

Multi-Purpose Pendant

Operation and Maintenance Manual

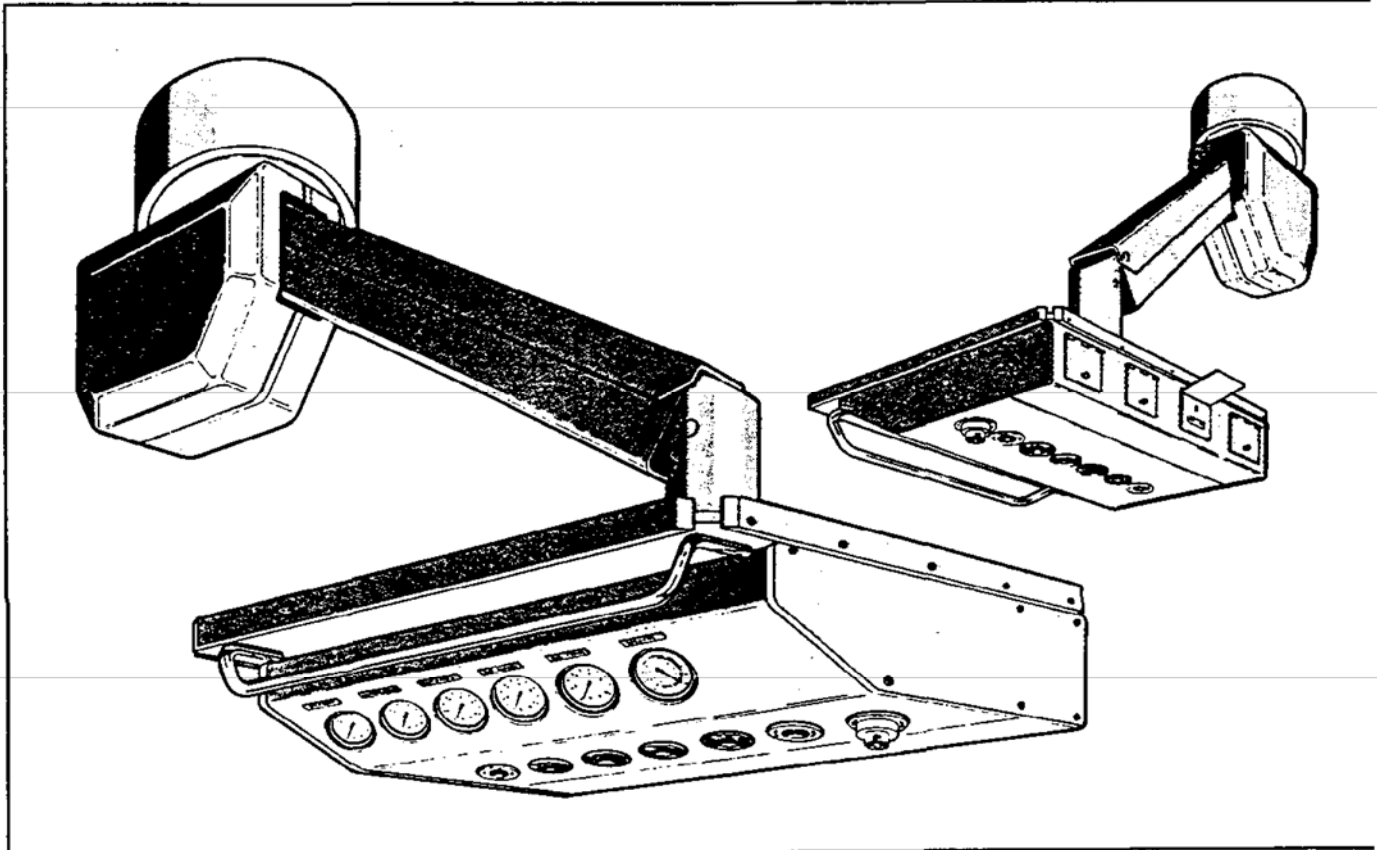


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USER RESPONSIBILITY

USER RESPONSIBILITY

This Product will perform in conformity with the description thereof contained in this operation manual and accompanying labels and/or inserts, when assembled, operated, maintained and repaired in accordance with the instructions provided. This Product must be checked periodically. A defective Product should not be used. Parts that are broken, missing, plainly worn, distorted or contaminated, should be replaced immediately. Should such repair or replacement become necessary, Ohmeda recommends that a telephonic or written request for service advice be made to the nearest Ohmeda Regional Service Office. This Product or any of its parts should not be repaired other than in accordance with written instructions provided by Ohmeda, or altered without the prior written approval of Ohmeda's Safety Department. The user of this Product shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, improper repair, damage, or alterations by anyone other than Ohmeda.

1.0 INTRODUCTION

The ever-increasing complexity of equipment and facilities available to surgeons and anesthesiologists has resulted in overcrowded operating suites. The Multi-Purpose Pendant is designed to reduce the problem of dangerous trailing electrical leads and gas hoses. The pendant provides all electrical and gas services overhead, enabling a more effective and practical suite layout. It also includes a large flat area which accommodates 165 pounds (75 kg) of patient monitoring equipment, video cameras, etc. This area is surrounded by a Flexiva type equipment rail.

Note: Retain this manual for finish assembly installation and for future operation and maintenance. No other manual will be supplied with the finish assembly.

2.0 DESCRIPTION

The Multi-Purpose Pendant consists of a motor driven parallelogram-type arm assembly and a distribution center.

The motor drive consists of an enclosed, single-phase induction motor and gear-box. A pneumatic hand control activates the motor to raise or lower the arm to the desired height. The motor operates on 120V, 50/60 Hz electrical current. Two gas springs with a force of 450 pounds (2000 N) are used to counterbalance the pendant. With a maximum load of 165 pounds (75 kg) on the arm, the resulting work force on the motor will be zero.

The distribution center includes: Six medical outlets, four hospital grade duplex electrical receptacles, four 5-pin monitoring jacks and two grounding receptacles. Both Diamond III (quick-connect) and DISS III (threaded) medical gas outlets are available in oxygen, nitrous oxide, nitrogen*, air, vacuum, and waste gas evacuation. Each medical gas and vacuum outlet has a corresponding line pressure gauge. A legend will be located next to each of the gas services for quick identification. Electrical and medical gas services are physically separated throughout the pendant. Both the high and the low voltage electrical supply cables are enclosed in separate steel-armored, gas-tight flexible conduit. The cables will be terminated in one of two gas-tight junction boxes. Each junction box includes a terminal strip for easy service connections.

