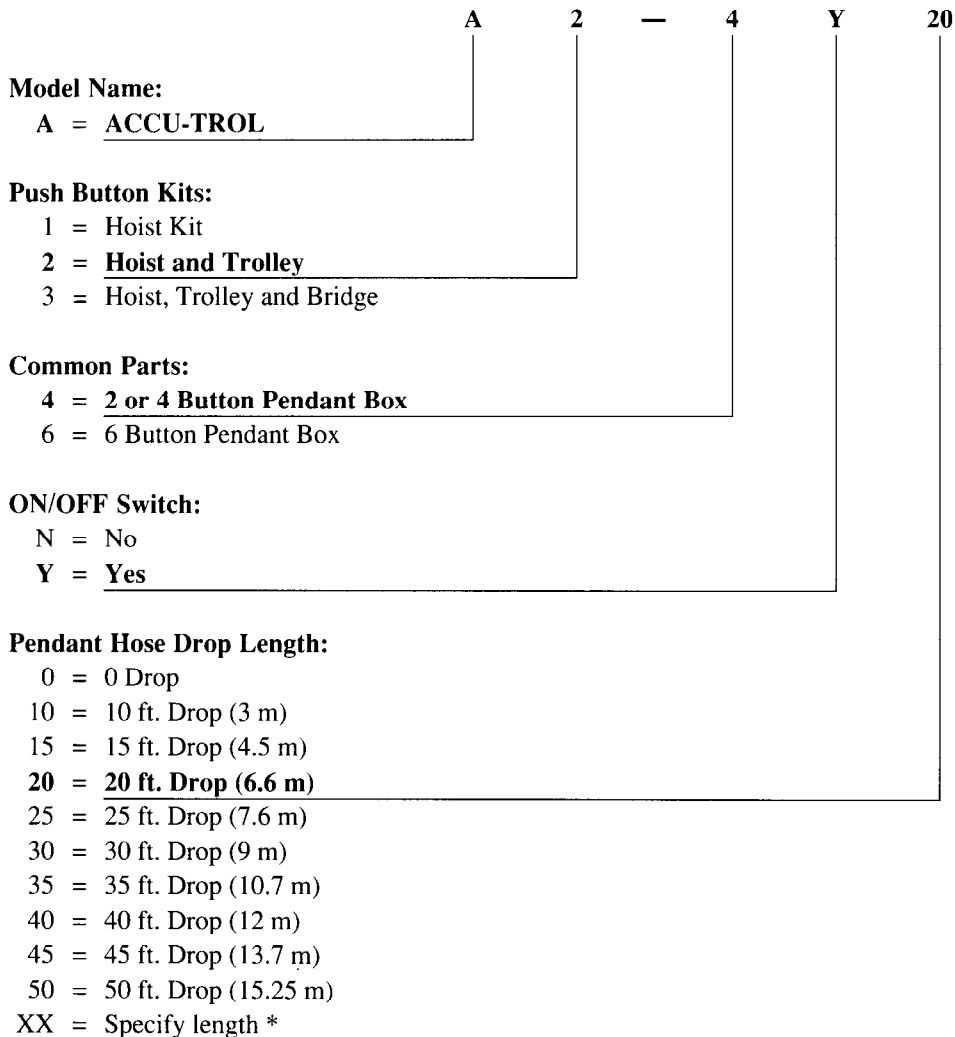
ACCU-TROL pendant pressure range is 50 - 125 psi (3.4 - 8.6 bar). Manifold (hose) port size is 1/8 inch NPT.

## NOTICE

• For replacement of ACCU-TROL Pendant assemblies refer to the "Current Model Code" chart and assembly tables shown in this manual.

