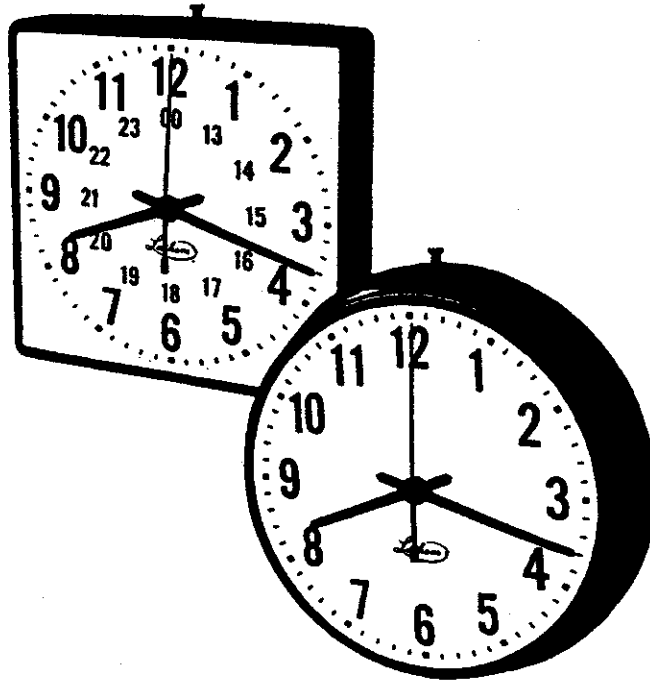


INDEPENDENT, SYNCHRONOUS SECONDARY & MINUTE IMPULSE
10" & 15" ROUND AND 10" & 12" SQUARE SERIES WALL CLOCK

INSTALLATION AND OPERATION MANUAL



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TABLE OF CONTENTS

Semi-Flush Mount Installation	1
Surface Mount Installation	1 & 2
Double Mount Installation	3
Preparing Minute Impulse Clocks for Service	4
Setting Minute Impulse Clocks Manually	4
Installing Quick Disconnect for Minute Impulse Clocks	4
Minute Impulse Wiring Diagrams.	5
Warranty	Last Page

SPECIFICATIONS

Shape	10", 15" Round or 10", 12" Square
Face	Arabic (1-12 or 0-23)
Color	Charcoal Gray
Mounting Styles	Semi-Flush Surface or Double (Ceiling or Wall)
Correction	Manual or Independent, Hourly and 12 Hourly for SS or Hourly (12 Hourly Optional) for ISC
Motor Input Voltage	115 VAC (220 VAC Optional) for Independent, 115 VAC (24 VAC Optional) for SS
Motor Input Frequency	60 Hz (50 Hz Optional) for Independent and SS
Motor Input Power	4 Watts (8 Watts for Double Wall Clock) for Independent and SS
Coil Input Voltage	115 VAC (24 VAC or 24 VDC Optional) for SS 24 VDC min., 36 VDC max. for ISC
Coil Input Frequency	60 Hz (50 Hz or VDC Optional) for SS
Coil Input Power	5.4 Watts for 115 VAC SS Type; 3.5 Watts for 24 VAC & 24 VDC SS Type 0.7 Watts for 24 VDC ISC Type
Connector	Cord Set for Independent Polarized quick disconnect connector plug with socket pins. Mating female connector is provided with approx. 18 inches of wiring for SS and ISC.

CAUTION: Turn off power source before installing Clocks.

SEMI-FLUSH MOUNT INSTALLATION

1. Install wall box (Fig. 1 & 2, #4) and pull power wires into box.
2. For Independent Clock: Connect wires to receptacle (Fig. 1, #6).
For SS and ISC Clock: Connect system wires to quick disconnect (Fig. 2, #6). The wiring is color coded as follows: RED (Correction Coil), BLACK (Motor), WHITE (Common Return) and Green (Safety Ground).
3. For Independent Clock: Plug power cord into receptacle.
For SS & ISC Clock: Remove (2) #10-32 screws that secure connector bracket (Fig. 2, #7) and remove bracket. Push socket end of quick disconnect (Fig. 2, #6) into top of connector bracket and reinstall.
4. Mate connectors and wrap excess wire around dust cover on back of clock. Hang clock on hanger bracket (Fig. 1 & 2, #5) and adjust bracket so clock is flush with wall.
5. Turn on power source and set time for Independent Clock, using setting knob on back of clock. Allow master to correct time on SS and ISC Clock.