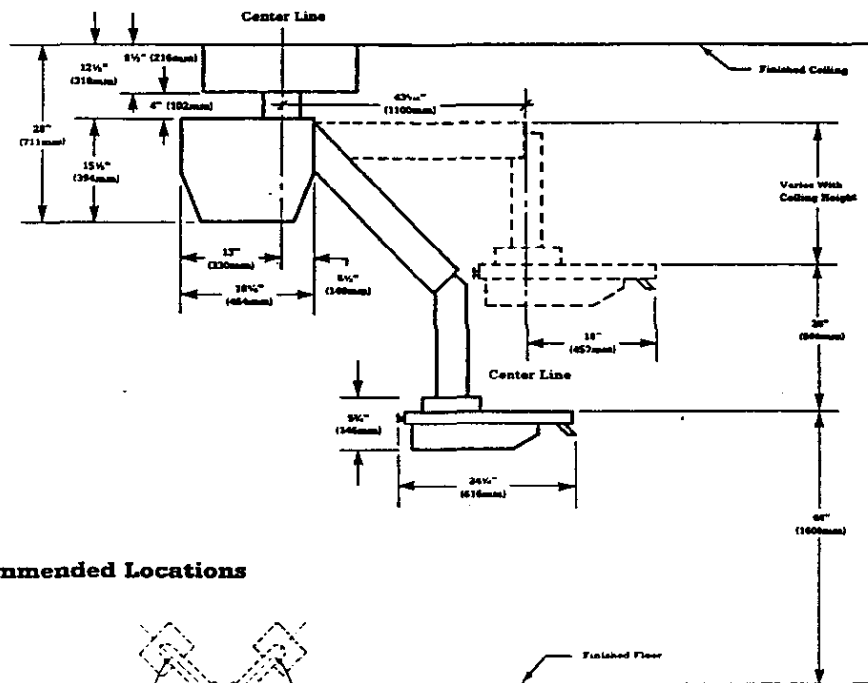
The pendant is designed to allow 6'-4" (1950 mm) of free passage height with the arm in its raised position. However, the pendant is available with a lower free passage height which is sometimes desirable, if the pendant is intended to serve the surgeon. Each joint (table joint and arm joint) has a swing of 270 degrees. Gas is delivered from the mounting plate to the gas check units via conductive hoses. The upper end of each hose will be terminated with a gas specific DISS hex nut and gland.

The pneumatic hand control hanging from the table actuates electrical micro-switches located in the sealed flame-proof enclosure. The enclosure is mounted near the motor and also contains two reed relays which serve as limit switches. When activated, the relays open the electrical circuit to the pendant motor. The points at which the relays activate are adjustable. Should the relays fail, mechanical stops will prevent override.

Thrust needle bearings are used for arm and table joints, combined with adjustable plain bearings which serve as friction brakes. Mechanical stops limit the arm and table swing to 180 degrees or 270 degrees (adjustable).

*Nitrogen outlets are available in DISS only.

Dimensions



Recommended Locations

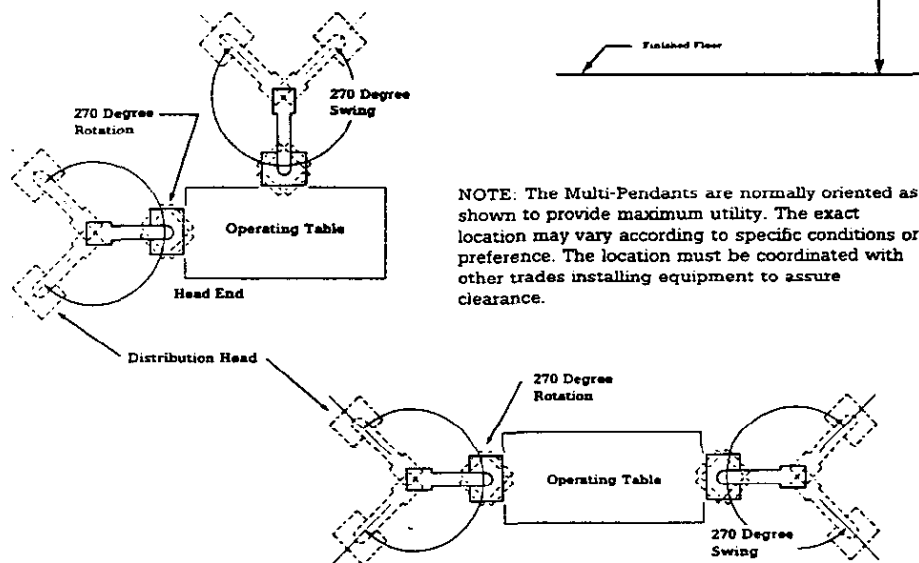


Figure 1. Multi-Purpose Pendant, Dimensions and Layout.