### Current Model Codes (After November 1989):

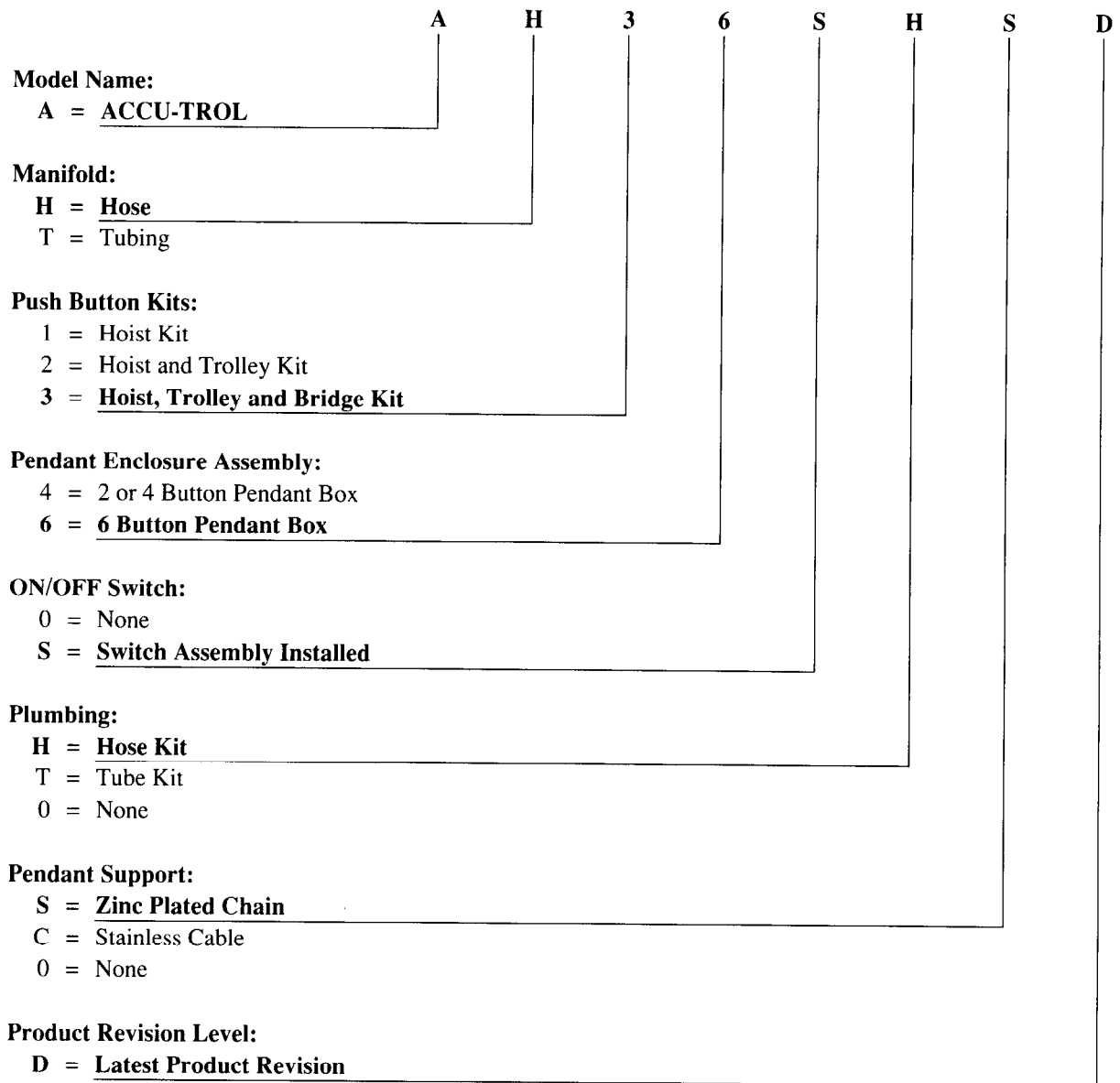
Example: A2 - 4Y20



\* For lengths beyond 50 feet (15.25 meters) contact Technical Sales for control acceptability.

## Early Model Codes (Before November 1989):

Example: AH36SHSD



# PENDANT INFORMATION

## Replacement Parts

Repair parts for the ACCU-TROL "tube" pendant are no longer available. To repair "tube" pendants requires upgrading to accept "hose" pendant components. The following information is provided to assist in the required parts replacement.

### Tube Pendant Deleted Parts

The below listed parts will require replacement to convert to the "hose pendant".

1. Replace Tube Manifold Assembly - Part No. 14301.
2. Replace Tube Manifold Assembly - Part No. 17003.
3. Replace Tube Plumbing Assembly - Part No. 17021.

### Hose Pendant Replacement Parts

The below listed parts are required to fully convert the "tube pendant" into a "hose pendant".

1. Hose Manifold Assembly - Part No. 14307.
2. Hose Plumbing Assembly - Refer to "Plumbing (Hose) Assembly & Parts List" section.

### Pendant Support

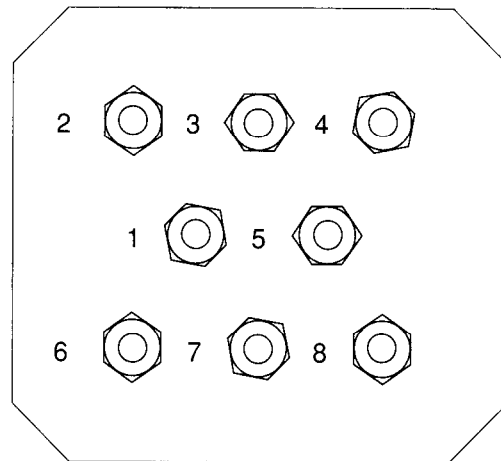
The Pendant Support (Cable) assembly (Part No. 16822) is no longer available. To replace this item, purchase the Pendant Support (Chain) assembly (Part No. 16823).

## Installation

To install Pendant ensure the following:

1. Make sure hose connections are correctly attached to the pendant and to the hoist, trolley, bridge and supply air source as applicable. Refer to Table 1 and Dwg. MHTPA0417 to match the color coded fittings or plugs to the appropriate numbered manifold port connections.
2. Do not allow hoses to support pendant. Pendant must be supported by the chain or cable pendant support.

Hose Manifold Top View



(Dwg. MHTPA0417)

**Table 1**

**Fitting and Plug Installation Chart: \***

PENDANT SIZE		HOSE MANIFOLD PORT CONNECTIONS							
		1 (Emergency Stop)	2 (Supply Air)	3 (Hoist Raise)	4 (Hoist Lower)	5 (Trolley Left)	6 (Trolley Right)	7 (Bridge Forward)	8 (Bridge Reverse)
2 Button	with ON/OFF switch	Black	Red	Green	Yellow	Plug	Plug	Plug	Plug
	without ON/OFF switch	Plug	Red	Green	Yellow	Plug	Plug	Plug	Plug
4 Button	with ON/OFF switch	Black	Red	Green	Yellow	Orange/White	Blue	Plug	Plug
	without ON/OFF switch	Plug	Red	Green	Yellow	Orange/White	Blue	Plug	Plug
6 Button	with ON/OFF switch	Black	Red	Green	Yellow	Orange/White	Blue	White/Green	White/Yellow
	without ON/OFF switch	Plug	Red	Green	Yellow	Orange/White	Blue	White/Green	White/Yellow

\* Refer to "Manifold (Hose) Assembly Drawing and Parts List" section for fitting and plug parts information.

## Maintenance

- To access the internal components:
  - Remove capscrews (3), nuts (4) and lockwashers (5) attaching the enclosure (2). Separate the two halves of the enclosure (2) by gently pulling apart. All internal components are attached to the top half of the enclosure (2) with the exception of the check valve components.
  - At disassembly, inspect seal. To replace a damaged seal the entire enclosure (2) must be replaced.
- To assemble the enclosure (2):
  - Align the two halves of the enclosure (2) and attach using capscrews (3), lockwashers (5) and nuts (4).
- It is recommended that the pendant internal tubing be marked as to function or location prior to removing from the manifold or associated component assemblies.

## Inspection

- Visually inspect enclosure (2) externally for cracks.
- When opened, visually inspect enclosure (2) seal, tubing (15 (refer to "Manifold (Hose) Assembly and Parts List" for tubing)) and internal components for signs of wear, cracks and damage. Any corrosion on the internal parts of the pendant internals are indications of seal or enclosure failure. Determine cause and replace damaged item(s) as required.

## Testing

Any failure during testing should be investigated for cause and the failure repaired prior to allowing the pendant and its operated components to be placed in service for general use.