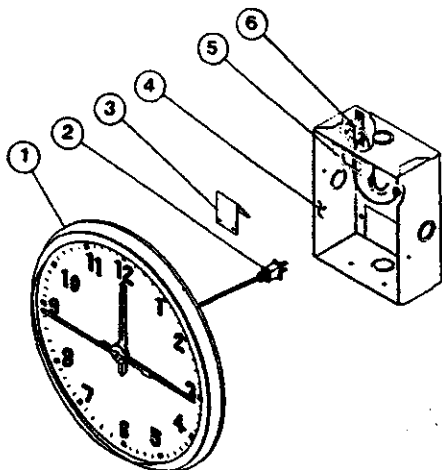


Figure 1: Semi-Flush Mount Assembly
For Independent Clock

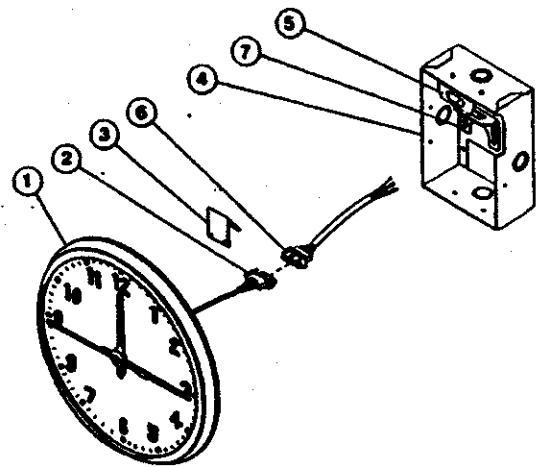


Figure 2: Semi-Flush Mount Assembly
For SS & ISC Clock

SURFACE MOUNT INSTALLATION

For Power Supplied to Wall Outlet: For Independent Clock

1. Remove setting knob and movement cover. Disconnect power cord from motor leads. Remove strain relief securing power cord and remove cord.
2. Reinstall power cord through snap bushing (Fig. 3, #3) and reconnect to motor.
3. Replace dust cover and setting knob. **NOTE:** Center setting knob shaft in dust cover hole. Improper placement of shaft can bind clock movement and damage clock.
4. Secure hanger plate (Fig. 3, #4) to wall. Adjust hanger plate jam nuts to desired height and hang clock as illustrated in Fig. 3. Install and tighten captive nut (Fig. 3, #2).
5. Plug clock into outlet and turn on power source. Set time, using setting knob on back of clock.

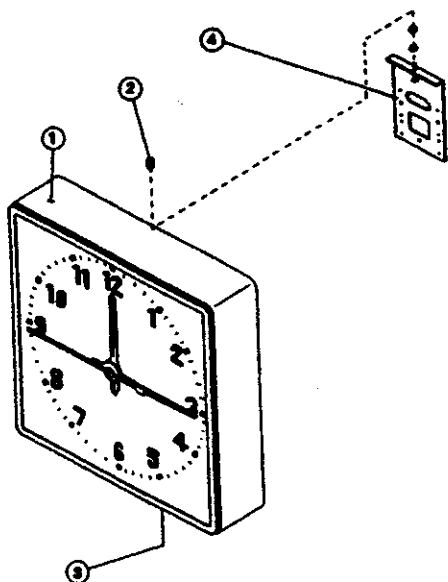


Figure 3: Surface Mount Installation
 For Independent Clock

3. For SS & ISC Clock: Push socket end of quick disconnect into back of hanger plate.
4. Secure hanger plate as shown in Fig. 4. and adjust hanger plate jam nuts to desired height.
5. Mate connectors and hang clock on hanger plate. Install and tighten captive nut.
6. Turn on power source and allow master to correct time on SS and ISC Clocks.

For Power Supplied to Outlet
 Box behind Clock:

1. Install a single gang outlet wall box as shown in Fig. 4. Pull system wires into box.
2. For Independent Clock: Cut power cord to desired length (Approx. 2' Long) and connect to power source. For SS & ISC Clock: Connect system wires to quick disconnect. The wiring is color coded as follows: RED (Correction Coil), BLACK (Motor), WHITE (Common Return) and GREEN (Safety Ground).