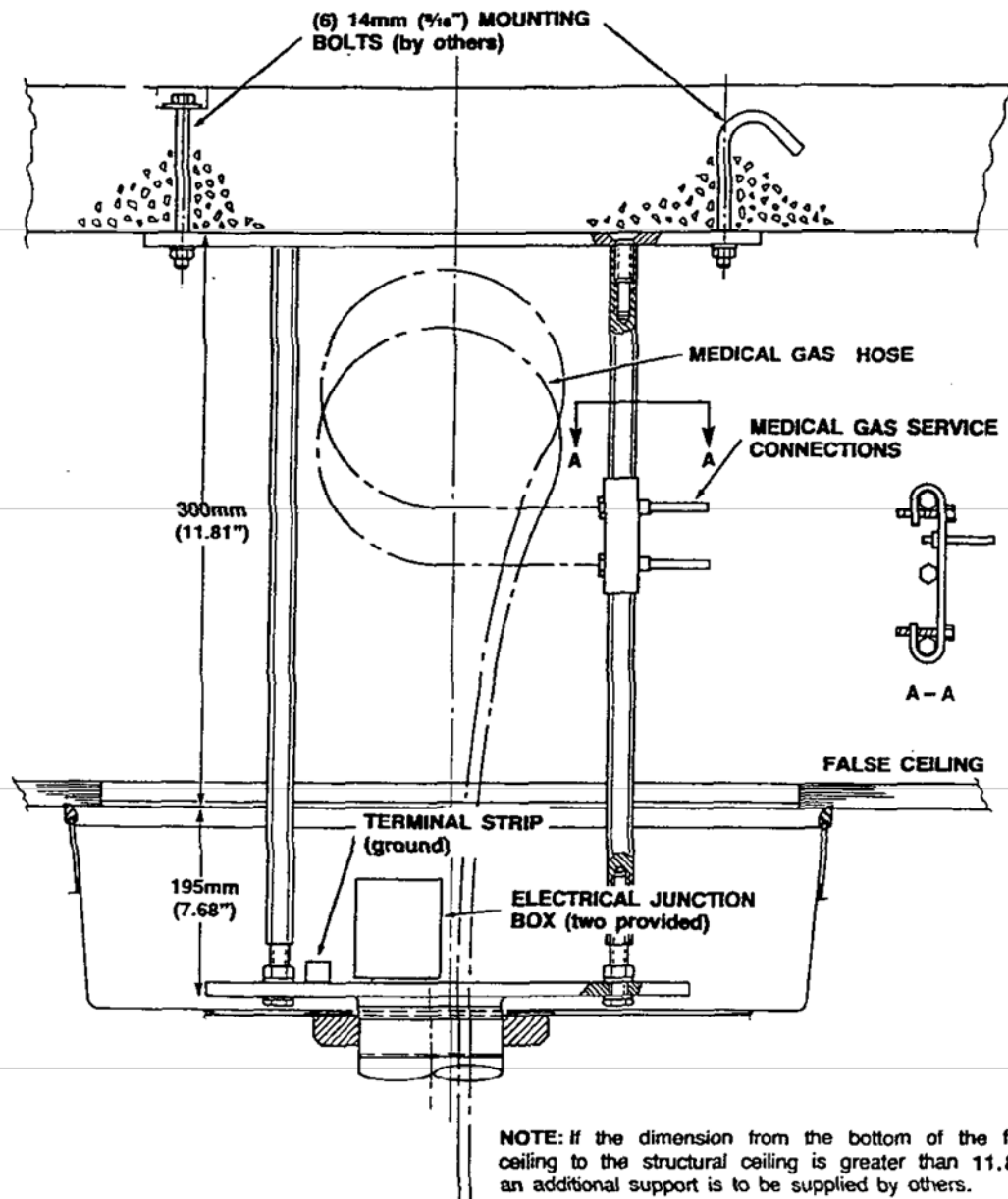


Figure 2. Installation of Roughing-In Assembly

3.0 SPECIFICATIONS

Shipping Weight: 419 lbs. (190 kg)

Net Weight: 220 lbs. (100 kg)

Shipping Volume: 72" x 31 1/2" x 41 1/2" (1800mm x 800mm x 1050mm)

Arm Length: 43.5" (1100 mm)

Mounting: To structural ceiling

Motor: 120V, 50/60, single phase induction motor with gear-box, 3.3A 390W (also available for 3-phase connection)

DISTRIBUTION TABLE

Overall Dimensions: (wxdxh) 23 1/2" x 23 1/2" x 5 3/4" (600mm x 600mm x 146mm)

Working Surface: (wxd) 23 1/2" x 13 3/4" (600mm x 350 mm)

Maximum Load: 165 lbs (75 kg)

Adjustable Height: 20" (500 mm) with 6'-4" (1950 mm) free passage height

Equipment Rail: Flexiva type 94" (2400mm)

Electrical Connections: Terminal Strip in Junction Box

Electrical Receptacles: (4) Hubbell # 8200-I 15A, 125V Hospital Grade Duplex

5-Pin Monitoring Jacks: (4) Amphenol # MS-3100-A-14S-5S

Patient Grounding Receptacles: (2) Hampden # SLR-3S

Medical Gas Check Units: (6) Diamond III (quick-connect) or DISS III (threaded)

4.0 INSTALLATION

The Multi-Purpose Pendant is shipped and installed in two individually packaged assemblies, the roughing-in assembly and the finishing assembly. This will enable the owner/contractor to install the roughing-in assembly during the early phases of construction and store the finishing assembly to help prevent loss or damage of parts. The roughing-in assembly consists of a mounting plate and the necessary medical gas service connections. The remaining parts of the pendant are packaged with the finishing assembly.

The installation is to be designed for a force of:

562 lbs. (2.5 kN) vertical

112 lbs. (0.5 kN) horizontal

3245 lbs (4.4 kNm) moment

4.1 INSTALLATION OF ROUGHING-IN ASSEMBLY

Before the pendant itself can be installed the roughing-in assembly must be assembled and installed. The roughing-in assembly is designed to be attached to the structural ceiling. Two important things must be kept in mind while installing the roughing in assembly.

1. The dimension from the structural ceiling to the bottom of the finished ceiling is critical.
2. The orientation of the label on the bottom side of the roughing-in assembly.

The dimension from the structural ceiling to the bottom of the finished ceiling must be 11 3/4" (300mm). If this dimension is greater than 11 3/4" (300mm) an additional structure must be provided (by others) to make up the difference as indicated in Figure 2. If the dimension is less than 11 3/4" (300mm) the spacer rods will have to be shortened.