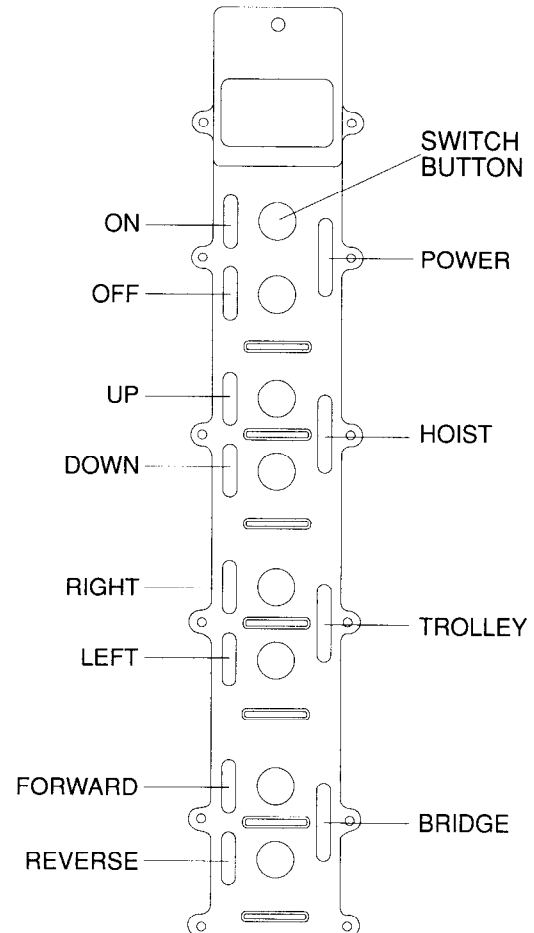
- Operate pendant function switches:
  - Ensure all hose and tubing connections are attached properly and operate the correct component and the correct component function.
- Press the "POWER OFF" button (if applicable). Test the trolley, hoist and bridge (if applicable) function buttons. Components should not operate.
- Press the "POWER ON" button (if applicable). Test the trolley, hoist and bridge (if applicable) function buttons. Components should operate normally.

## Pendant Operating Instructions

(Ref. MHTPA0402)

Pendants are typically labeled as shown in Dwg. MHTPA0402. The ACCU-TROL pendant may have an ON /OFF switch and as many as three pushbutton switch assemblies. Operation of switch assembly buttons are as follows:

- ON / OFF Switch.** The ON / OFF switch is an optional override switch. The buttons on the ON / OFF switch are single response buttons. To operate the pendant, press the ON button and let go. To stop pendant operations press the OFF button and let go.
- Pushbutton Switch.** The pushbutton switch is used for individual hoist, trolley and bridge operation. The pushbutton switch is spring-loaded. When the button is released, the switch returns to the neutral position. The component controlled by this button stops its movement and will remain in position until the button is depressed again.

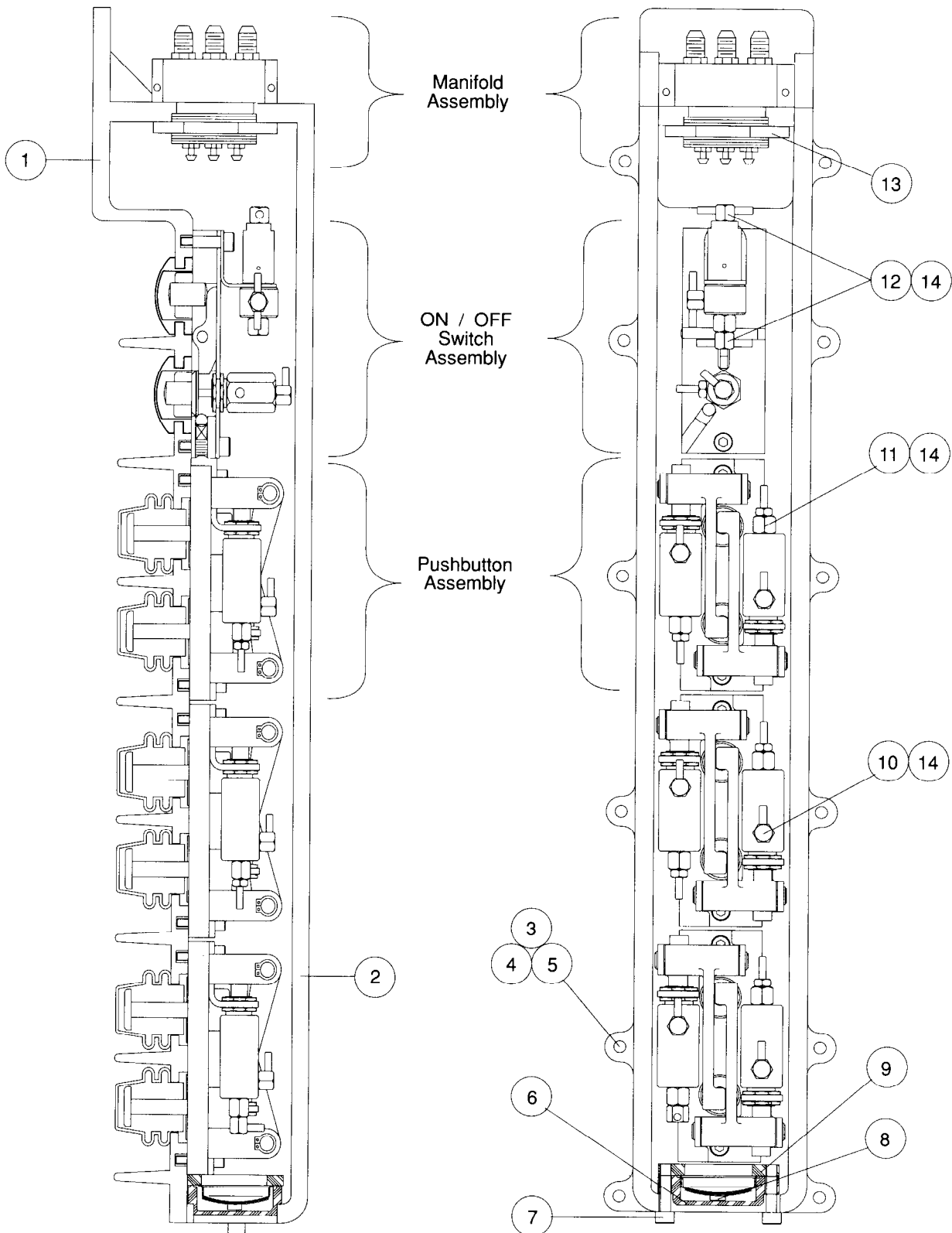


Typical Pendant Function  
Button Label Locations

(Dwg. MHTPA0402)

# PENDANT ASSEMBLY DRAWING

Example shown: Six button pendant with ON / OFF switch.