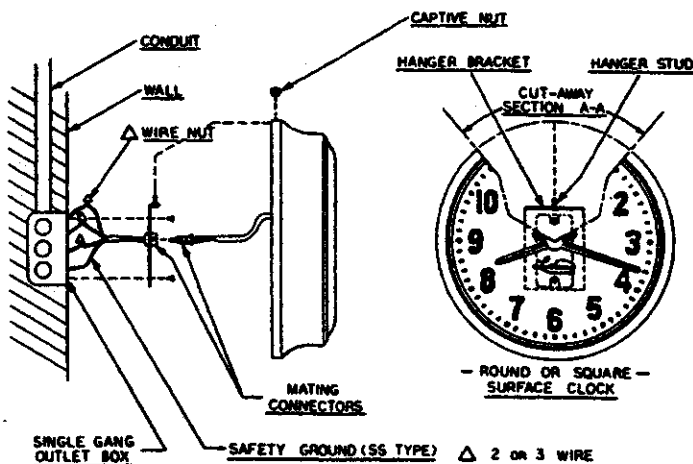


Figure 4: Surface Mount Installation
 For SS & ISC Clock

DOUBLE MOUNT INSTALLATION

1. Install wall box (Fig. 5 & 6, #1) into wall or ceiling and pull power wires into box.
2. For Independent Clock: Cut power cord to desired length and connect to power source.
For SS & ISC Clock: Connect system wires to quick disconnect. The wiring is color coded as follows: RED (Correction Coil), BLACK (Motor), WHITE (Common Return) and GREEN (Safety Ground).
3. Attach wall box adaptor plate (Fig. 5 & 6, #2) to wall box with (4) #8-32 x 1" long screws (Fig. 5 & 6, #3).
6. Turn on power source and set time for Independent Clock (Refer to Setting Steps below). Allow master to correct time on SS and ISC Clock.

Setting Independent 15" Double Round

5. Remove (3) #6-32 screws (Fig. 5, #5) that secure either access panel (Fig. 5, #4). The panel can now be moved to set time, using setting knob on back of each clock.
6. Re-attach screws that secure access panel.

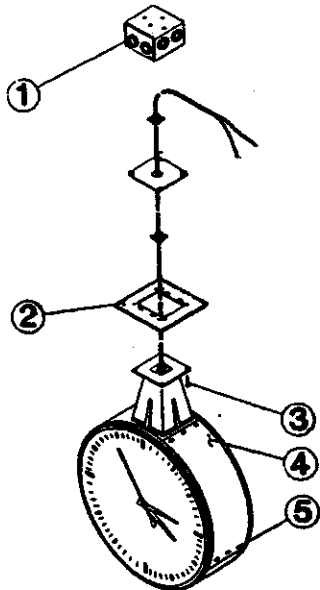


Figure 5: Double Mount Installation For 15" Round Clock

Setting Independent 12" Double Square

5. Remove (2) #8-32 screws (Fig. 6, #5) that secure access panel (Fig. 6, #4) and remove panel from bottom of clock. Set time, using setting knob on back of each clock.
6. Re-attach screws that secure access panel.

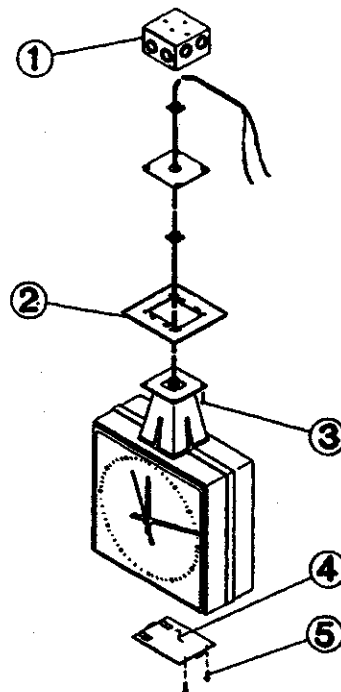


Figure 6: Double Mount Installation For 12" Square Clock

PREPARING MINUTE IMPULSE WALL CLOCKS FOR SERVICE

The tab of cam follower arm must be removed from all wall clocks operated by a master control unit which does not transmit 12-hour correction signals.

1. Remove dust cover.
2. Raise cam follower arm (Fig. 7, #3).
3. Depress and hold actuating blade of lockout switch (Fig. 7, #4) to avoid damage to switch.
4. Break cam follower arm tab as indicated in Figure 8.