The label located on the bottom side of the roughing-in assembly graphically shows a large arrow in the center of a pendant rotating 270 degrees as shown in Figure 3. When installing the roughing-in assembly the label must show the orientation you wish the pendant to have when installed. When the roughing-in is installed the

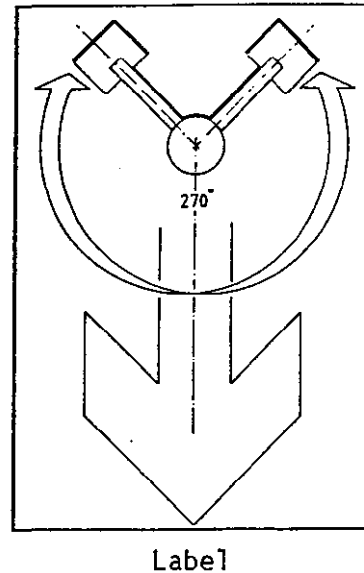
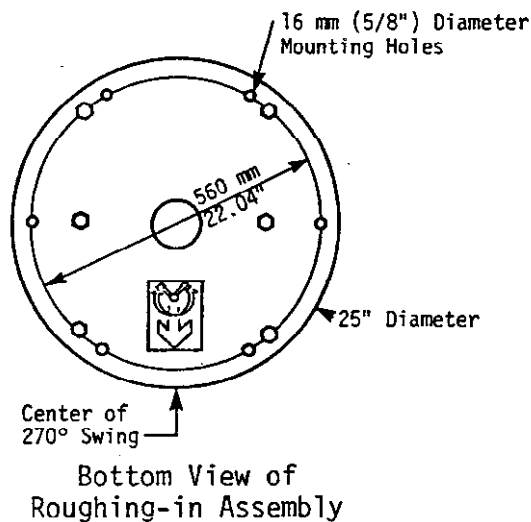


Figure 3. Determining Orientation of Pendant.

label will show the actual orientation of the pendant once it is installed.

1. Attach the six spacer supports to the plate and tighten them. The bolts in the plate have been welded into place.
2. Attach the medical gas mounting plate to the spacer supports using the four 6-32 x 1 1/4" screws. Attach it as shown in Figure 2 with the screws pointed toward the center of the roughing-in.
3. Attach the roughing-in assembly using six 9/16" (14mm) bolts. Use the type of bolts best suited for the type of material you are attaching the roughing-in to.
4. Level the mounting plate and verify the dimensions shown in Figure 2.

4.2 INSTALLATION OF THE PENDANT

The pendant is shipped in a wood crate which is used during the installation of the pendant. Carefully read all of the following instructions before attempting to install the pendant.

1. Remove the top portion of the shipping crate as shown in Figure 4.
2. Remove the two lag bolts from the side of the crate. These bolts hold the top portion of the shipping crate to an internal support in the shipping crate.
3. Identify the four accessible mounting holes in the pendant's mounting plate. There are six mounting holes in the pendant, but two are being used to attach the pendant to the internal support.
4. Insert one of the mounting bolts from the bottom of the mounting plate and fasten it with a lock washer and two nuts. The additional nut will be used as a jam nut once the pendant has been leveled. Repeat this step on the three remaining mounting holes. Do not tighten the nuts at this time.
5. Note the orientation of the pendant on the label attached to the bottom of the roughing-in assembly. Place the pendant in the same position shown on the label. When installed, the pendant will rotate as indicated on the label.
6. Carefully lift the pendant into position using a hand operated fork lift as shown in Figure 5.
7. Thread the four mounting bolts installed in step 4 into the spacer supports on the roughing in assembly.
8. Remove all of the tape and banding holding the pendant to the remaining portion of the crate. Carefully lower the fork lift and remove the crate.
9. Insert the remaining two mounting bolts in the same manner as described in Step 4.
10. Level the pendant mounting plate using the bolts in each of the four corners of the mounting plate.
11. Keeping the pendant level, tighten the jam nuts and the two remaining mounting bolts.
12. Install the remaining shrouds and escutcheons.
13. Do not rotate arm or distribution center until set screws have been adjusted as described in section 4.5.

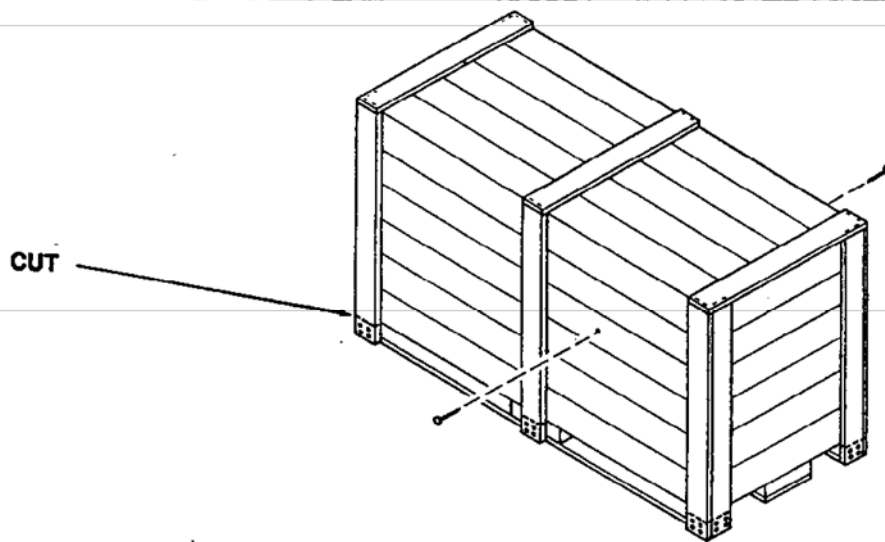


Figure 4. Removing outer shell of Pendant shipping crate: 1) Remove nail from each side of crate. 2) Cut all vertical boards at point shown. 3) Remove top portion of crate.

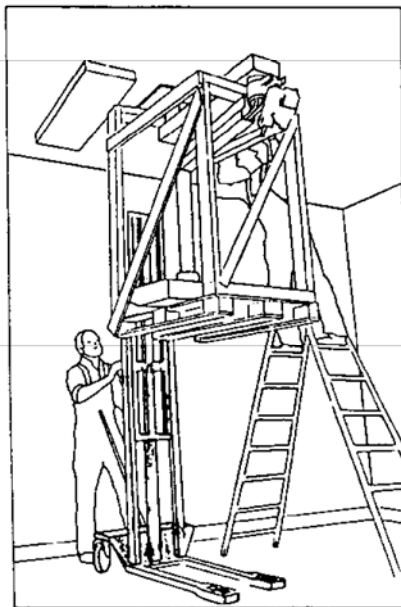


Figure 5. Lifting Pendant into position with fork lift.

4.3 ELECTRICAL SERVICE HOOKUP

All electrical connections are to be made in accordance with the National Electrical Code (NEC) and any applicable State and local codes. Make all electrical connections per the schematic in Figure 6. Connect all ground wires to the terminal strip located near the electrical junction boxes. Inspect all of the electrical connections before the pendant is brought into service.