(Dwg. MHTPA0404)

(Dwg. MHTPA0405)

## PENDANT ASSEMBLY PARTS LIST

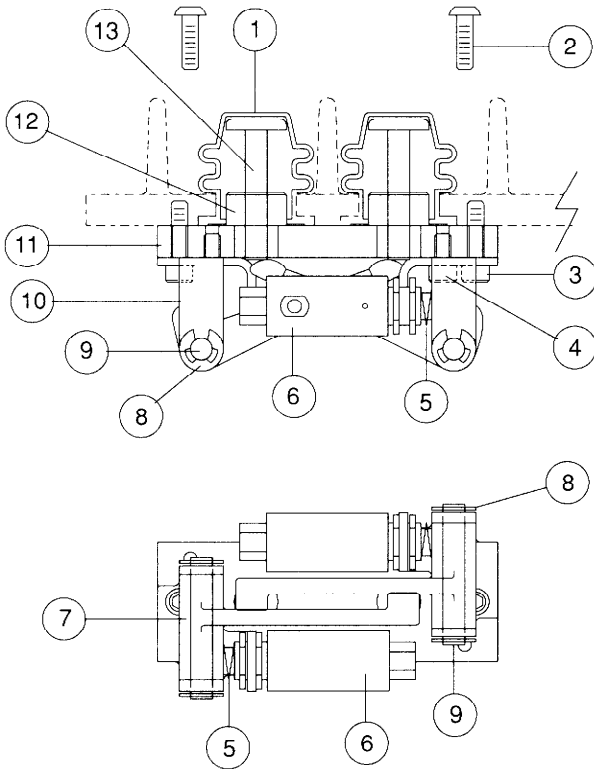
ITEM NO.	DESCRIPTION OF PART	QTY. TOTAL			PART NO.
		2 Button	4 Button	6 Button	
*	Pushbutton Assembly	1 set	2 sets	3 sets	14298
	ON/OFF Switch Assembly	1 set			14308
	Hose Manifold Assembly	1			14307
1	Label (ACCU-TROL nameplate)	1			17030
2	Enclosure, 2 or 4 Pushbutton	1		---	17440
	Enclosure, 6 Pushbutton	---		1	16779
3	Capscrew	10		12	71046874
4	Nut	10		12	71046882
5	Lockwasher	10		12	71046981
6	Check Valve Holder	1			13199
7	Capscrew	2			53793
8	Check Valve	1			53452
9	Check Valve Retainer	1			13198
10	Elbow Fitting, Barbed	4	6	8	71044945
11	Straight Fitting, Barbed	2	4	6	71044937
12	Tee Fitting, Barbed	3			71044952
13	Coupling Nut **	1			12947
14	Gasket	9	13	17	71044960
15	Tee Fitting, Barbed ***	2		4	71044929
16	Labels (Pendant Functions) ***	1 set			71111835

\* Assembly component parts shown elsewhere in this manual.

\*\* During installation of coupling nut, item 13 to hose manifold coat threads with Loctite 242.

\*\*\* Not shown on drawing.

## PUSHBUTTON ASSEMBLY DRAWING AND PARTS LIST



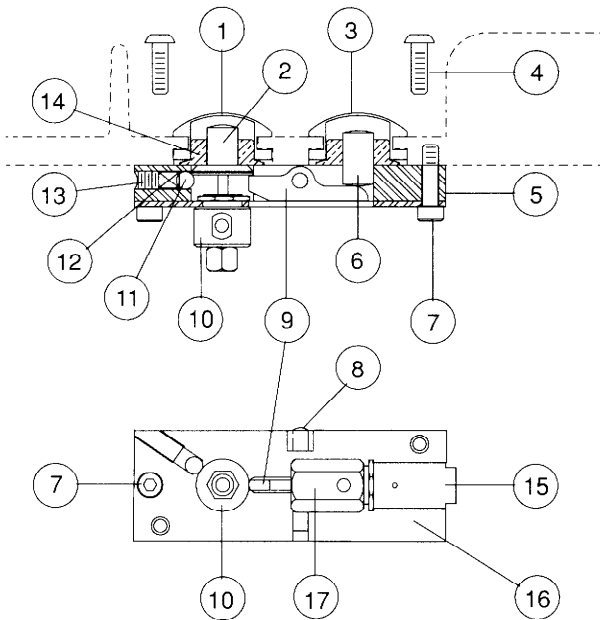
(Dwg. MHTPA0363)

### Pushbutton Assembly Parts List:

ITEM NO.	DESCRIPTION OF PARTS	QTY. TOTAL	PART NUMBER
---	Pushbutton Assembly	*	14298
1	Boot (Black)	2	54612
2	Screw	4	71046874
3	Capscrew	2	53806
4	Capscrew	2	53807
5	Spring	2	71047690
6	Regulator	2	53018
7	Lever	2	12705
8	Retaining Ring	4	53804
9	Pin	2	12700
10	Bracket	2	12969
11	Mounting Plate	1	12694
12	Bushing	2	12696
13	Pushbutton	2	12695

\* Refer to "PENDANT ASSEMBLY PARTS LIST" for quantity.

## ON/OFF SWITCH ASSEMBLY DRAWING AND PARTS LIST



(Dwg. MHTPA0364)

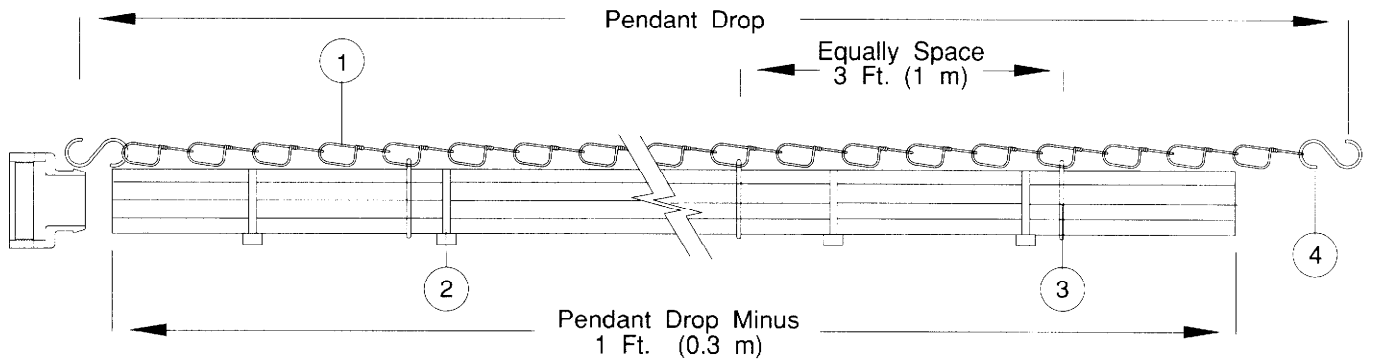
### On/Off Switch Assembly Parts List:

ITEM NO.	DESCRIPTION OF PARTS	QTY. TOTAL	PART NUMBER
---	On/Off Switch Assy	1	14308
1	Boot (Red)	1	53024
2	Off Pushbutton	1	12697
3	Boot (Black)	1	53023
4	Screw	2	71046874
5	Mounting Plate	1	12702
6	On Pushbutton	1	54797
7	Capscrew	2	53806
8	Pin, Dowel	1	53805
9	Lever	1	12699
10	3-Way Valve	1	53022
11	Ball	1	53802
12	Spring	1	51414
13	Setscrew	1	53803
14	Bushing	2	12698
15	Pilot Actuator	1	53020
16	Cover Plate	1	12701
17	3-Way Valve	1	53019
18	Tee Fitting, Barbed *	3	71044952

\* Item 18 not shown on drawing.



## PENDANT SUPPORT (CHAIN) ASSEMBLY DRAWING AND PARTS LIST

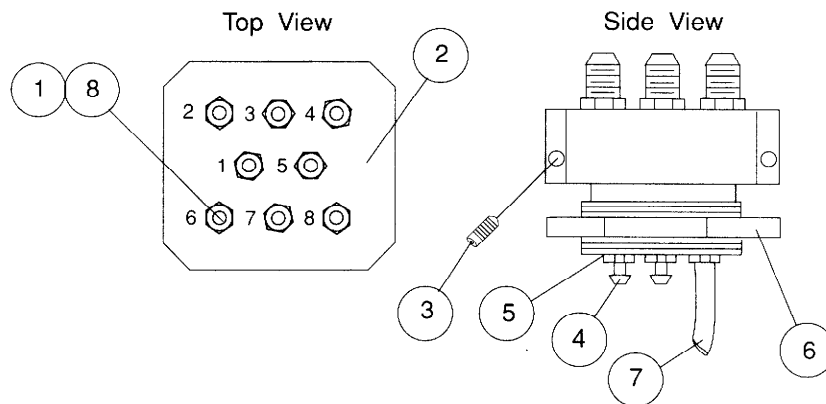


(Dwg. MHTPA0403)

### Pendant Support (Chain) Parts List:

ITEM NO.	DESCRIPTION OF PARTS	QTY. TOTAL	PART NUMBER
1	Chain, Zinc Plated	As req'd.	50041
2	Tie Wrap	As req'd.	54235
3	Attachment Ring	As req'd.	50040
4	S-Hook	2	52120

## MANIFOLD (HOSE) ASSEMBLY DRAWING AND PARTS LIST



(Dwg. MHTPA0406)

### Manifold (Hose) Parts List:

ITEM NO.	DESCRIPTION OF PARTS	QTY. TOTAL	PART NUMBER
---	Hose Manifold Assy	1	14307
* 1	Fitting	**	52092
2	Manifold	1	13989
* 3	Setscrew	4	53887
4	Barb Fitting, Straight	8	71044937
5	Gasket	8	71044960
6	Coupling Nut	1	12947
7	Tubing	As req'd.	53247
8	Plug	**	54292

\* Install item 1 with pipe sealant. Install item 3 with Loctite<sup>®</sup> 242.

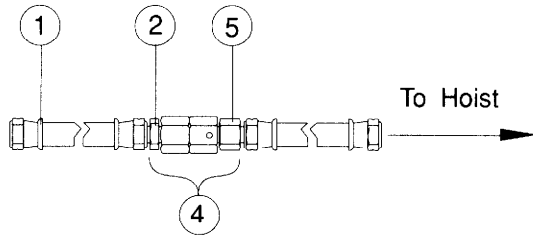
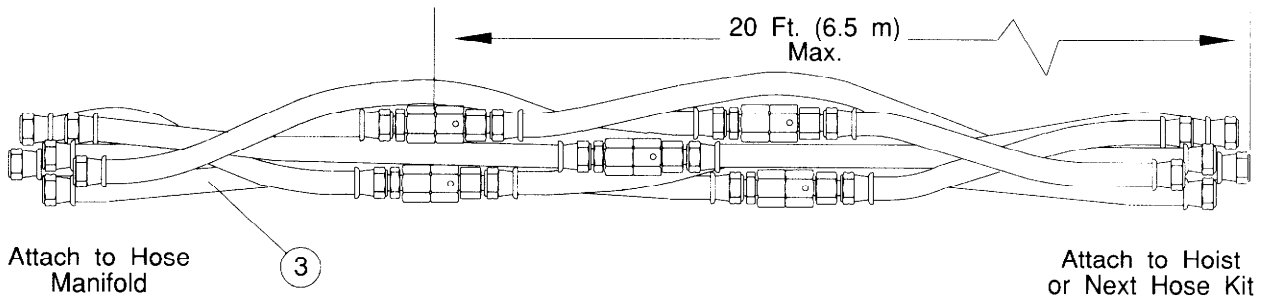
\*\* Refer to "Plug Installation Chart" to determine qty.

### Manifold Legend:

PORT LOCATION	FUNCTION	COLOR CODE
1	Emergency Stop	Black
2	Supply Air	Red
3	Hoist "raise"	Green
4	Hoist "lower"	Yellow
5	Trolley "left" *	Orange/White
6	Trolley "right" *	Blue
7	Bridge "forward" *	White/Green
8	Bridge "reverse" *	White/Yellow

\* The terms "forward," "reverse," "left" and "right" are for general reference only.