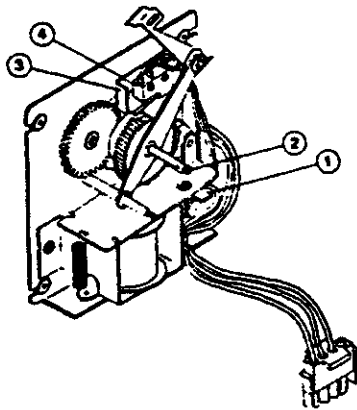


Figure 7: Clock Movement Assembly

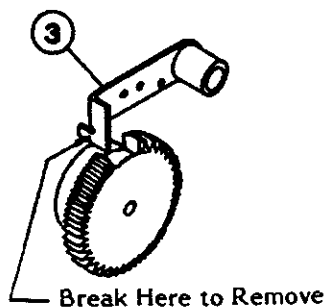


Figure 8: Cam Follower Arm

SETTING MINUTE IMPULSE WALL CLOCKS MANUALLY

Manual setting of 12 hour corrective clocks is not necessary. However, hourly corrective clocks which are more than an hour out of time must be reset within hour as follows:

1. Depress and hold ratchet tab (Fig. 7, #1).
2. Turn setting knob (Fig. 7, #2) counterclockwise until hands reach one minute prior to desired setting.
3. Release ratchet tab.
4. To further advance clock hands in single minute increments, press and release ratchet tab once for each minute.

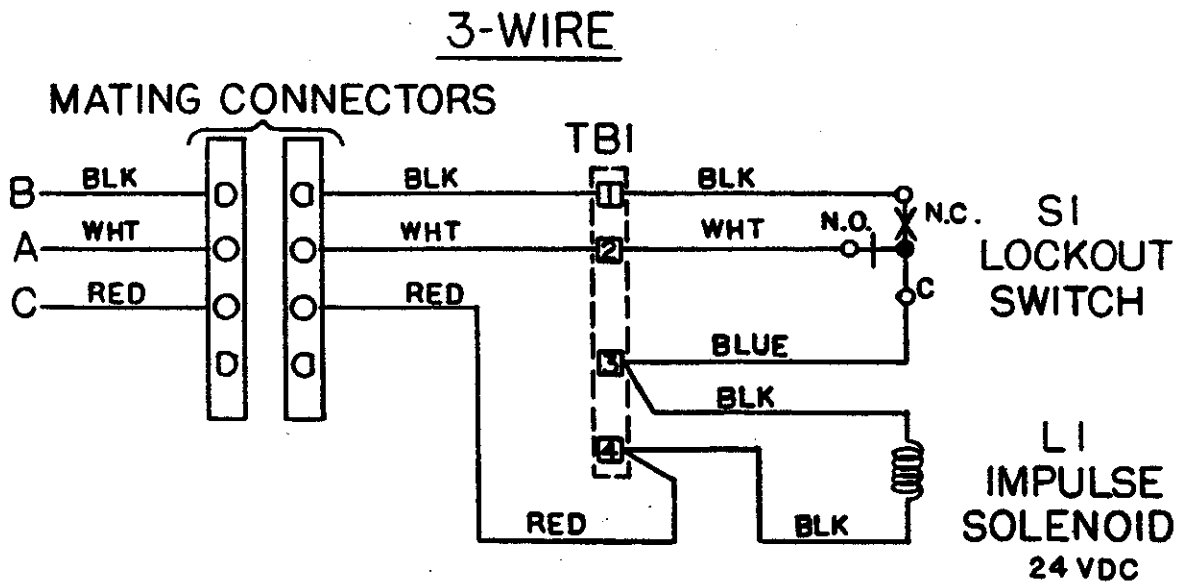
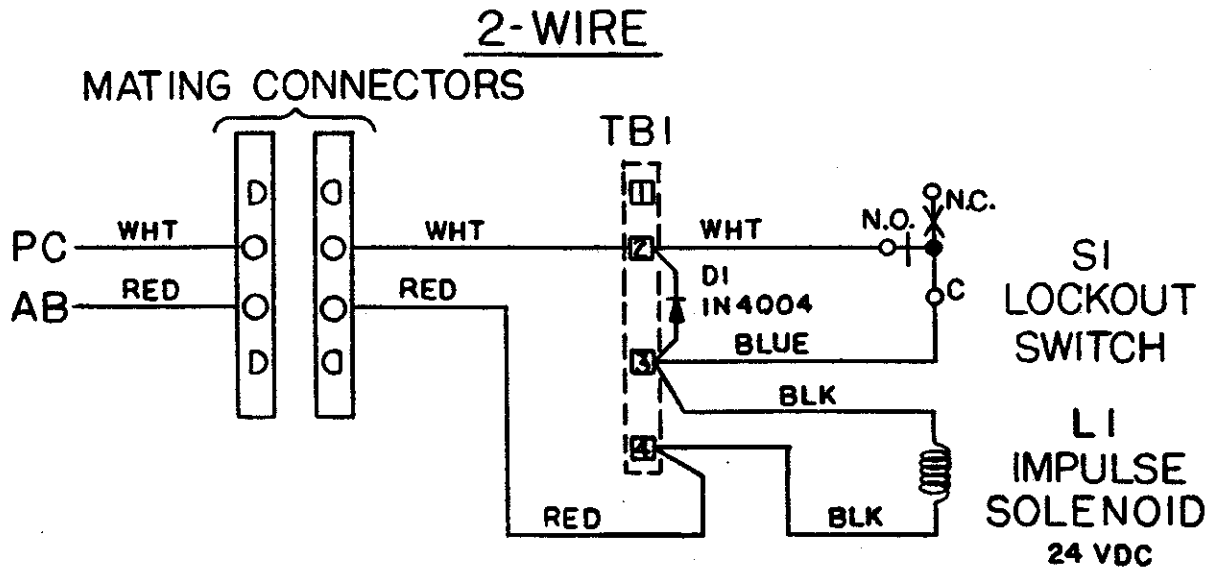
INSTALLING THE QUICK DISCONNECT