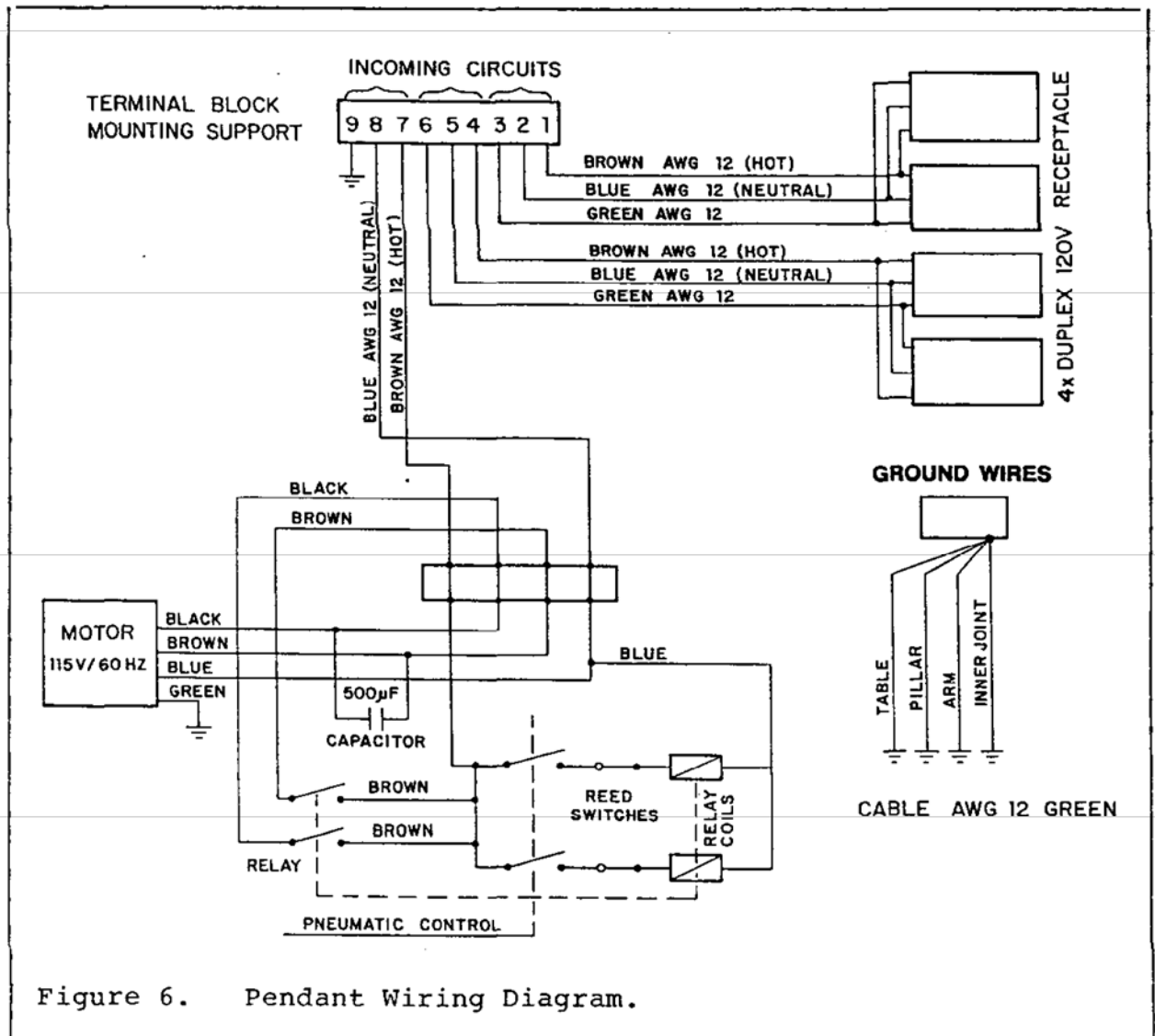


Figure 6. Pendant Wiring Diagram.

4.4 GAS SERVICE HOOKUP

WARNING: Prior to using the pendant after initial installation or service involving the medical gas system itself, make certain the correct gas has been piped to each of the check units. Test the piping system in accordance with the National Fire Protection (NFPA) pamphlet number 56F, "Nonflammable Medical Gas Systems," Section 53, "Cross Connection Testings"; and Section 54, "Final Testing-Purging and Analyzing."

1. Make a complete loop in the medical gas hoses and connect them to their corresponding DISS roughing-in assemblies as shown in Figure 2. Looping the hoses will minimize the torsion exerted on them when the pendant is being rotated.

CAUTION: Tighten the DISS hose adapters only enough to prevent leakage. Excessive tightening may cause damage.

2. Before the pendant is brought into service the gas distribution system should be inspected for leaks. Check for gas leaks by turning on the hospital gas supply, then shut off and read the pressure gauges. There should be no visible pressure drop in 15 minutes.

4.5 PENDANT ARM & DISTRIBUTION CENTER ROTATION ADJUSTMENT

The friction brakes on the pendant arm and the distribution center have been locked (tightened) at the factory to prevent movement during shipment. See Figure 7.

CAUTION: Do not attempt to move the pendant arm or distribution center before they have been adjusted. Bearing damage may occur.

Both the pendant arm and the distribution center can be rotated up to a maximum of 270 degrees. Adjustments can be made to achieve stops at different points according to specific conditions or personal preferences.

4.5.A Lower Friction Brake and Stop Adjustment

1. Refer to Figure 7. Remove the black hood located in the center of the distribution center.
2. Loosen the six friction brake set screws located around the perimeter of the joint.
3. Identify the two stop screws, one of which has been painted red.

CAUTION: Do not remove the red stop screw from the joint of the distribution center. The gas hoses or electrical cables located inside may be damaged.

4. Remove the unpainted stop screw.
5. Turn the distribution center 180 degrees and replace the unpainted stop screw.
6. Uniformly adjust (turn clockwise) the six friction brake set screws until the turning resistance desired has been achieved.
7. Replace the black hood.