# PLUMBING (HOSE) ASSEMBLY DRAWING AND PARTS LIST



Typical Exhaust Valve Assembly

(Dwg. MHTPA0360)

### Plumbing (Hose) Parts List:

ITEM NO.	DESCRIPTION OF PARTS	QTY. TOTAL	PART NUMBER
1	Hose Fitting	As req'd.	51029
2	Adapter Fitting	As req'd.	71048268
3	Hose	As req'd.	50923
4	Exhaust Valve Kit*	As req'd.	20417
5	Adapter Fitting	As req'd.	71048284
**	Hose Assembly	As req'd.	See chart.

\* Includes items 2, 5 and exhaust valve. Exhaust valve cannot be purchased separately.

\*\* Includes items 1 through 5 as required for applicable length.

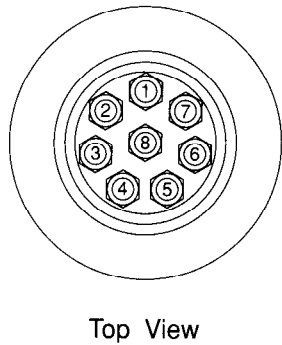
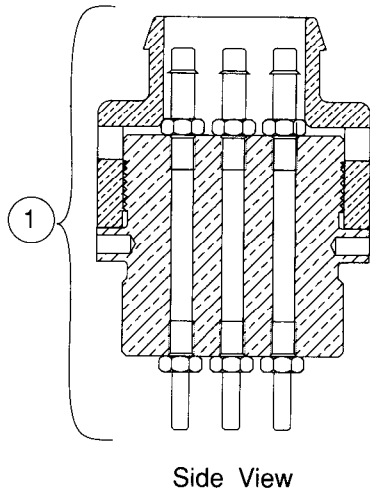
### Plumbing (Hose) Assembly Parts List Chart:

LENGTH		PART NUMBER (w/out EMERGENCY STOP)			PART NUMBER (w/ EMERGENCY STOP)		
Feet	Meters	2 Button	4 Button	6 Button	2 Button	4 Button	6 Button
10	3	21653-10	21654-10	21655-10	21656-10	21657-10	21658-10
15	4.5	21653-15	21654-15	21655-15	21656-15	21657-15	21658-15
20	6	21653-20	21654-20	21655-20	21656-20	21657-20	21658-20
25	7.6	21653-25	21654-25	21655-25	21656-25	21657-25	21658-25
30	9	21653-30	21654-30	21655-30	21656-30	21657-30	21658-30
35	10.7	21653-35	21654-35	21655-35	21656-35	21657-35	21658-35
40	12	21653-40	21654-40	21655-40	21656-40	21657-40	21658-40
45	13.7	21653-45	21654-45	21655-45	21656-45	21657-45	21658-45
50	15.25	21653-50	21654-50	21655-50	21656-50	21657-50	21658-50

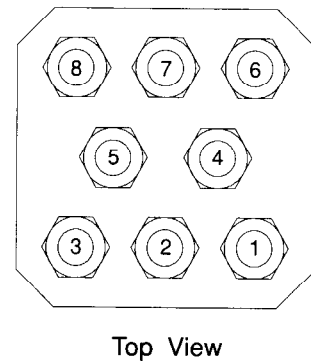
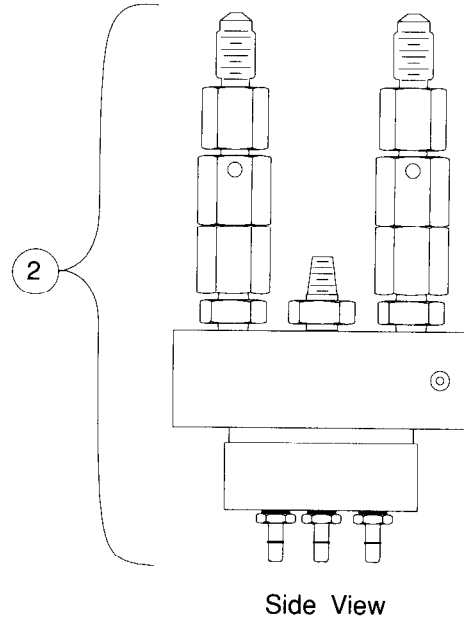
Notes: 1. Dump valves included on lengths of 10 ft. (3 m) and longer to provide quick exhaust and improve control response.

2. For hose bundle lengths over 50 feet (15.25 meters) contact Technical Sales for control acceptability.

## MANIFOLD (TUBE) PARTS DRAWING & REFERENCE LIST



(Dwg. MHTPA0362)



(Dwg. MHTPA0408)

### Manifold (Tube) Parts Replacement Reference List:

ITEM NO.	DESCRIPTION OF PART	OBSOLETE PART NUMBER	DESCRIPTION OF REPLACEMENT PART *	REPLACEMENT PART NUMBER
1	Manifold (Tube) Assembly	14301	Manifold (Hose) Assembly	14307
2	Manifold (Tube) Assembly	17003		

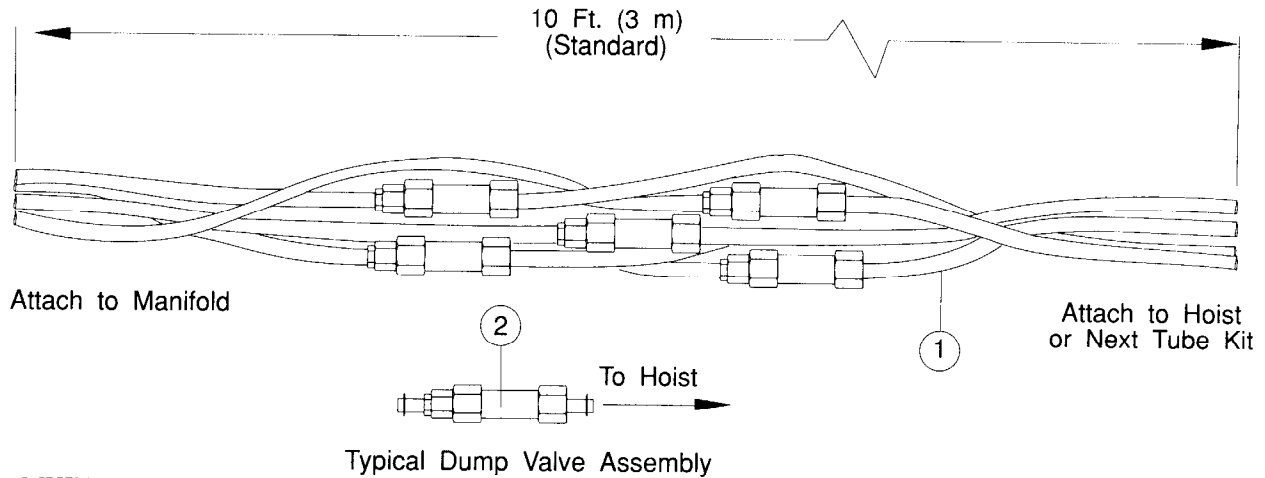
\* Replacement part assembly drawings located elsewhere in this manual.