Minute impulse wall clocks can be wired to accommodate either two wire or three wire systems. Attach socket end of quick disconnect (Fig. 2, #6) to incoming leads from master control unit, as shown in wiring diagrams, following instructions for either two-wire or three-wire systems.

Two-wire systems: Ensure that diode is installed, refer to wiring diagram. Connect RED wire to line AB and WHITE wire to line PC. Do not use black wire, it may be folded back out of way.

Three-wire systems: Connect WHITE wire to line A, BLACK wire to line B, and RED wire to line C. Ensure that diode has been removed from circuit. Refer to wiring diagram.

WARNING: Impulse clocks are normally shipped either as two wire or three wire units. However, some three wire clocks are shipped with two wire system steering diode D1, providing optional selection between two wire and three wire operation. Remove D1 for three wire system operation. See wiring diagrams to distinguish between two wire and three wire configurations.



ISC WALL CLOCK WIRING DIAGRAMS

LATHEM ONE YEAR LIMITED WARRANTY

This Lathem product is warranted against defects in material and workmanship for a period of one year from date of original purchase. The conditions of this warranty and the extent of the responsibility of Lathem Time Corporation ("Lathem") under this warranty are as follows:

1. This warranty will become void when service, performed by anyone other than an approved Lathem warranty service dealer, results in damage to the product.
2. This warranty does not apply to any product which has been subject to abuse, neglect or accident, or which has had the serial number altered or removed, or which has been connected, installed, adjusted or repaired other than in accordance with instructions furnished by Lathem.
3. This warranty does not cover dealer labor for removing and reinstalling the machine for repair, or any expendable parts that are readily replaced due to normal use.
4. The sole responsibility of Lathem under this warranty shall be limited to repair of this product, or replacement thereof, at the sole discretion of Lathem.
5. If it becomes necessary to send the product or any defective part to Lathem or any authorized service dealer, the product must be shipped in its original carton or equivalent, fully insured, with shipping charges prepaid. Lathem will not assume any responsibility for any loss or damage incurred in shipping.
6. WARRANTY DISCLAIMER: LIMITATION OF LIABILITY. EXCEPT IN ONLY THE LIMITED EXPRESS WARRANTY SET FORTH ABOVE, THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, REGARDING THIS PRODUCT. LATHEM SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL LATHEM BE LIABLE FOR ANY DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE DELIVERY, USE OR INABILITY TO USE, OR PERFORMANCE OF THIS PRODUCT.
7. Proof of date of purchase will be required for warranty service on this product.
8. THIS WARRANTY GRANTS SPECIFIC LEGAL RIGHTS. ADDITIONAL LEGAL RIGHTS, WHICH VARY FROM STATE TO STATE, MAY ALSO APPLY.
9. Should any difficulties arise with the performance of this product during warranty, or with any Lathem authorized service centers, contact:

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