4.5.B Upper Friction Brake and Stop Adjustment

1. Refer to Figure 7. Loosen the friction brake set screws located around the perimeter of the upper joint.
2. If necessary, relocate the stop bolts or stop adjustment bar to the desired location. A number of holes have been provided for the bolts. It is not necessary to use the stop adjustment bar if a 270 degree rotation is not desired.
3. Uniformly adjust (turn clockwise) the friction brake set screws to the turning resistance desired.

4.6 PNEUMATIC CONTROL

The pneumatic control device will require installation. The hose on the pneumatic control has three internal air canals. The outermost canal with the red mark on the end is the one that is to be connected to the hose barb. The hose barb is located just behind the positioning bar on the distribution center. If necessary, cut

the hose to the desired length and reconnect it to the hose barb. Hang the control device from the positioning bar using the hanger provided.

Note: The pendant will not change its vertical position if the pneumatic control's hose is disconnected from the hose barb.

5.0 OPERATION

5.1 VERTICAL MOVEMENT

Vertical movement of the pendant is regulated by the pneumatic control device. At this point the pendant motor should be operational. To raise and lower the pendant see Figure 7.

5.2 ELECTRICAL RECEPTACLE

When electrical service is needed, insert a mating plug into the receptacle.

5.3 DIAMOND III OUTLET

When gas service is needed, attach the appropriate hose* or equipment with Diamond III adapter to the Diamond Check Unit by pushing the nose of the adapter into the check unit. A positive locking "click" will signal a complete engagement of the adapter.

To remove the adapter, turn the knurled color-coded ring of the adapter clockwise 90 degrees and pull the adapter out.

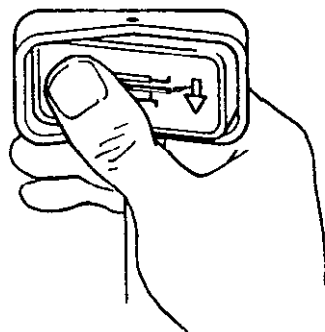
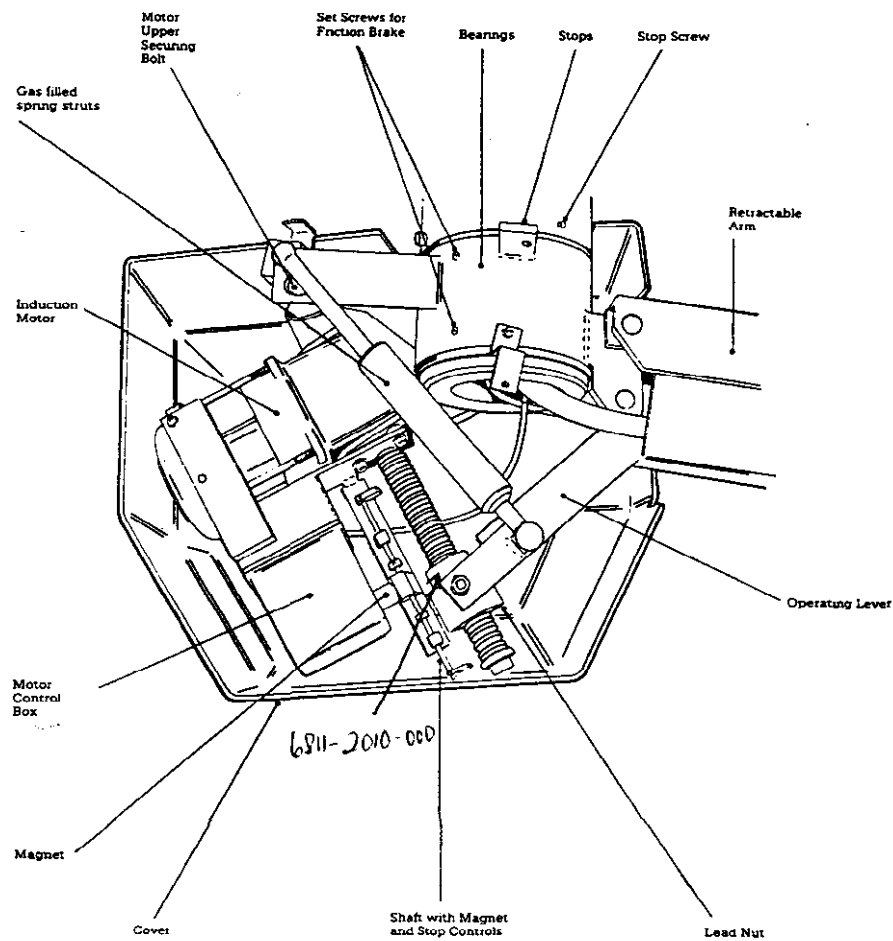
*Stock numbers of various hose drop assemblies (with end fittings) are given in "High Pressure Hose Assemblies and Component Fittings," Advertising Brochure for #1824.

5.4 DISS III OUTLET

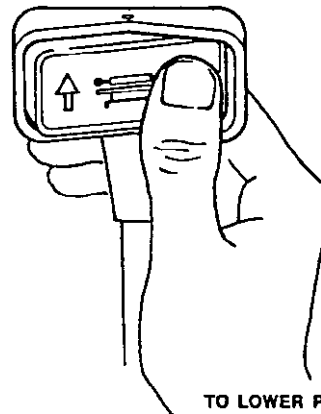
When gas service is needed, attach the appropriate hose or equipment to the check unit and tighten the nut finger tight. It may be necessary to tighten the nut slightly with a wrench if tightening it finger tight does not prevent leakage.

CAUTION: Tighten DISS connectors only enough to prevent leakage. Excessive tightening may cause damage to the check unit.

To remove the adapter, simply turn the nut counterclockwise until the nut can be removed.



TO RAISE PENDANT



TO LOWER PENDANT

Figure 7. Pendant Operating Mechanism.

6.0 MAINTENANCE

6.1 REPAIR POLICY

NOTE: Service, other than what is described in this manual, must be performed by a "Technically Competent" individual.

Do not use malfunctioning equipment. Make all necessary repairs, or have the equipment serviced by an Authorized Ohmeda Service Representative. After repair test the equipment to ensure that it is functioning properly, in accordance with manufacturer's published specifications. To ensure full reliability, have all repairs and service done by an authorized Ohmeda Service Representative. If this cannot be done, replacement and maintenance of those parts listed in this manual may be undertaken by a competent, trained individual having experience in the repair of this type of equipment.