### Manifold Legend:

PORT NUMBER	FUNCTION	COLOR CODE	PORT NUMBER	FUNCTION	COLOR CODE
1	Emergency Stop	Black	5	Trolley "left" *	Orange/White
2	Supply Air	Red	6	Trolley "right" *	Blue
3	Hoist "raise"	Green	7	Bridge "forward" *	White/Green
4	Hoist "lower"	Yellow	8	Bridge "reverse" *	White/Yellow

\* The terms "forward," "reverse," "left" and "right" are for general reference only.

## PLUMBING (TUBE) ASSEMBLY DRAWING AND REFERENCE LIST



(Dwg. MHTPA0401)

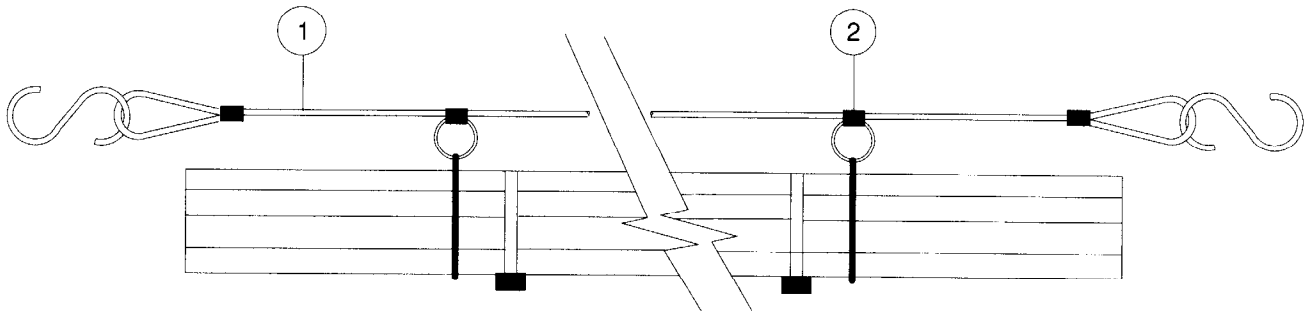
### Plumbing (Tube) Parts Reference List:

ITEM NO.	DESCRIPTION OF PART	OBSOLETE PART NUMBER	DESCRIPTION OF REPLACEMENT PART *	REPLACEMENT PART NUMBER
1	Plumbing (Tube) Assembly	17021	Plumbing (Hose) Assembly	**
2	Dump Valve Assembly (Tube)	53241	Exhaust Valve Kit (Hose)	20417

\* Replacement part assembly drawings located elsewhere in this manual.

\*\* Refer to "Plumbing (Hose) Assembly Parts List Chart" located elsewhere in this manual.

## PENDANT SUPPORT (CABLE) ASSEMBLY DRAWING & REFERENCE LIST



(Dwg. MHTPA0366)

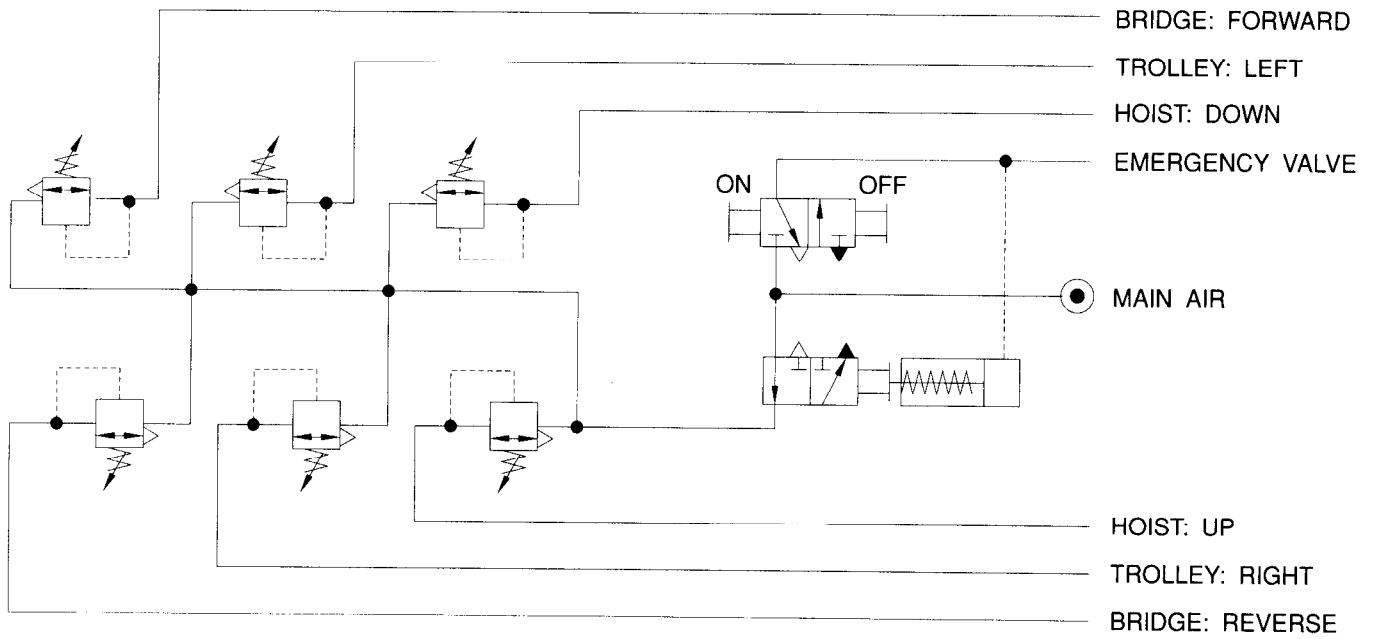
### Pendant Support (Cable) Parts Reference List:

ITEM NO.	DESCRIPTION OF PART	OBSOLETE PART NUMBER	DESCRIPTION OF REPLACEMENT PART *	REPLACEMENT PART NUMBER
1	Cable	54798	Chain	50041
2	Swedge Connector	54799	Not required to attach chain to hose bundle.	