CAUTION: No repair should ever be undertaken or attempted by anyone not having such qualifications.

Replace damaged parts with components manufactured or sold by Ohmeda. Then test the unit to ascertain that it complies with the manufacturer's published specifications.

Contact the nearest Ohmeda service Office for service assistance. If you send the unit to the Ohmeda Service Center, package it securely in the original shipping container, if possible, and ship it prepaid. Enclose a letter with the unit describing in detail any difficulties experienced and the repairs felt necessary. In all cases, other than where Ohmeda's warranty is applicable, repairs will be made at Ohmeda's current list price for the replacement part(s) plus a reasonable labor charge.

6.2 MAINTENANCE

6.3 CHECKOUT PROCEDURE

To ensure that the Multi-Purpose Pendant is working properly, make the following checks on an annual basis or whenever it is being returned from service. Under severe conditions, check the pendant more frequently.

1. Inspect the roughing-in assembly for corroded or loose nuts and bolts. Retorque or replace them as necessary.

2. Inspect the pendant arm stops and distribution center stops for wear and tightness. Retorque and replace them as necessary.
3. Inspect, and if necessary, adjust the friction brakes as outlined in Section 4.5.
4. Inspect all of the electrical connections and cables for tightness and wear. Tighten and repair them as necessary.
5. With arm in upper position and motor cover removed, attempt to lift the table and check that there is no visible axial play (maximum 1 mm) in the lead nut on motor shaft. If any play is present, then replace the motor and lead nut as outlined in Section 7.2.
6. Lubricate the lead nut and motor shaft with Vac Kote*.
7. Check to see that the end switches are operating in the upper and lower positions. If necessary, adjust the magnet locations outlined in Section 7.1.
8. Check to see that the upper and lower mechanical motor stops are operating. If necessary, adjust them as outlined in Section 7.1.
9. Inspect gas hoses and cables. They should be free of kinks and move freely when rotating and retracting the arm. No visible wear of the hoses or cables should be accepted.
10. Every three years, replace the two gas filled springs that counterbalance the motor as outlined in Section 7.3.

To ensure that the Diamond check units are working properly, make the following checks annually or whenever they are being returned from service. Under severe conditions, check the units more frequently.

WARNING: To avoid an interruption in gas service check the Diamond check unit keying disc integrity. Loose keying discs may cause an interruption in the gas service.

1. Firmly grasp the body of the check unit and attempt to rotate the keying disc in both directions. If the keying disc rotates a few degrees in either direction, the screws will need to be tightened as outlined in section 7.4.

Note: Make sure that loose keying disc is not mistaken for loose mounting screws.

*Vac Kote is a registered trademark of the Ball Corporation. A one ounce jar is available from Ohmeda (Stock # 0220-0091-300).

2. Partially insert a Diamond adapter into the check unit. Insert the nose of the adapter just far enough to break the seal of the primary check. An initial discharge of gas may be detected and is considered acceptable. If a constant leak is detected, the secondary check will require servicing as outlined in section 7.5.
3. Insert the appropriate Diamond adapter into the check unit until a positive "click" signals complete engagement of the adapter. The outlet end of the adapter must be plugged to prevent gas flow. Check for leaks around the area of the keying disc. If a leak is detected, the primary check will require servicing as outlined in section 7.6.
4. Insert the appropriate Diamond adapter into the check unit until a positive "click" signals complete engagement of the adapter. Firmly pull on the adapter with a twisting motion, if the adapter can be removed (without turning the knurled ring) the hairpin spring will need to be replaced as outlined in section 7.7.
5. Insert the appropriate Diamond adapter into the check unit until a positive "click" signals complete engagement of the adapter. Turn the knurled ring clockwise and remove the adapter. Check to see that the plastic piston returns to its original position. If the piston does not return to its original position the return spring will have to be replaced as outlined in section 7.8.

7.0 SERVICE

The procedures described in the following sections of this manual are to be performed by trained and authorized personnel only. The maintenance procedures in the following sections should be undertaken only by competent individuals who have general knowledge and experience with devices of this nature.

7.1 END SWITCH ADJUSTMENTS

The end switches are two reed relays mounted inside the motor control box. They are activated by a magnet mounted on a shaft with two adjustable stop controls. The lead nut on the motor shaft moves the stop control which moves the magnet over either of the reed switches. The magnet opens the reed switch which opens the circuit to the motor. The lead nut position, when the end switches activate, can be adjusted by adjusting the position of the stop control. See Figure 7.

1. Remove the motor shroud and the control box cover.
2. Check to see that the shaft with the magnet is free to move.
3. If necessary, set shaft so the magnet returns to a position in the center of the two reed switches. The magnet position is adjusted by moving the two spring retention brackets.
4. Using the pneumatic hand control, raise the pendant until it stops. If necessary, adjust the stop control to activate 1mm before the lead nut reaches the upper mechanical stop on the motor shaft.
5. Using the pneumatic hand control, lower the pendant until it stops. If necessary, adjust the stop control to activate 1mm before the lead nut reached the motor gear box.
6. Replace the control box cover and the motor shroud.

7.2 MOTOR AND LEAD NUT REPLACEMENT

CAUTION: This job must only be done with the pendant arm in its upper most position.

1. Refer to Figure 7. Move the pendant arm to upper position and disconnect electrical power to the pendant.

CAUTION: When supporting the pendant be careful not to damage the painted surface of the pendant.

2. Place a support from floor to underside of the table. The pendant should rest against the support on the surface between the electrical receptacles and the gas check units.
3. Remove the sealed electrical motor connection. This connection is sealed with silicone rubber and should be resealed with a good quality silicone rubber when replacing the motor.
4. Remove the three screws holding the motor control box and end switch shaft to the motor.
5. Disconnect the necessary wires and remove the control box assembly.

WARNING: Check the support on which the pendant is resting before you proceed with the following steps. Personal injury may result if the pendant is not properly supported.

6. Loosen upper motor mounting bolt. One of the gas springs must be removed to reach the bolt head (see Section 7.3).
7. Loosen the two bolts fastening the lead nut holder.
8. Remove the old motor and install a new motor complete with lead nut.