\* Replacement part assembly drawings located elsewhere in this manual.

# PENDANT AIR FLOW SCHEMATIC DRAWING

Example shown: Six button pendant with ON / OFF switch.



(Dwg. MHTPA0361)

## PARTS ORDERING INFORMATION

The use of other than **INGERSOLL-RAND Material Handling Products** replacement parts will invalidate the Company's warranty.

For your convenience and future reference it is recommended that the following information be recorded.

Pendant Model Number \_\_\_\_\_

Date Purchased \_\_\_\_\_

When ordering replacement parts, please specify the following:

1. Complete model number and serial number as it appears on the nameplate.
2. Part number(s) and part description as shown in this manual.
3. Quantity required.

### NOTICE

• **Continuing improvement and advancement of design may cause changes to this pendant which are not included in this manual. Manuals are periodically revised to incorporate changes. Always check the manual edition number on the front cover for the latest issue.**

When the life of the equipment has expired, it is recommended that this equipment be disassembled, degreased and parts separated as to materials so that they may be recycled.

### Return Goods Policy

**Ingersoll-Rand** will not accept any returned goods for warranty or service work unless prior arrangements have been made and written authorization has been provided from the location where the goods were purchased.

For additional information contact:

#### **Ingersoll-Rand Material Handling**

P.O. Box 24046  
2724 Sixth Avenue South  
Seattle, WA 98124-0046 USA  
Phone: (206) 624-0466 Telex: 328795  
Fax: (206) 624-6265

or

#### **Ingersoll-Rand Material Handling**

**Samiia, Douai Operations**  
111, Avenue Roger Salengro  
59450 Douai, France  
Phone: (33) 27-93-08-08  
Fax: (33) 27-93-08-00

## HOIST AND WINCH LIMITED WARRANTY

Ingersoll-Rand Company (I-R) warrants to the original user its Hoists and Winches (Products) to be free of defects in material and workmanship for a period of one year from the date of purchase. I-R will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any Product proves defective within its original one year warranty period, it should be returned to any Authorized Hoist and Winch Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which I-R has determined to have been misused or abused, improperly maintained by the user, or where the malfunction or defect can be attributed to the use of non-genuine I-R parts.

**I-R makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set forth above. I-R's maximum liability is limited to the purchase price of the Product and in no event shall I-R be liable for any consequential, indirect, incidental, or special damages of any nature rising from the sale or use of the Product, whether based on contract, tort, or otherwise.**

**Note:** Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

## IMPORTANT NOTICE

It is our policy to promote safe delivery of all orders. This shipment has been thoroughly checked, packed and inspected before leaving our plant and receipt for it in good condition has been received from the carrier. Any loss or damage which occurs to this shipment while enroute is not due to any action or conduct of the manufacturer.

### **VISIBLE LOSS OR DAMAGE**

If any of the goods called for on the bill of lading or express receipt are damaged or the quantity is short, do not accept them until the freight or express agent makes an appropriate notation on your freight bill or express receipt.

### **CONCEALED LOSS OR DAMAGE**

When a shipment has been delivered to you in apparent good condition, but upon opening the crate

or container, loss or damage has taken place while in transit, notify the carrier's agent immediately.

### **DAMAGE CLAIMS**

You must file claims for damage with the carrier. It is the transportation company's responsibility to reimburse you for repair or replacement of goods damaged in shipment. Claims for loss or damage in shipment must not be deducted from the Ingersoll-Rand invoice, nor should payment of Ingersoll-Rand invoice be withheld awaiting adjustment of such claims as the carrier guarantees safe delivery.

You may return products damaged in shipment to us for repair, which services will be for your account and form your basis for claim against the carrier.

## United States Office Locations

### For Order Entry and Order Status:

#### Ingersoll-Rand Distribution Center

P.O. Box 618  
510 Hester Drive  
White House, TN 37188  
Phone: (615) 672-0321  
Telex: 786573  
Fax: (615) 672-0801

#### Ingersoll-Rand Material Handling Technical Support

P.O. Box 24046  
2724 Sixth Avenue South  
Seattle, WA 98124-0046  
Phone: (206) 624-0466  
Telex: 328795  
Fax: (206) 624-6265

#### Regional Sales Offices

##### Atlanta, GA

111 Ingersoll-Rand Drive  
Chamblee, GA 30341  
Phone: (404) 936-6230

##### Detroit, MI

23192 Commerce Drive  
Farmington Hills, MI 48335  
Phone: (313) 476-6677  
Fax: (313) 476-6670

##### Houston, TX

Suite 150  
2500 East T.C. Jester  
Houston, TX 77008  
Phone: (713) 864-3700

##### Los Angeles, CA

5533 East Olympic Blvd.  
Los Angeles, CA 90022  
Phone: (213) 725-2826

##### Milwaukee, WI

12311 W. Silver Spring Dr.  
Milwaukee, WI 53225  
Phone: (414) 461-0973

##### Philadelphia, PA

P.O. Box 425  
900 E. 8th Ave., Suite 103  
King of Prussia, PA 19406  
Phone: (215) 337-5930

## International Office Locations

Offices and distributors in principal cities throughout the world. Contact the nearest Ingersoll-Rand office for the name and address of the distributor in your country or write/ fax to:

#### Ingersoll-Rand Material Handling

P.O. Box 24046  
2724 Sixth Avenue South  
Seattle, WA 98124-0046  
USA  
Phone: (206) 624-0466  
Telex: 328795  
Fax: (206) 624-6265

#### Canada

##### National Sales Office Regional Warehouse

**Toronto, Ontario**  
51 Worcester Road  
Rexdale, Ontario  
M9W 4K2  
Phone: (416) 675-5611  
Fax: (416) 675-6920

#### Regional Sales Offices

##### Calgary, Alberta

333 11th Avenue S.W.  
Calgary, Alberta  
T2R 0C7  
Phone: (403) 261-8652

##### Montreal, Quebec

3501 St. Charles Blvd.  
Kirkland, Quebec  
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