7.3 GAS SPRING REPLACEMENT

See Figure 7. The gas filled springs each have a force of 2000 N. The weight of the arm along with the maximum load on the table of 165 lbs (75 kg) will be counterbalanced so the force acting on the motor will be approximately zero. This means, should a lead-nut breakdown occur, the pendant will rise to its upper position. The springs should be replaced every three years.

CAUTION: This job must only be done with the arm in its upper most position.

1. Move arm to upper position and remove the motor shroud. The springs are now under no load. This can be confirmed by trying to twist the springs. You should be able to feel a small amount of play. If not, check end switch adjustment.

2. Remove the clamp rings located at each end of the gas springs. Remove and replace the two springs.
3. Lock the clamps and replace the motor shroud.

Read completely through each procedure before starting the procedure. Any exceptions may result in failure to properly and safely complete the procedure attempted.

7.4 TIGHTENING/REPLACING DIAMOND CHECK UNIT KEYING DISC

The following special tools will be required to tighten the "tamper resistant" AVSAFE screws.

Special Tool	Stock Number
#4 Avsafe Bit	0175-2384-000
Torque Driver 0-25 in lb	0175-2038-000

Using torque driver (Ohmeda stock # 0175-2038-000) with "tamper resistant" (AVSAFE) bit (Ohmeda stock # 0175-2384-000) alternately and evenly torque the screws to 5 inch pounds (80 inch ounces).

7.5 SERVICING DIAMOND CHECK UNIT SECONDARY CHECK

NOTE: The check unit will have to be taken out of service to perform the following procedure.

1. Carefully remove the retaining ring from the back of the check unit.
2. Remove the back portion (secondary check assembly) of the check unit.
3. Carefully remove the retaining ring from the secondary check assembly. Sparingly apply Vac Kote to the O-ring.
4. Replace the check ball, spring, and seat O-ring in the secondary check assembly.
5. Reassemble the check unit in the reverse order of disassembly.
6. Perform the outlet checkout procedures outlined in Section 6.3.

7.6 SERVICING DIAMOND CHECK UNIT PRIMARY CHECK

1. Using torque driver (Ohmeda stock # 0175-2038-000) with "tamper resistant" (AVSAFE) bit (Ohmeda stock # 0175-2384-000), remove the two screws from the keying disc.
2. Remove the keying disc, hairpin spring, and washer.
3. Remove and replace the O-ring.
4. Reassemble the check unit in the reverse order of disassembly.
5. Using torque driver (Ohmeda stock # 0175-2038-000) with "tamper resistant" (AVSAFE) bit (Ohmeda stock # 0175-2384-000) drive the screws into the check unit body. Alternately and evenly torque the screws to 5 inch pounds (80 inch ounces).
6. Perform the outlet checkout procedures outlined in Section 6.3.

7.7 DIAMOND CHECK UNIT HAIRPIN SPRING REPLACEMENT

WARNING: To eliminate the chance of transposing keying discs, remove only one keying disc at a time. The keying disc must be replaced with a keying disc intended for the same gas service (colors and detents must match).

WARNING: Prior to using the check unit after the initial installation or repair involving removal of the keying disc or the check unit itself, make certain the correct gas has been piped to each check unit. Test the piping system in accordance with National Fire Protection Association (NFPA) pamphlet number 56F, "Nonflammable Medical Gas Systems," Section 53, "Cross Connection Testings"; and Section 54, "Final Testing-Purging and Analyzing."

1. Using torque driver (Ohmeda stock # 0175-2038-000) with "tamper resistant" (AVSAFE) bit (Ohmeda stock # 0175-2384-000), remove the two screws from the keying disc.
2. Remove the keying disc.
3. Remove and replace the hairpin spring.
4. Reassemble the check unit in the reverse order of disassembly.
5. Using torque driver (Ohmeda stock # 0175-2038-000) with "tamper resistant" (AVSAFE) bit (Ohmeda stock # 0175-2384-000) drive

the screws into the check unit body. Alternately and evenly torque the screws to 5 inch pounds (80 inch ounces).

6. Perform the outlet checkout procedures outlined in Section 6.3.

7.8 DIAMOND CHECK UNIT RETURN SPRING REPLACEMENT

1. Carefully remove the retaining ring from the back of the check unit.
2. Remove the back portion (secondary check assembly) of the check unit.
3. Carefully remove the retaining ring from the secondary check assembly.
4. Replace the return spring and reassemble the unit in the opposite order of assembly.
5. Perform the outlet checkout procedures outlined in Section 6.3.

8.0 WARRANTY

This product is sold by Ohmeda under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this Product directly from Ohmeda or Ohmeda's Authorized Dealers as new merchandise and are extended to the first Buyer thereof, other than for purpose of resale.

For a period of twelve (12) months from the date of original delivery to Buyer or to Buyer's order, but in no event for a period of more than two years from the date of original delivery by Ohmeda to an Ohmeda Authorized Dealer, this Product, other than its expendable parts, is warranted to be free from functional defects in materials and workmanship, and to conform to the description of the Product contained in this operation manual and accompanying labels and/or insert, provided that the same is properly operated under conditions of normal use, that regular periodic maintenance and service is performed and that replacements and repairs are made in accordance with the instructions provided. This same warranty is made for a period of thirty (30) days with respect to the expendable parts. The foregoing warranties shall not apply if the Product has been repaired other than by Ohmeda or in accordance with written instructions provided by Ohmeda, or altered by anyone other than Ohmeda, or if the Product has been subject to abuse misuse, negligence, or accident.

Ohmeda's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing or replacing, free of charge, at Ohmeda's option, a Product, which is telephonically reported to the nearest Ohmeda Regional Service Office and which, if so advised by Ohmeda, is thereafter returned with a statement of the observed deficiency, not later than seven (7) days after the expiration date of the applicable warranty, to the designated Ohmeda Service Office during normal business hours, transportation charges prepaid and which, upon Ohmeda's examination, is found not to conform with the above warranties. OHMEDA SHALL NOT BE OTHERWISE LIABLE FOR ANY DAMAGES INCLUDING BUT NOT LIMITED TO INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, OR SPECIAL DAMAGES.

THERE ARE NO EXPRESS OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTIES HEREINABOVE SET FORTH. OHMEDA MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PRODUCT OR PARTS THEREOF.



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